

**TECHNOLOGICAL DISCIPLINE, OBESE BODIES AND GENDER:  
A SOCIOLOGICAL ANALYSIS OF GASTRIC BANDING SURGERY**

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A SOCIOLOGICAL ANALYSIS OF GASTRIC BANDING SURGERY**

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*For my hero.*

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## NOMENCLATURE

### **Adjustment**

Also termed a 'fill', it is the process of adding or removing saline to or from the gastric band via a port. The purpose of adding fluid is to induce satiety. Band patients generally have their first adjustment four to six weeks after surgery.

### **Allergan, Inc.**

Irvine, California-based biomedical firm that manufactures and sells the LAP-BAND. Allergan also sells Botox, Latisse, and other cosmetic products.

### **American Society of Metabolic and Bariatric Surgeons (ASMBS)**

The largest professional association for bariatric surgeons in the United States. Previously named the American Society for Bariatric Surgery (ASBS); ASMBS has more than 4,000 members.

### **Band Erosion**

Erosion of the gastric band through the gastric wall and into the lumen of the stomach; this is one of the most serious complications associated with the gastric band and requires surgical removal.

### **Band Slippage**

When part of the stomach below the gastric band, migrates up through the band, requiring surgical intervention.

### **Bandster**

Term for an individual who has gastric banding surgery and is engaged in the gastric band lifestyle.

### **Bariatric**

Related to the field of medicine that deals with the prevention and treatment of obesity.

### **Bariatric Surgeon**

A surgeon who specializes in the surgical treatment of obesity.

### **Body Mass Index (BMI)**

The most widely used measurement for obesity. The BMI is calculated using a mathematical ratio of weight and height [(weight in kg ÷ height in meters<sup>2</sup>) or (weight in pounds ÷ height in inches<sup>2</sup> x 703)]. A BMI of 30 or more is considered obesity. A BMI of 40 or more generally qualifies as morbid obesity.

**Comorbidity**

A medical condition that exists in addition to and/or is caused or worsened by obesity. Common co-morbidities associated with obesity include type 2 diabetes, hypertension and sleep apnea. Insurance companies generally cover bariatric surgery if patients have a BMI of 35 with a comorbidity.

**Dumping Syndrome**

A physiological reaction frequently seen following gastric bypass surgery. Whenever patients eat certain foods, such as sugar and sweets or fats, they may experience "dumping," characterized by symptoms of nausea, flushing and sweating, light-headedness and watery diarrhea.

**Ethicon Endo-Surgery, Inc.**

Cincinnati, Ohio-based company that manufactures and sells the REALIZE gastric band. A subsidiary of global healthcare company Johnson & Johnson, Ethicon designs and manufactures medical devices and surgical instruments for laparoscopic and minimally invasive procedures.

**Excess Weight Loss (EWL)**

The percentage of excess weight loss (%EWL) is a common metric for reporting weight loss after bariatric surgery. The %EWL can vary depending on the definitions of ideal body weight (IBW) used and the preoperative weight. Generally, 50% EWL is considered a 'success' post-bariatric surgery.

**Fluoroscopy**

A type of medical imaging that shows a continuous x-ray image on a monitor, much like an x-ray movie. It is used to diagnose or treat patients by displaying the movement of a body part or of an instrument or dye (contrast agent) through the body. During a fluoroscopy procedure, an x-ray beam is passed through the body; the image is then transmitted to a monitor so that the body part and its motion can be seen in detail. Some hospitals or surgical centers use fluoroscopy to perform band adjustments so they can better view the position of the band and whether the band is too 'tight'.

**Food and Drug Administration (FDA)**

Regulatory agency in the United States that monitors medical devices, including the gastric band. Both Allergan and Ethicon were required to seek FDA approval prior to selling their respective bands; Allergan was also required to have FDA approval to market the band to patients with a BMI between 30 and 35.

**Gastric Bypass (Roux-en-Y)**

A surgical procedure for the treatment of obesity where a thumb-sized or egg-sized stomach pouch is created using stapling techniques to divide the stomach and then connect the outlet of the pouch directly to the intestine "bypassing" the lower stomach. Gastric bypass surgery makes the stomach smaller and causes food to bypass part of the small intestine; this causes patients to feel full more quickly than when the stomach

was its original size. Bypassing part of the intestine also reduces how much food and nutrients are absorbed. This surgery is different than “stomach stapling” which simply involved stapling a portion of the stomach to restrict food consumed; stomach stapling is no longer performed and often resulted in weight regain once the staples burst open. Gastric bypass surgery can be performed via open surgery (one large incision) or less invasively with laparoscopic techniques (several tiny incisions).

### **Gastroesophageal Reflux**

The backward flow of stomach contents into the esophagus due to a malfunction in the sphincter at the end of the esophagus. This can cause heartburn and discomfort. When it occurs repeatedly, it may become gastroesophageal reflux disease (GERD), where stomach acid can eventually cause scarring of the esophagus and other chronic problems. This is a complication associated with the gastric band.

### **Green Zone**

Term used during the adjustment process to define if someone is at an optimal level of restriction and is not hungry between meals and losing an average of 1 to 2 pounds per week; created by Australian surgeon Dr. Paul O'Brien, one of the originators of the gastric band. The Red Zone means there is too much fluid in the band. Regurgitation, experiencing discomfort when eating and having poor weight loss, as well as night cough and making “poor” food choices are signs patients should have fluid removed.

### **Hypertension**

The medical term for high blood pressure. Usually, this means that a patient has a blood pressure of 140/90 or higher. The top number is systolic pressure (pressure in blood vessels when heart is pumping out blood), while the bottom number represents diastolic pressure (when heart is at rest). This condition is also associated with obesity due to the excess weight that the heart has to sustain.

### **LAP-BAND**

Brand name of gastric band manufactured by Allergan, Inc.

### **Laparoscopic Adjustable Gastric Band (LAGB)**

Generic term for the medical device; the band is comprised of a silicone ring with an inflatable inner balloon which is connected to a tube and attached access port. In this surgery, the surgeon laparoscopically places a band around the upper part of the stomach to create a small pouch to hold food. The band limits the amount of food that can be eaten by induces satiety after eating small amounts of food.

### **Laparoscopic Surgery**

A minimally invasive surgical approach where the surgeon makes several small incisions to access the interior of the body. A long, slender camera attached to a light source and chopstick-like instruments are used to perform the operation. Compared to open surgery, there is typically less pain and scarring following this operation. Usually, hospital stay and overall recovery time are also reduced.

**Malabsorption**

A condition where the small intestine cannot absorb nutrients from foods.

**Morbid Obesity**

A disease in which excess weight begins to interfere with basic physiological functions such as breathing and walking. Generally, it can be defined as weighing 100 pounds more than your ideal weight. A person with a Body Mass Index (BMI) of 40 or greater is considered morbidly obese.

**Obesity**

A condition where there is excess body weight due to an abnormal accumulation of fat. Defined as a Body Mass Index (BMI) of 30 or more, obesity is often considered the cause of a number of medical conditions or associated with increased health risks.

**Overweight**

A condition of increased body weight. Defined as a Body Mass Index (BMI) of 25-29.9.

**Port complication**

Any complication associated with the Access Port of the gastric such as infection, dislodgement, or flipping.

**Productive Burping (PBing)**

Term for the regurgitation that individuals with the gastric band experience when they have eaten food that cannot be passed through the stoma. The regurgitation is usually a thick saliva, often called sliming, accompanied by pressure and pain until the food passes. PB episodes may last anywhere from 1 minute to two hours.

**REALIZE**

Brand name of gastric band manufactured by Ethicon Endo-Surgery, Inc., a subsidiary of Johnson & Johnson.

**Revision**

When a patient converts from one type of weight loss surgery to another, such as a gastric band to a gastric bypass procedure or vice versa.

**Saline**

A salt solution injected via a port to fill the inner surface of the gastric band to adjust the degree of restriction and the rate of weight loss.

**Sleep Apnea**

The temporary cessation of breathing during sleep. Typically, the sufferer will awake gasping for breath. Sleep apnea may occur repeatedly, resulting in a poor night's sleep and daytime drowsiness. One of the comorbidities associated with morbid obesity.

**Sleeve Gastrectomy (Sleeve)**

A weight loss surgery in which the surgeon amputates a large portion (about 80%) of the stomach. The new, smaller stomach is about the size of a banana. It limits the amount of food a person can eat by making the body feel fuller after eating small amounts of food.

**Stoma**

The outlet to the stomach created by stapling or placing an adjustable band around its upper part, which divides the stomach into two parts – the small upper stomach pouch and the lower stomach – resulting in restriction of the amount of food the stomach can hold and increasing the time it takes to empty. The stoma can be adjusted by inflating or deflating the inner surface of the band in order to modify the degree of restriction.

**Stuck**

Having food lodged in the band. Sometimes occurs when patients take too big of a bite, if they don't chew until the food is pulverized into near liquid form, if they eat too quickly, or if they eat one of the 'wrong' foods like breads and fibrous vegetables.

## SUMMARY

America's obesity 'epidemic', coupled with increasing use of biomedical technologies in healthcare, has helped usher in new technoscientific methods to medically manage the bodies of overweight and obese individuals. Potential patients now have several surgical options to choose from in efforts to lose weight and improve health outcomes, including gastric bypass, sleeve gastrectomy, and gastric banding; this research focuses on the gastric band, an implantable and adjustable, silicone device designed to restrict the amount of food consumed. This study involves semi-structured interviews with predominantly female gastric banding patients, medical practitioners, bariatric surgeons, and representatives from the two U.S.-based biomedical firms that manufacture the gastric band, as well as multi-site ethnographic research examining the patient experience and the clinical encounter, and content analysis of scientific and non-scientific texts; through this mixed methodological approach, this research charts the band's evolution and the complex forces guiding its design, development and adoption. The author focuses on four core interrelated themes throughout this research: Contested Technologies; Gender-based Design-making Factors and Outcomes; Biomedical Identities; and Struggle for Human/Nonhuman Control.

Research reveals that patients' decision-making process is shaped by – and shapes – multiple social, political, economic, and regulatory contexts. Although constructed by designers and developers as a gender-neutral obesity device intended for both men and women, the gastric band reflects not only the stratified nature of biomedicine, but also the ways in which gender relations are both embodied in and reinforced by technology. The author challenges presumed neutrality of the device by focusing on how gender enters into and is expressed in the very marketing, design and use of the gastric band.

As a contested and unstable technology, the band's efficacy and 'foreignness' is continually both challenged and reaffirmed by a diverse arena of social actors, including biomedical firms, weight loss surgery patients, clinicians, bariatric surgeons, physicians, advocacy groups, insurance companies and the U.S. Food and Drug Administration. These actors construct the band's role in the obesity epidemic in oppositional ways, affecting its use and perceived misuse: the depiction of the band as a safe, less invasive and – most significantly - removable technology helps drive its use, directing some patients away from other options – specifically, the anatomically changing gastric bypass procedure – portrayed as unnatural and extreme, though simultaneously more effective. While the band's reversibility represents freedom over technology and control over their bodies, it also reflects patients' struggle for both autonomy and desire for technological assistance in managing their weight. However, despite patients' attempt to assert themselves as active agents, the gastric band emerges as a disciplinary weight loss technology which requires clinical monitoring and 'maintenance'; adjustments – the process of adding or removing fluid from the band - function as a way to *continually* discipline patients, to tame their disorderly appetites, to 'teach' compliance, and reinforce the perceived need for clinical intervention and oversight in the care and treatment of obesity. It is in this adjustment space that one sees the ambiguities and the inconsistencies that exist as human and non-human actors fight for autonomy and control over outcomes. Drawing on medical sociology, and traditional and feminist science studies, this research demonstrates how individuals embrace, manipulate and reject emerging biomedical technologies with theoretical and practical implications.

## **CHAPTER 1**

### **INTRODUCTION**

In recent decades, obesity has become constructed as global public health crisis and labeled a 'disease' of epidemic proportions (Boero 2010, 2012; Throsby 2009a, 2009b; Abelson 2004; Gilman 2008; Gard and Wright 2005; Oliver 2005, 2006; Sobal 1995; Sobal and Maurer 1999). Although obesity is still largely considered a behavioral problem that can be managed through diet and exercise, surgical intervention – as part of growing use of biomedical technologies in healthcare and technological enthusiasm in bodily transformation - is becoming a more normalized approach to medically manage not only the bodies of the morbidly obese, but also those considered simply overweight or 'at-risk' for developing obesity-related diseases (Boero 2010; Throsby 2009a, 2009b; Throsby 2008; Conrad 2007; Clarke et al. 2003; Clarke et al. 2010; Salant and Santry 2006; Braziel and Lebesco 2001; Weight-Control Information Network, 2009; Lupton 2005). As such, the number of individuals electing to have bariatric surgery, a term for several types of procedures designed to limit the amount of food and/or nutrients which can be eaten or absorbed by the body, has increased six-fold in the United States in recent decades, although its numbers have plateaued in the wake of the nation's economic recession (Trus et al. 2005; WIN 2009; American Society for Metabolic and Bariatric Surgery 2012b; Elliott 2012). White, middle class women make up the majority of existing patients, although not the majority of those considered medically eligible for the procedure, suggesting both an extension of gender-specific norms concerning appearance and weight (Wolf 1991; Bordo, 1993; Thompson, 1994; Bartky 2003; Braziel and LeBesco 2001; LeBesco, 2004; Rothblum and Solovay 2009; Johnston and Taylor

2008), as well as a reflection of the highly stratified nature of biomedicine (Clarke et al. 2003, 2010; Shim 2010; Kutner 2005; Ratcliff 2002).

While obesity researchers (as reviewed in Kushner and Noble 2006) have touted improved health outcomes stemming from weight loss surgery<sup>1</sup>, there are a number of risks and complications associated with the surgery, ranging from malnutrition, dumping, hernia, infection, acid reflux, and clotting to anemia and death (WIN 2009). Eric Oliver (2006) argues that gastric bypass actually creates *sick* bodies, which stands in stark contrast to existing medical rhetoric about the surgery; Karen Throsby's (2008) qualitative study of bariatric surgery patients in the United Kingdom likewise finds some patients experience "contradictory outcomes" – including regular vomiting as they re-learned how to eat in their new surgically altered bodies – which challenges both the idea that slimness necessarily equates with health and the efficacy of the procedure (p. 130). Similarly, fat activist Samantha Murray (2009) describes her own gastric band surgery-related complications – including gallstones and subsequent gallbladder removal<sup>2</sup>, reflux, esophageal spasms and vitamin deficiency; despite living in a visually healthy looking body, Murray confesses to a "hidden dis-abled embodiment" (p. 158), disrupting the idea that 'thinness' equates to health and that aesthetically attractive bodies are healthy. Further, while the American Society for Metabolic and Bariatric

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<sup>1</sup> ASMBS states that bariatric surgery can improve or resolve more than 30 obesity-related conditions, including Type 2 diabetes, heart disease, sleep apnea, hypertension and high cholesterol; it also states that bariatric surgery can increase the lifespan of patients, as compared to those who do not have surgery. See an overview of the surgery at: [http://www.asmbbs.org/Newsite07/media/ASMBS\\_Metabolic\\_Bariatric\\_Surgery\\_Overview\\_FINAL\\_09.pdf](http://www.asmbbs.org/Newsite07/media/ASMBS_Metabolic_Bariatric_Surgery_Overview_FINAL_09.pdf).

<sup>2</sup> Rapid weight loss can sometimes lead to the formation of gallstones. Two of the patients I interviewed also had their gallbladders removed following gastric banding surgery.

Surgeons (ASMBS) claims surgery is the “only proven method of achieving long term weight control for the morbidly obese”, there are indications not all patients achieve similar success with the procedure and as many as 10 percent of all patients do not lose weight in the long-term<sup>3</sup> (ASMBS 2005; WIN 2009), failures which many surgeons and clinicians attribute largely to patient’s inability to make behavioral changes rather than technological malfunction (Boero 2010; Throsby 2009b; Throsby 2008; Salant and Santry 2006 ). Unsuccessful weight loss outcomes – in addition to promoting patient-blaming and re-invoking moralizing discourses about body weight (Boero 2010) – have also led to an increase of provisional or re-operative surgeries, resulting in significantly higher morbidity and mortality rates than in primary bariatric procedures (Gobble, et al. 2008; Patel et al., 2010; Brolin and Cody 2008). Limited empirical work (Boero 2010, 2012; Throsby 2008, 2009a, 2009b, 2012a, 2012b; Drew 2008a, 2008b, 2011; Murray 2009) on obesity surgery has begun to examine the benefits and consequences on the lives of individuals who elect to have this surgery, and provided a critique of the medicalization of obesity; however, rather than take technological efficacy for granted, a more critical interrogation of the technology itself and its use is crucial, particularly as technology is increasingly used in healthcare.

This chapter begins with a discussion of the study scope - a sociological analysis of the adjustable gastric band. A brief history of obesity in the United States and the emergence of the field of bariatrics follows, including a discussion of the development and marketing of the gastric band, the advent of laparoscopy, and the

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<sup>3</sup> Larsen et al. (2010) define unsuccessful outcomes as losing less than 25% of excess body weight; others (Snyder et al. 2009) use the standard of 30% Excess Weight Loss (EWL). The goal of all surgeries is for patients to lose 50% of their excess weight, which are defined as ‘successful’ weight loss outcomes.

professionalization of bariatrics. On the heels of the construction of the U.S. obesity 'epidemic', I discuss how changing surgical techniques, coupled with medical advances and the drive to professionalize the field, helped elevate the stature of weight loss surgery, opening up the space to safer, less invasive surgical alternatives, including the gastric band. A statement of the problem and study purpose is addressed, and the conceptual and theoretical framework guiding this study is presented. Finally, this chapter concludes with an outline of the dissertation.

### 1.1 Study Scope

There are three common bariatric surgeries performed in the United States: laparoscopic adjustable gastric banding (LAGB), Roux-en-Y gastric bypass (RYGB); and vertical sleeve gastrectomy (VSG); biliopancreatic diversion with a duodenal switch (BPD-DS) is also performed, but rarely (WIN 2009; ASMBS 2005; Andrews 2013). They are classified into three primary types of procedures: *Restrictive* procedures which decrease storage capacity of the stomach; *Malabsorptive* procedures, which decrease absorption of nutrients and calories by shortening the length of the small intestine; and *Combination Restrictive-Malabsorptive* procedures, which both restrict food intake and decrease absorption of nutrients. This study focuses on gastric banding, the second most-common type of bariatric surgery in the United States; gastric bypass is currently the most common procedure<sup>4</sup>. See Table 1.1 for an overview of bariatric procedures in the U.S.

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<sup>4</sup> The most common bariatric procedure is gastric bypass (54.8%), followed by gastric banding (39.8%), sleeve gastrectomy (2.3%) and biliopancreatic diversion (0.9%). The sleeve is the newest surgical procedure and, because of lack of long-term data, is not generally covered by many insurance companies.

**Table 1.1: Common Bariatric Procedures in the United States  
(ASMBS 2012b, Mayo Clinic 2011)**

<b>Type of Procedure (Common Name/ Abbreviation)</b>	<b>Laparoscopic Adjustable Gastric Banding (LAGB or Gastric Band)</b>	<b>Roux-en-Y (Gastric Bypass or RYG)</b>	<b>Vertical Sleeve Gastrectomy (Sleeve)</b>
<b>Classification</b>	Restrictive	Combination	Restrictive
<b>Description</b>	Adjustable silicone band filled with saline wrapped around upper part of stomach, creating small pouch that restricts food intake	Stomach reduced to size of walnut and then attached to middle of small intestine; section of small intestine bypassed, limiting absorption of calories	About 75-85% of the stomach is removed, leaving narrow tube
<b>Complication Rate (Major)</b>	0.9%	3.6%	2.2%
<b>Complications</b>	Band eroding through the stomach, gastric band slipping partly out of place, esophageal dilation, gastritis, heartburn, stomach ulcers, infection in the port, tubal leaking	Leaks in gastrointestinal system, Death (rare), Bowel obstruction, Dumping syndrome, Gallstones, Hernias, Malnutrition, Stomach perforation	Gastritis, heartburn, stomach ulcers, leaking from the line where parts of the stomach have been stapled together, poor nutrition, scarring inside the belly that could lead to a future blockage in the bowel
<b>Mortality Rate</b>	0.02%	0.1%	0.19%

Bariatric surgery is generally only recommended for individuals who have a body mass index (BMI) of 40 or more<sup>5</sup>, or for those with a BMI of 35 or higher with an obesity-related

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<sup>5</sup> About 100 pounds overweight for men and 80 pounds for women, based on the BMI thresholds. Although BMI is often widely used as a barometer of poor or good health, it has been criticized because it doesn't take into account how much of a person's weight is muscle and how much is fat.

health condition, such as type 2 diabetes, heart disease, or severe sleep apnea (WIN 2009). Bariatric surgery is becoming increasingly recommended for adolescents with extreme obesity, though there are no long-term studies of safety and effectiveness of the procedure in this age group (WIN 2009). There is also a lack of long-term data on the safety of the gastric band, which has only been approved for use in the U.S. since 2001. The surgery represents an elective procedure that, like other surgeries, carry risks, including bleeding, infection, leaks from the site where the intestines are sewn together<sup>6</sup>, blood clots, hernias, malnutrition, and death.<sup>7</sup> Banding-specific complications include band slippage, where the band slips down from its position on the top part of the stomach, band erosion, in which the band begins to erode into the stomach, and port problems, such as infection, flipping or disconnection from the tubal component of the band. These band complications require additional surgery.

Although reports on the number of bariatric surgeries vary, some sources estimate that 20,000 surgeries were performed in the U.S. in 1995, and have grown to more than 220,000 by 2009, plateauing from 2010 to 2012 in the wake of the country's economic recession (Elliott 2012); more than 80 percent of patients are women<sup>8</sup> (WIN 2009; ASMBS 2010a; Grady 2004; Boero 2010; Drew 2008a). About one percent of the clinically eligible population has bariatric surgery (ASMBS 2011a); studies (as reviewed in Santry et al. 2007) suggest that the socio-demographic characteristics of morbidly

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<sup>6</sup> Specifically for gastric bypass.

<sup>7</sup> A recent study (ASMBS 2012c) finds women have fewer complications post-gastric bypass surgery than their male counterparts, and suggests race and class also affect surgical outcomes.

<sup>8</sup> CDC (2009) states Blacks had a 51 percent higher prevalence of obesity, and Hispanics had a 21 percent higher obesity prevalence compared with whites; despite higher incidence of obesity, whites make up the majority (80%) of patients (ASMBS 2010).

obese Americans do not match those of the bariatric surgery patient population in the United States. Instead, bariatric surgery patients are disproportionately wealthy privately insured, middle-aged Caucasian women (Santry et al. 2007), whereas African Americans, lower income groups, less educated groups, and publicly insured patients are underrepresented among the bariatric surgery patient population (Livingston and Ko 2004). Class differences among bariatric surgery patients versus those considered clinically eligible for the procedure is a reflection of both the lack of access to basic medical care and the high out-of-pocket costs associated with all bariatric procedures; the surgical procedure itself costs between \$18,000 and \$35,000 without insurance, but for those with insurance coverage, \$5,000 deductibles are common (Elliot 2012). This does not include the costs of mandatory pre-surgical medical appointments, including pulmonary clearances, psychological evaluations, and nutrition visits; there are also significant costs associated with surgery, including the purchase of high-cost protein shakes (required in the pre- and post-surgical diet) and vitamin supplements to account for nutritional deficiencies common with malabsorptive procedures. While some patients may elect gastric banding surgery because of its relatively lower up-front costs – usually around \$10,000 to \$15,000 – the overall costs can match or exceed those associated with the bypass or the sleeve when taking into account the cost of adjustments and follow-up care which may cost between \$150 to \$600 per visit; band patients are encouraged to return for aftercare monthly in the first year after surgery and at least 2 to 4 times each year onward. Racial inequalities with respect to unequal access to medical care and the history of racism in American medicine, also accounts for differences among those who have surgery and those who may be considered eligible for the procedure based on their BMI (Clarke et al. 2010).

### 1.1.1 Overview of the Gastric Band

While there are other weight loss technologies beyond bariatric surgery on the market – such as prescription drugs, over-the-counter appetite suppressants and jaw wiring – the gastric band remains the only *implantable* and *long-term* anti-obesity device approved for use in the U.S. and monitored by the U.S. Food and Drug Administration (FDA). The FDA also regulates anti-obesity pharmaceuticals; but it is often patients' long engagement with and subsequent "failure" with – sometimes resulting in health-related consequences - other weight loss technologies that often propels them into the bariatric surgical space, including usage of the gastric band (Throsby 2009b).

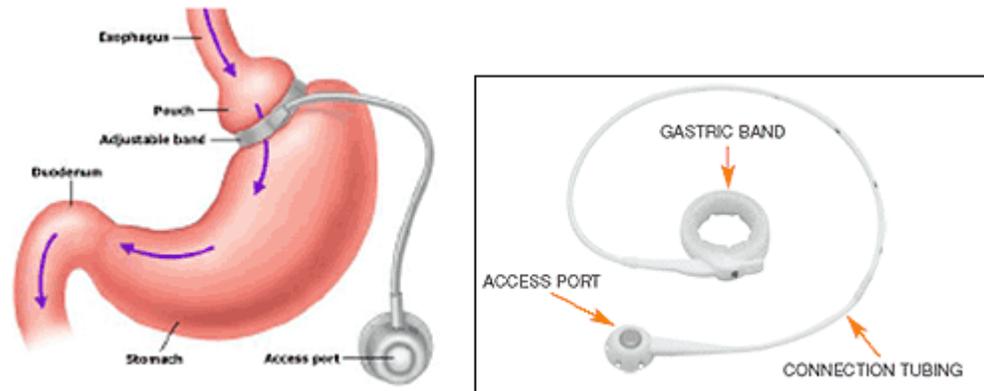
Considered a purely restrictive procedure, the gastric band is an adjustable, inflatable silicon device that is placed laparoscopically on the top portion of the stomach to limit the amount of food an individual can consume. The band is intended for patients "who have failed more conservative weight reduction alternatives, such as supervised diet, exercise and behavior modification programs" (Allergan 2011c, p. 1). The band is contraindicated, meaning not medically advisable, for those with diseases of the gastrointestinal tract, cardiopulmonary disease, upper gastrointestinal bleeding disorders, cirrhosis, pancreatitis, patients under the age of 18, pregnant women, and those on long-term steroid treatment<sup>9</sup> (Allergan 2011a, 2011b; Ethicon Endo-Surgery 2010c).

The gastric band can be described as type of belt which induces a feeling of satiety, restricting the calories consumed from about 2,000 calories a day to 900-1,000 calories; when placed surgically, it creates a small pouch on top of the stomach that

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<sup>9</sup> Patients are told to avoid the use of anti-inflammatory agents, such as aspirin, which may contribute to an increased risk of band erosion.

holds about 2 ounces of food (O'Brien 2007). The band consists of a silicon ring with an inner balloon and a locking mechanism, which is connected to tubing and an access port (see Figure 1.1)



**Figure 1.1 Adjustable Gastric Band, Allergan's LAP-BAND  
(Source: FDA 2012c)**

The band is sutured (sewn) to the top part of the stomach to hold it in place, though band slippage is a reported complication; this placement creates a smaller pouch which limits the amount of food which can enter the stomach (Figure 1.1). The tubing is connected to an access port which is attached under the skin of the patient's abdominal wall via sutures or hooks (see Figure 1.2).



**Figure 1.2 Anatomical Representation of the Gastric Band  
(Source: MetroHealth n.d.)**

The band's inner balloon is not inflated during surgery; instead, the band is later filled with saline that can be adjusted via the port to restrict or allow the patient to eat less or more food. The first adjustment or 'fill' - the process of adding (or removing) saline - takes place 4-6 weeks after surgery and patients are asked to return monthly or bimonthly for follow-up visits and adjustments (O'Brien 2007). Compared to other bariatric procedures, the weight loss with the gastric band is relatively 'slow' – about ½ to 2 pounds per week. The goal of all bariatric procedure is for patients to lose 50 percent of their excess weight, termed Excess Weight Loss (EWL); conflicting research shows band patients experience between 34.5% to 38% mean EWL in the first year after surgery (Allergan 2011b; Ethicon 2010c), compared to gastric bypass (64% EWL) or the sleeve gastrectomy (51.8% EWL) (Nguyen et al. 2009; Wang et al. 2013).

There are two primary biotechnology firms which manufacture and market the adjustable gastric band in the United States: Allergan, which manufactures The LAP-BAND<sup>®</sup> Adjustable Gastric Banding System, the first adjustable medical device approved in the U.S. for individualized weight loss, is based in Irvine, California; and Ethicon-Endo Surgery, a Johnson & Johnson Company, the manufacturer of the REALIZE Band, which has its world headquarters in Cincinnati, Ohio. The LAP-BAND was approved by the FDA in 2001, while the REALIZE Band is a relative newcomer in the U.S., having been approved for use in 2007<sup>10</sup>. Cost ranges from \$10,000 to \$15,000 for the band<sup>11</sup>. In

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<sup>10</sup> The FDA approved the use of the LAP-BAND system in 2001; it released its 'third generation' system in 2007 and sold 600,000 unit worldwide by 2009; see [http://www.lapband.com/en/learn\\_about\\_lapband/device\\_how\\_it\\_works/history/](http://www.lapband.com/en/learn_about_lapband/device_how_it_works/history/) for a history of the device (note the researcher acknowledges the historical information provided by Allergan has not been verified personally; this study provides some historical analysis in order to provide background to address one of the central research questions regarding the design, development and intended use.). Ethicon-Endo indicates it has more than 20 years of clinical experience with its band, based on use in

2011, the FDA lowered BMI requirements for the LAP-BAND to individuals with a BMI between 30-40 with at least one obesity-related medical condition (FDA 2011b). This change in BMI requirements expanded the pool of potential patients for the LAP-BAND from 15 million to 42 million people (Pfeifer 2011).

This study considers the broader bariatric surgical space but focuses on a specific technology and type of weight loss surgery, in order to provide a common framework for examining diverse users<sup>12</sup> experiences, rather than incorporate all types of bariatric surgery into a singular study. Varying forms of surgery affect patients differently; for example, gastric banding has a lower rate of mortality than gastric bypass but poses its own unique set of complications, such as band slippage, stomach erosion, acid reflux, port flips, tubal leaks, port infection, and Productive Burping (PB) (ASMBS 2005; WIN 2009). The adjustable nature of the band itself likewise presents an opportunity to explore the extent to which patients themselves resist and/or embrace a

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Europe. Ethicon-Endo also makes two version of its gastric band: REALIZE Band-C and REALIZE Band; the former is intended for 'larger patients'. See <http://www.ethiconendosurgery.com/Clinician/Product/gastricbanding/realizeband> for more information.

<sup>11</sup> Costs provided by surgical centers and hospitals where I performed my ethnographic research in the Southeastern United States; the cost included surgeons' fees and anesthesia but generally not the cost of 'pre-surgical' testing, nutritional consultation and psychological testing. One center I worked with offered 'specials' and 'refer-a-friend' discounts and included follow-up and 'fills' for one year after surgery in its total price; fills typically cost about \$150-600 per visit. Many insurance companies now cover the procedure, though often with high premiums; previously many patients paid a 'cash price' either because of exclusions on their policies or because they often did not wish to wait for approvals from their insurance companies, which required usually six months of pre-op weight loss, among other requirements.

<sup>12</sup> While this study seeks to examine the experiences of female gastric banding patients, it does not assume homogeneity of users; the only common framework band patients have is shared surgical device, though not necessarily similar experiences pre- and post-surgery with respect to social location as well as health/medical related issues. All the patients I interviewed had a gastric band, though the brand and generation of band they had implanted also varied.

technological intervention aimed at weight loss. Because this device is customizable to an individual's weight loss goals, it also provided an opportunity to examine how doctors determine who is an appropriate candidate for this surgery in the face of other surgical and nonsurgical options, and when and if an adjustment is needed. Further, this specific type of surgery was selected as the focus of this study because it represents an opportunity to focus on the design, development and marketing of a specific biomedical device with a distinct historical trajectory which is intended for both male and female users. Lastly, the study of this particular device is of significance following the 2011 recommendation by the FDA to extend the approved use of the LAP-BAND, manufactured by Allergan, to individuals with a lower Body Mass Index (30 with obesity-related health condition), expanding the pool of individuals who would be medically eligible for the device (Allergan 2011a; Pheifer 2011; FDA 2011b).

## **1.2 The Obesity Epidemic in the United States**

Obesity is defined by excess body weight and is general measured by an individual's Body Mass Index (BMI), a measure of body fat based on height and weight; for adults, a BMI of 30 or higher is considered obese<sup>13</sup> (CDC 2012b). About one-third (35.7%) of Americans are considered obese, 30 percent are considered overweight<sup>14</sup> and 6.3% are considered extremely obese<sup>15</sup> (Ogden et al. 2012; Fryar et al. 2012). Data from the 2009-2010 National Health and Nutrition Examination Survey (NHANES) shows a 13 percent increase in the prevalence of obesity from the late 1980s to 2010; data

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<sup>13</sup> For an adult who is 5'9", a weight of 203 pounds or higher would place them in the obese category; they would be considered overweight between 169 and 202 pounds.

<sup>14</sup> BMI 25.0–29.9.

<sup>15</sup> BMI greater than or equal to 40.

also shows the prevalence of obesity has increased among men, but not women (Ogden et al. 2012).

Federally-funded initiatives have emerged in recent years to combat the “obesity epidemic” in the U.S. (reviewed in Boero 2012). In 2010, U.S. Surgeon General Regina Benjamin issued her first release to the country, "The Surgeon General's Vision for a Healthy and Fit Nation 2010," which highlights the growing number of overweight and obese Americans and reviews the causes and health consequences of obesity, termed a “public health crisis” (U.S. Department of Health and Human Services 2010, p. 3). The statement identified steps consumers, parents, schools, communities, and physicians can take to reverse the trend of obesity in the U.S., including encouraging health clinicians to teach patients about the importance of good health, rather than just weight loss, and the connection between BMI and increased risk for chronic diseases; it also encouraged clinicians to refer patients to resources that will help them meet their physical, nutritional, and psychological needs. Shortly after the release of the Surgeon General’s vision statement, First Lady Michelle Obama unveiled her ‘Let’s Move’ campaign to combat childhood obesity, which has likewise received attention as an ‘epidemic’ facing America’s children.

Obesity is caused by complex behavioral, environmental, and genetic factors, (CDC 2012a); certain diseases, like polycystic ovarian syndrome, and medications, like steroids, can also cause weight gain and lead to obesity. The National Institutes of Health (1998) reports that as weight increases to reach the levels of "overweight" and "obesity," the risks for the following conditions also increases: coronary heart disease; type 2 diabetes; cancer (endometrial, breast, and colon); hypertension (high blood pressure); dyslipidemia (high total cholesterol or high levels of triglycerides); stroke; liver and gallbladder disease; sleep apnea and respiratory problems; osteoarthritis (a degeneration of cartilage and its underlying bone within a joint); and gynecological

problems (abnormal menses, infertility). Rates of obesity vary by race, gender, and socioeconomic status (Ogden et al. 2012; Fryar et al. 2012). Non-Hispanic blacks have the highest age-adjusted rates of obesity (49.5%) compared with Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic whites (34.3%). Obesity and socioeconomic status are also correlated; among non-Hispanic black and Mexican-American men, those with higher incomes are more likely to be obese than those with low income, and higher income women are less likely to be obese than low-income women.

### **1.2.1 Problematizing the Obesity 'Epidemic'**

Although medical journals and government health associations began issuing warnings about the health problems associated with obesity in the 1950s, the construction of obesity as a 'epidemic' – analogous to contagious, infectious diseases such as smallpox, influenza and cholera - did not begin until the late 1990s (Oliver 2006); the term 'obesity epidemic' is now a commonplace phrase used in the popular media, in medical texts, and health policy reports to describe America's growing waistline (Boero 2012). A number of social science scholars (Wright and Campos 2005; Oliver 2005, 2006; Campos et al. 2005; Harcombe 2010; Boero 2012) have begun to look critically at the obesity epidemic, problematizing the concept of obesity and calling it a "flawed construct" (Oliver 2006, p. 612). April Herndon (2002) challenges claims that fatness is responsible for a litany of medical problems; instead, she argues the medical community's own "fatphobia" is "fueled more by the drive toward normative bodies than by solid medical evidence" (p. 126). Rather than driven by medical facts, Oliver (2005, 2006) charges the classification of obesity as a disease is the result of a number of special interests. Prior to 1995, when the World Health Organization (WHO) first recommended "three grades of overweight using BMI cutoff points of 25, 30 and 40,"

previous studies in the U.S. used the Metropolitan Life Insurance tables for desirable weight-for-height to measure overweight and obesity, or used percentile values to determine ideal weight (NIDDK n.d.). In these particular studies, predominant in the 1970s and 1980s, women would be considered overweight with a BMI of 27.3, as opposed to the current standard of 25. New standards that consider a person to be overweight with a BMI of 25 added an additional 40 million Americans to this category (Oliver 2005, p. 32). Oliver (2005, 2006) further charges that the decision to globally change the standards of measuring weight were an intentional effort to inflate those considered overweight and obese – and draw more people into the market for weight loss drug and expensive commercial diets. He charges that the WHO report that defined the current BMI standards was created by the International Obesity Task Force (IOTF), an organization “primarily funded by Hoffman-La Roche (the maker of the weight-loss drug Xenical) and Abbott Laboratories (the maker of the weight-loss drug Meridia)” (Oliver 2005, p. 29). By defining more individuals as obese, the pool of potential consumers for weight loss pharmaceuticals expanded significantly – as did the market for bariatric surgery.

The positioning of obesity as a disease of epidemic proportions is linked to the way in which obesity has been constructed as a disease in need of medical intervention. A number of scholars (Zola 192; Conrad and Schneider 1980; Conrad 1992; Conrad 2007; Weitz 2007) have written about the increasing medicalization of society and the processes and consequences of growing medical control over human phenomena. Medicalization is characterized as “defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to ‘treat’ it” (Conrad 1992, p. 211). The manipulation of the diagnostic criteria of obesity has ushered in the medicalization of obesity over the past two decades (Conrad 2007); in this way obesity has become

constructed – in the hands of medical practitioners – as no longer simply a risk factor for medical problems such as heart disease or diabetes, “but a disease in itself” (p. 119). Although this does exempt the individual from some degree of responsibility, the overweight body becomes constructed as one that is “diseased” and in need of “diagnosis and intervention” (Gard and Wright 2005, p. 178). Herndon (2002) further argues that the medicalization of obesity “strips away humanity by focusing solely on a medical condition and ignoring the people involved” (p. 125). By defining obesity as a medical problem, the solution is constructed as something that can be solved by science; in so doing, the social, economic and political contexts of obesity are often ignored. Throsby (2009b) argues that the ‘war on obesity’ is morally and ideologically driven, with an obese body as evidence of a moral failure of individual responsibility to care appropriately for oneself. She writes: “weight loss in this context, is therefore not a choice, but an obligation” (Throsby 2009b, p. 201-02). Similarly, Natalie Boero (2012) argues the obesity epidemic is linked to “our historical understandings of fatness and fat people”, beliefs which see overweight people as gluttonous and morally depraved (p. 7). Critical fat studies scholars (Burgard 2009; Boero 2012; Rothblum, E. D., & Solovay, S. (2009) have attempted to problematize the idea that fat bodies are always *unhealthy*, and critiqued BMI measures for being inaccurate measures of fatness or poor health; however, the work of advocacy groups, such as the Health at Every Size (HAES) movement, have not been able to dismantle the “taken-for-granted equation of fat with ill health” and the scientific community remains unified in its belief that “fat is bad” (Boero 2012, p. 129). As obesity has become a medically defined disease, the once “esoteric and perhaps even stigmatized specialty” of bariatric surgery is now increasingly common and lucrative (Conrad 2007, p. 119). A number of scholars (Oliver 2005, 2006; Gard and Wright 2005; Boero 2010), however, warn the surgery is becoming an increasing

normalized way to weight loss rather than a last resort, particularly within the context of growing technological favoritism in healthcare (Ratcliff 2002).

### **1.3 The Emergence of Bariatrics**

While individuals have long attempted to lose weight through varying means – from diets and pharmaceuticals to jaw wiring and hypnosis – a *surgical* method to achieve weight loss didn't emerge as a distinct medical specialty until the 1950s (Baker 2011). The birth of bariatric surgery and the field of bariatrics was created somewhat accidentally off the heels of cancer treatments and ulcer procedures: after observing patients experience significant weight loss following the removal of large portions of their stomach or small intestines, surgeons began to artificially mimic the same malabsorptive syndromes by removing lengths of the small bowel on obese patients in the 1950s (Jenkins et al. 2005). After a half century of advancements to the surgical techniques – including the introduction of new types of bariatric procedures and obesity devices - and mobilization of surgeons, advocacy groups, pharmaceutical companies and biotechnology firms - rates of bariatric surgery mushroomed in the United States, just as constructs of an obesity epidemic were sweeping the country (Oliver 2005).

#### **1.3.1 Historical Background**

Swedish surgeon Viktor Henrikson is credited with being the first to perform a malabsorptive surgery for weight loss in 1952 (Baker 2011). Surgeons from the University of Minnesota modified Henrikson's technique and performed the first jejunoileal bypass (JIB) in 1954; this surgery involved bypassing a large segment of the small bowel by joining the proximal small intestine to the distal ileum, the end part of the small intestine, where it transitions into the large intestine. Though patients experienced considerable weight loss, the associated diarrhea, dehydration and electrolyte

imbalances were considered too problematic and doctors returned to the original method. Two variations of the jejunio-ileal bypass (JIB) – one which involved an end-to-side anastomosis<sup>16</sup> and the other which involved an end-to-end anastomosis - dominated the early years of bariatric surgery; this surgery involved bypassing the major site of bile acid reabsorption and reducing the absorption of fat and fat soluble vitamins A, D, E and K (Jenkins et al. 2005). However, despite the weight loss patients experienced post-surgery, JIB had numerous complications, including vitamin deficiencies resulting in osteoporosis with bone pain and fractures, night blindness and peripheral neuropathy<sup>17</sup>, as well as gallstones, abdominal pain and frequent, debilitating diarrhea. A number of patients also developed “blind loop syndrome” caused by a bacterial overgrowth in the defunctionalized limb; the syndrome caused liver dysfunction in about 25 percent of patients, escalating to full-blown cirrhosis and liver failure in some (Baker 2011). About 10 percent of patients also failed to lose weight or experienced significant regain, caused by a backup of nutrients in the small bowel allowing absorption of refluxed material (Baker 2011). The JIB eventually fell out of fashion in the 1970s as new bariatric procedures emerged on the surgical landscape.

In the 1960s, *restrictive* procedures were developed; this distinct school of thought surmised that a reduced stomach volume would result in weight loss and patient satiety without the complications malabsorptive procedures created. The first of these

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<sup>16</sup> Anastomosis refers to the process of connecting together two structures inside the body; in obesity surgery, this is commonly done with staples or sutures.

<sup>17</sup> Peripheral neuropathy is the result of nerve damage; it often causes numbness and pain – commonly described as tingling or burning - in your hands and feet. Peripheral neuropathy can result from problems such as traumatic injuries, infections, metabolic problems and exposure to toxins. One of the most common causes is diabetes. See <http://www.mayoclinic.com/health/peripheral-neuropathy/DS00131> for more information.

procedures - the horizontal gastropasty - involved stapling the fundus of the stomach<sup>18</sup> to create a smaller pouch while a narrow channel was created to reconnect the pouch to the remainder of the stomach; however, over time, the staples separated and the stomach returned to its normal volume, leading to increased food consumption and weight regain. The gastric band falls under the category of restrictive device, since it simply reduces the amount of food that can be consumed, rather than change the anatomy or the body's ability to absorb nutrients.

The third school of thought – which combined both malabsorptive and restrictive elements - was created by Dr. Edward Mason, a surgeon from the University of Iowa, in 1967. Mason had observed that patients with peptic ulcer disease often – though unintentionally – lost weight after undergoing surgery to have part of their stomach removed; interested in applying this to obese persons, yet concerned removal of the stomach would cause ulcers, Mason developed what would later become recognized as the 'gold standard' in bariatric surgery, the gastric bypass (Burchard 2003). This surgery – first tested on dogs - involved stapling the top part of the stomach to create a small pouch; the pouch was then attached to the jejunum, the upper part of the small intestine, to provide intestinal continuity, while the remaining 'bypassed' stomach was left in place (Burchard 2003). The Roux-en-Y modification – which involved lengthening the Roux limb to improve weight loss and use of retrocolic and retrogastric routing to ease some of the technical challenges – was first performed in 1977. Various modifications were made to the techniques over time and surgery centers began offering the surgery in varying forms; while complications were reduced from the first years of

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<sup>18</sup> Fundus of the stomach refers to the part of the stomach to the left and above the level of the opening of the esophagus.

bariatric surgery, complications were still common, both early postoperatively and months after surgery, including leaks from the anastomosis, deep venous thrombosis, pulmonary embolus, stenosis (narrowing) of the gastrojejunostomy stomas from scar tissue formation, wound hernias, intestinal obstruction, and iron and B12 deficiencies.

Standardization of the procedure and the long-term follow-up studies of patients who underwent the procedure began in the 1980s; Dr. Walter Pories standardized the size of the gastric pouch and the length of the retrocolic, retrogastric Roux-en-Y gastrojejunostomy. Dr. Pories also measured the weight loss, complication rate, and glucose level and impact on obesity-related co-morbidities of more than 600 patients over a 14-year period, among the first study of its kind to monitor bariatric patients over time. Over the years, the technique has evolved and become more standardized, though variations still persist among surgeons with consistency in techniques and accompanying outcomes hard to measure (Prachand 2011). Over time, complications have diminished and the mortality rate following bypass has declined to 0.1% percent; however, the severity of complications from the early years of gastric bypass have been hard to erase from the public imagination and the legacy of high mortality rates and debilitating complications still infiltrate the surgical space, drawing potential patients to other surgical options, including the gastric band. Initially created as a less invasive 'solution' to the other choices in the bariatric surgical space that did not involve cutting or changing the anatomy of the intestines, the gastric band emerged in the late 1970s, though it was not approved for use in the U.S. until 2001.

Other new procedures continued to emerge over the decades, including the development of the vertical banded gastroplasty (VGB) in the 1980s – one of the few early bariatric procedures still available to patients today, although rarely performed. In VGB, also developed by Dr. Mason, the grandfather of gastric bypass, a small pouch is created along the lesser curvature of the stomach using a vertical staple line and a

polypropylene band is placed around the lower end of the pouch to fix the stoma size (Jenkins et al. 2005). Because there is no malabsorptive component, patients did not experience dumping or vitamin deficiencies common in other procedures, though erosion with gastric perforation is one of the more serious long-term complications from VBG surgery. The JIB was improved in the early 1980s with Scopinaro's biliopancreatic diversion (BPD); this was considered a combined malabsorptive and restrictive procedure. BPD didn't defunctionalize the small intestine, reducing some of the complications associated with JIL; still the procedure was not without complications, including loose, foul-smelling stools, stomach ulcers, and protein malnutrition. BPD was modified again by Dr. Douglas Hess in 1988, who combined it with a duodenal switch, which reduced stomach ulcers but still caused diarrhea and protein and vitamin deficiencies. This procedure is still performed in the U.S. and is covered by some insurance companies, though its popularity has waned in recent years with the introduction of the sleeve gastrectomy ('sleeve'), a procedure where about 80% of the stomach is surgically removed (U.S. National Library of Medicine 2011). In addition to the sleeve, new procedures have been introduced in recent years, although not yet endorsed by bariatric surgeons, including the gastric plication – a procedure where the stomach is inverted to restrict food consumption - and gastric plication with a band, where a band is placed onto an already inverted stomach. Citing "insufficient" evidence concerning safety and efficacy, the American Society of Metabolic and Bariatric Surgeons (ASMBS) has not supported gastric plication, including gastric plication with a gastric band, recommending continual clinical trials of gastric plication and that studies be "conducted responsibly under appropriate supervision and after appropriate training" (ASMBS 2011b). The ASMBS (2009a) has also raised concerns about new "endoluminal innovations and novel devices" for the treatment of obesity, calling on greater oversight

of clinical studies conducted by for-profit biomedical firms and mandatory reporting of data.

### **1.3.2 From Fixed to Adjustable: The Design and Evolution of the Gastric Band**

Created partly as a solution to the complications presented from malabsorptive and combination procedures, the gastric band was seen as a less-invasive way to achieve weight loss among the obese. However, the original gastric band - designed initially to be non-adjustable – had poor weight loss outcomes and its own set of complications unique to the material and the surgical placement of the restrictive device. Like its other bariatric surgery counterparts, the surgical technique and the design of the gastric band has changed numerous times since the late 1970s, evolving from a nonadjustable device initially made of Marlex mesh and later Dacron graft to an adjustable, silicon band placed around the upper part of the stomach (Baker 2011).

By 1983, the material of the band was universally adopted as surgeons believed silicon was a safer implantable material and caused less tissue damage (Kuzmak 1981, 1991; Baker 2011). But the switch to an *adjustable* band didn't occur until the mid-1980s. The original nonadjustable band required the use of an electronic calibrating device to determine where along the stomach the band should be placed to create an ideal stoma size. But reports of slippage - where the stomach prolapses either anteriorly or posteriorly through the band - erosion of the band into the stomach, esophageal dilation, and weight regain were common with the nonadjustable band, often requiring provisional surgery; surgeons soon determined that it was nearly impossible to create an ideal stoma diameter during surgery, despite changes to the calibrating devices to achieve more precision perioperative (Kuzmak 1989, 1991). The ability to adjust the stoma size post-surgically was believed to allow patients to eat a wider variety of foods, preventing maladaptive eating habits that later sabotaged weight loss efforts – this concept of

adjusting the *design* of the device to prevent *patient* misuse was re-formulated later in the band's development.

Two distinct teams – one based in the United States and the other in Sweden – were working independently on their own adjustable bands, following the successful reports from Austrian-based surgeons Szinicz and Schnapka who experimented on rabbits by inserting a silicon ring lined with a saline-filled balloon that could be adjusted through an external port (Baker 2011). Dr. Lubomyr Kuzmak, a Ukrainian surgeon working in the U.S., obtained a U.S. patent in 1986 for an adjustable band and was among the first to report long-term data on outcomes and complication rates from the band (Oria and Doherty 2007). Kuzmak's band – which he initially termed the Silicone Gastric Band (SGB) before adding the adjustable component and re-naming his device the Stoma Adjustable Silicone Gastric Band (SASGB) - was later purchased by Inamed Corporation, a global healthcare company that develops, manufactures, and markets breast implants, facial aesthetics, and obesity intervention products. California-based Bioentrics, a medical device distributor and subsidiary of Inamed, filed the U.S. federal trademark for the LAGB – Laparoscopic Adjustable Gastric Band - in November 21, 1994 (trademark serial number of 74600933) (Trademarkia n.d.). California-based healthcare firm company Allergan, Inc. acquired Inamed – and the LAGB - in 2006 (Rundle 2008). Allergan, which sells Botox Cosmetic, Latisse, and JUVÉDERM in its 'Medical Aesthetics' line of products, marketed this device as the "LAP-BAND" – short for 'laparoscopic gastric band'; this band was approved for U.S. use in 2001, though it was used extensively in Europe and Australia since the mid-1990s. World-wide, the LAP-BAND has sold 650,000 units.

Forsell's band became commercialized as the Swedish Adjustable Gastric Band (SAGB), which was used in Sweden beginning in 1987, nearly 10 years before it received approval to be used in Europe in 1996. In 2002, Ethicon Endo-Surgery Inc., a

subsidiary of Johnson & Johnson, acquired the Swedish Adjustable Band (SAGB) from Obtech Medical AG, the private Swiss company that developed SAGB. No stranger to the obesity surgery market, Ethicon – which develops and sells surgical instruments used in laparoscopic bariatric surgery – began clinical trials in the U.S. in 2003, receiving FDA approval in 2007 for the newly named REALIZE Band (WIN 2009; FDA 2007b). Ethicon’s entry into the band market helped lend legitimacy to the device as an option to other bariatric surgeries (Rundle 2008). By 2012, the REALIZE Band had sold 100,000 units worldwide. The primary design change between the Obtech version and Ethicon’s is the addition of a locking mechanism to the ‘belt’ portion of the band; previously, the band would have to be sutured closed during surgery (Ethicon bariatric account representative, personal communication). The locking mechanism changed again in a redesign post-FDA approval to include an extender and an unlocking mechanism to the belt, allowing surgeons to more easily unlock and reposition the band during surgery without damaging it in the process (personal communication).

The LAP-BAND has undergone three design generations in its 12-year history in the U.S., and is now available in two sizes of bands for high BMI (APL) and low BMI (APS system) patients, with a maximum fill volume of 10 to 14 CC; REALIZE is on its second design reiteration with a ‘one-size-fits-all’ curved adjustable band, REALIZE C, which has a maximum fill volume of 11 cc. The Ethicon North America Product Developer explains there is “no clinical difference or value” between the first and second generation, which involved a change from a flat to a pre-formed curve design of the band; he says that, while “they work pretty much identically,” customers thought the first generation “look[ed] cheap” and the “jazz[ed] it up a little bit” as a result (personal communication).

Ethicon representatives though contend that the *design* of the REALIZE Band makes it a safer device with better long-term weight loss outcomes than the LAP-BAND.

The REALIZE band is a high-volume, low-pressure balloon, which “lends itself to less of a feeling of discomfort and greater toleration of different food choices, and ultimately a better weight loss experience for the patient and less of an opportunity to create maladaptive eating and soft food migration,” explains a bariatric account representative from Ethicon (personal communication). Ethicon’s marketing materials advertise its wide band (23 mm) was designed to “decrease the potential for band slippage” and has the lowest leak rate on the market. Ethicon also had a first-to-market low-profile port with mechanically deployed hooks, which allows REALIZE patient to have “less port site pain and up to 19% less time under anesthesia than LAP-BAND System patients, whose ports are attached with sutures.” The REALIZE band’s low-profile port - 11.6 mm<sup>19</sup> - is designed to minimize appearance on the skin as patients lose weight. Other design changes include the addition of barium sulfate to the tubing component of the band to make the tube radiopaque so surgeons and practitioners can more easily see it under fluoroscopy and under X-ray (Ethicon account representative, personal communication).

In comparing its products to the REALIZE C band, Allergan purports its “ongoing innovation and advanced technology” is superior to its rival’s product, stating its patented 360° OMNIFORM technology is the “most advanced technology available today” allowing for evenly distributed pressure, “band stability, reliable restriction, and the ability to personalize adjustments to control food portion sizes for optimal weight loss.” Its direct response to Ethicon’s claims that its port design is superior, Allergan points to one study of 191 patients that “port fixation using surgical mesh may prevent rotation of the port after surgery, as well as providing better access for post-surgery adjustments.”

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<sup>19</sup> The LAP-BAND port is volcano shaped and is 11.9 mm or 14.7 mm, depending on what band is selected.

Despite claims of superior design, the first generation of the REALIZE band was recalled; in 2010, Ethicon Endo self-initiated a recall of its band, notifying customers that the Tubing Strain Relief component of the port may detach from the locking connector. As a result, company officials warned there may be difficulty or inability to adjust the fluid volume within the band, or may detach completely, leading to a free foreign body in the abdominal wall or abdominal peritoneal, requiring surgery to correct (FDA 2010b). Though officials reported the chance of damage was 1 in 10,000, healthcare facilities were notified to immediately discontinue use of the device and return all unused REALIZE Bands to Ethicon; patients already with the band were told to take no action and removal was not necessary. In 2010, Allergan sent an Urgent Field Corrective Letter to customers after receiving reports of damage to the port stemming from improper band adjustments, resulting in leaks and stalled weight loss (FDA 2010b); the company emphasized the need to inject a needle perpendicular – rather than at an oblique angle - to the access port septum when performing a LAP-BAND System adjustment. Allergan also self-initiated an 'Urgent Medical Device Recall' to customers in 2011, after determining that the Access Port Needle pouches for Huber needles were not sterile (FDA 2011a).

In the crowded marketplace, unlike other bariatric surgeries, Allergan and Ethicon have taken the unusual step of marketing a major surgery directly to consumers (Erdely 2008; Rundle 2008). In November 2006, Allergan introduced a TV campaign for the LAP-BAND, and both companies have websites allowing would-be patients to watch or read testimonials from existing patients, link to surgeons and financing options, and

track their progress afterward. Though it disbanded in 2012<sup>20</sup>, Ethicon's RealizeMySuccess.com, a website that allowed bariatric patients to track and monitor their progress, gave banding patients the ability to create a 3-D model of themselves and see what they might look like after a dramatic weight loss. Some charge the tactics mirror that of the cosmetic industry, focusing on appearance, as opposed to health benefits stemming from weight loss (Erdely 2008).

### **1.3.3 The Advent of Laparoscopy**

While the growth of bariatric surgery is partially attributed to the growing recognition that surgery can safely and positively impact obesity-related co-morbidities, as well as the highly publicized media accounts of celebrities that underwent bariatric surgery, medical scholars (Prachand 2011; Baker 2011; Jenkins et al. 2005) argue it was the introduction of laparoscopic surgery in the early 1990s<sup>21</sup> that served as a major driver in increasing the number of bariatric surgeries performed in the United States.

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<sup>20</sup> Ethicon Endo de-activated Realize mySuccess, an online site for patients, in April 2012. The website states: "Weight loss support and behavior modification are important components of your weight-loss process. Your surgeon's practice is and should remain your key contact for post-surgical support. We've also compiled a list of weight-loss management resources from third-party sources that may be helpful to you, based on feedback from REALIZE mySUCCESS users. Many of these programs provide journaling and tracking options, as well as additional features such as social networking and food lists." The site redirects users to [www.MyFitnessPal.com](http://www.MyFitnessPal.com), [www.Caloriecount.about.com](http://www.Caloriecount.about.com), [www.SparkPeople.com](http://www.SparkPeople.com), [www.LIVESTRONG.COM](http://www.LIVESTRONG.COM), [www.FitDay.com](http://www.FitDay.com), [www.choosemyplate.gov/SuperTracker](http://www.choosemyplate.gov/SuperTracker), [www.WeightWatchers.com](http://www.WeightWatchers.com), and [www.ObesityHelp.com](http://www.ObesityHelp.com).

<sup>21</sup> The first laparoscopic bariatric surgery was performed in 1992; Prachand (2011) attributes Catona in Italy with placement of the nonadjustable band in 1992, while Baker (2011) credits Australian surgeon Broadbent with the first laparoscopic nonadjustable band in 1992. Belachew was the first surgeon to laproscopically place an adjustable gastric band in 1993 in Belgium (Prachand 2001; Baker 2011). Hess and Hess performed the first laparoscopic VSG in 1993. Wittgrove and Clark performed the first laparoscopic Roux-en-Y in 1993, modifying the original surgical technique to perform this procedure. Gagner performed the first laparoscopic DS in 1999 (Prachand 2011).

Prior to 1992, bariatric surgery had been performed in an open fashion for nearly 40 years<sup>22</sup>. Laparoscopic surgery – also termed minimally invasive surgery – is performed with the aid of a video camera and several thin instruments (Lee 2009). During bariatric laparoscopic surgery, small incisions of up to half an inch are made on the abdomen and chest and plastic tubes called trochars are placed through these incisions; the camera and the instruments are then introduced through the ports which allow access to the inside of the patient (Lee 2009). The camera transmits an image of the organs inside the abdomen onto a television monitor, and the surgeon is able to see directly into the patient without the traditional large incision.

Prachand (2011) argues that the availability of laparoscopic surgery removed the *psychological barrier* to surgery by reducing patients' perceptions of the severity of bariatric surgery, drawing a larger number of patients to elect bariatric surgery. The development of laparoscopic surgery also drew a substantial number of general surgeons – who were initially interested in minimally invasive surgery<sup>23</sup> - into the field of bariatrics, leading to an increase in the number of bariatric providers. Bariatrics also accounts for a large number of advanced clinical fellowships in minimally invasive surgery.

Aside from lessening the psychological barricade to having surgery, laparoscopy has distinct advantages over open surgery, including reduced hospital stays, reduced impairment and fewer wound infections, allowing patients to return to work and regular activities more quickly (Prachand 2011; Dalton Surgical Group n.d.). While the costs are

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<sup>22</sup> Open surgery is still performed, though rarely and generally only among super obese patients.

<sup>23</sup> The majority of surgical fellowships involve bariatric surgery; as one bariatric surgeon explained to me – “if you can do bypass laparoscopically, you can do anything”.

higher than open surgery, patients who have laparoscopic surgery have lower overall complication rates, including reduced impairment of postoperative pulmonary function and less blood loss (Prachand 2011). Still there are disadvantages – the use of carbon dioxide to perform the surgery results in increased intraabdominal pressure immediately following surgery.<sup>24</sup> Today, the majority of bariatric procedures – including provisional bariatric surgeries - are performed using the laparoscopic approach; improvements to laparoscopic techniques have limited the number of incisions from 5 or 7 to 3 or less, depending on the type of surgery<sup>25</sup>. The American Society for Metabolic and Bariatric Surgery (ASMBS) (2011d) points to evidence that shows laparoscopic bariatric surgery is no riskier than gallbladder or hip replacement surgery.

#### **1.3.4 The Professionalization of Bariatrics**

As a relatively new medical specialty, bariatrics is a small but growing surgical field. Founded in 1983, the 4,000-member strong American Society for Metabolic and Bariatric Surgery (ASMBS)<sup>26</sup> is the largest non-profit medical organization in the world

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<sup>24</sup> Band patients described this as one of the most painful and uncomfortable parts of having band surgery, equating it to an intense heartburn-like pressure that feels like a heart attack that radiates to the chest, shoulders and arms. In support group meetings, some of the patients advised others to get up and walk around to alleviate the pain.

<sup>25</sup> A number of surgeons in this research performed single-incision surgery for gastric band; this incision was made to the belly button. Prachand (2011) argues there is no proven medical benefit to fewer incisions other than a cosmetic benefit; the reduction of incision – and the accompanying scarring - was mentioned throughout the course of my patient interviews as an important factor in choosing the band procedure and/or their surgeon. Strategies for minimizing scars were discussed occasionally during the course of my clinical observations, as a number of women expressed concern over wearing bathing suits when their scars – and their protruding ports – were visible.

<sup>26</sup> The ASMBS is now headed by a Jamie Ponce, MD, a Georgia-based bariatric surgeon who was the principal investigator for the “C” trial with the Lap-Band® and the Swedish (Realize™) Band trial, as well as consultant for many bariatric surgery companies (see <http://daltonsurgical.com/meet-our-team/jaime-ponce> for biography of

dedicated to advancing “the art and science of metabolic and bariatric surgery”. Other surgeons’ groups, including the American College of Surgeons (ACS) and Society of American Gastrointestinal Endoscopic Surgeons (SAGES), likewise support the advancement of bariatric surgery as the “most effective treatment for morbid obesity, producing durable weight loss, improvement or remissions of comorbid conditions, and longer life” (SAGES Guidelines Committee 2008). Piggybacking off the public health focus on the obesity epidemic, this strategic shift in language both reflected and prompted a change in discourse concerning the role and need of bariatric surgery in solving the country’s obesity epidemic.

But while ASMBS has gained traction in recent years, helping increase visibility and recognition of surgery, it has and continues to face adversity which threatens both acceptance for and insurance coverage of bariatric surgery. Despite nearly a six-fold increase in the number of bariatric surgeries performed in the U.S. from 36,700 in 2000 to 220,000 in 2009, skepticism in bariatric surgical outcomes, reports of high complications, increased malpractice suits, and lack of centralized data on outcomes threw the bariatric community in a “crisis” in 2003 (Buchwald 2007, p. 13). As a result, more than 20 insurance providers began establishing their own Centers of Excellence programs for bariatrics, leading to multiple standards, limited data sharing, and exclusion of bariatric surgeons from the decision-making process. Insurers – citing high death rates and an influx of surgeons without proper training in the field - considered the surgery “risky” and ‘elective’, and began dropping coverage of bariatric surgery; employers followed suit with fewer than half of companies with 500 or more employees

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Dr. Ponce). The immediate past president, Robin Blackstone, MD, FACS, FASMBS, is a published scholar on gastric bypass.

including coverage for surgery in its plans (Kazel 2004). This pushed the bariatric community into establishing an independent healthcare quality organization named Surgical Review Corporation; ASMBS now administers the Bariatric Surgery Center of Excellence (BSCOE) program, which designates surgical centers as meeting professional standards of care, including performing at least 125 procedures each year (American College of Surgeons 2010); in 2012, ASMBS and ACS announced plans to combine their respective national bariatric surgery accreditation programs to achieve one national accreditation standard for bariatric surgery centers (ACS 2012). The drive to accredit hospitals and surgery centers was linked not just to efforts to regain control over standard setting, but a response to safety concerns about bariatric surgery and lack of standardized care for bariatric patients. Still, despite efforts to create some quality control standards and offer fellowship opportunities for advanced training in bariatric surgery, there's no official certification for bariatric surgeons and no mandatory training requirements – nor much power to “tame the no-holds-barred feel of this burgeoning field” (Erdely 2008). In a 2009 CBS News story on the dangers of gastric bypass, former president of ASMBS Dr. Harvey Sugerman raised concerns about doctors who “got into it without adequate training and experience and felt that they could do this” (Morales 2009). He stated ASMBS was “very concerned about deaths after obesity surgery”, and the organization was “doing everything we can to improve quality care by establishing the Center of Excellence program”.

In addition to helping change the standard of care, ASMBS was instrumental in shifting the *conversation* about weight loss surgery. Previously named the American Society for Bariatric Surgery (ASBS), the ASMBS' 2007 shift in nomenclature is linked to the association's efforts to reformulate bariatric surgery from 'weight loss surgery' – seen as cosmetic, drastic and unnecessary - to focus more on the treatment for obesity-related metabolic conditions, including type 2 diabetes, hypertension, high cholesterol,

and obstructive sleep apnea (ASMBS 2007 Bariatric Surgical Society). In a 2007 news release announcing the name change, former ASMBS President Kelvin Higa, MD announced the intention to change the perception of surgery was simply about losing weight, stating that, “people generally don’t think of surgery as a treatment for diabetes or high blood pressure, but it is, and we expect metabolic surgery to play an ever increasing role in managing these diseases.” This “expanded and evolving view of surgery” began to dominate discourse surrounding all types of bariatric surgery, including the gastric band. Shifting the conversation to tangible health benefits as a result of *metabolic* surgery also both opened “the pathway for the acceptance of surgical procedures by our medical colleagues” (Buchwald 2010, p. 222) and opened up pathways to increasing insurance coverage for surgery. As a result of lobbying efforts on the part of the ASMBS, in 2006, the Centers for Medicare and Medicaid Services announced it would provide coverage for the biliopancreatic diversion with duodenal switch, Roux-en-Y gastric bypass and laparoscopic gastric banding; some of the nation’s largest private insurance companies, including Aetna, Blue Cross Blue Shield, and Cigna have adopted policies that cover bariatric surgery for morbidly obese patients.

Although the numbers have grown dramatically in recent years, only about 1 percent of the clinically eligible population has bariatric surgery; despite gains in the 1990s and 2000s, overall, the number of bariatric surgeries have ‘plateaued’ since 2009, due largely to the recession and a changed view of the surgery. Celebrities’ public struggles with weight regain following bariatric surgery “has sent the message that this is not an easy way out” (Elliot 2012); patients’ own social networks reveal weight loss failures and regains, changing the perception of the surgery. In a 2012 *American Medical News* article, Dr. Ken Champion, a retired Atlanta, Georgia-based bariatric surgeon explains: “People want a magic pill to address obesity, but it’s just not out there.” (Elliot 2012). In a 2012 presentation, former ASMBS President Bruce Wolfe

presents some other possible explanations for the national decline in bariatric procedures, including limited access to care, in terms of provider capacity and insurance coverage, an information gap on the part of patients and physicians/providers, as well as fear of complications from patients and physicians/providers (Wolfe 2012).

#### **1.4 Statement of the Problem and Purpose**

In an era of increasing ‘biomedicalization’ – technologically-transformed medicalization – bodies are continually transformed as a result of technoscientific advances, with uneven implications for individuals (Clarke et al. 2003, 2010). While some science studies scholars and medical sociologists view the availability of new technologies in healthcare and other contexts as *potentially* empowering, both physically and socially (Clarke et al. 2003, 2010; Haraway 1991; Wajcman 1991; Wajcman 2004; Mamo 2007; Shilling 1995), others raise concern about the ‘unintended consequences’ arising from the development and use of new technologies, particularly as it affects women’s health (Rothman 2006; Roberts 2009; Rapp 1998; Balsamo 1996; Merchant 1980; Daly 1990; Hubbard 2002; Weitz 2007; Martin 1996; Lorber 2006; Bordo 1993; Kaw 2002; Ratcliff 2002; Clarke and Olesen 1999.). As new biomedical technologies change the nature of healthcare, medical practice and the illness experience, there is a critical need to understand not only how new technologies alter the material and social body, but also how technologies themselves become embedded with values and expectations which have consequences for individuals (Casper and Morrison 2010; Timmermans 2000).

Drawing on several theoretical frameworks, this study provides a critical analysis of gastric banding surgery by examining *both* the actual use and the social and scientific context of an increasing common biomedical intervention for obesity. Specifically, this

study explores the following interrelated questions: *How do various social actors, specifically female gastric banding patients, developers/designers and medical practitioners, construct the gastric band's role in the obesity epidemic? How do the actual uses of the gastric band diverge or coincide with its intended use?*

Together, these questions unpack the social meanings and the material uses of a weight loss technology amidst a broader national movement to medically manage the bodies of obese individuals. In examining disjunctures and linkages between intentionality and practice, the purpose is to not only deconstruct the social context in which the gastric band is designed, developed and used, but also to understand how the embodied experience is affected post-surgery. To address these questions, this study involves a qualitative, multi-site ethnography which draws on patients, medical practitioners, and biotechnology firms; this aids in understanding the personal and broader socio-historical and scientific context in which gastric banding occurs and the ways in which individuals make meaning of their bodies through the lens of biomedical technologies. A mixed methodological approach employing semi-structured interviews, participant observation, and content analysis is used. A more critical engagement with the science behind and the actual use of emerging biotechnologies is of increasing importance not only theoretically, but also practically; a greater understanding of new biotechnologies may improve outcomes and inform decision-making on the part of potential patients, not only within the context of obesity and weight loss surgery, but also for other medical encounters. It may also inform clinicians' practice, leading to better patient care, and provide biotechnology firms with a better understanding of the broader social context, the patient experience and the medical encounter, likewise resulting in improved patient care.

## 1.5 Significance of the Study

Informed by the literature from mainstream feminism, feminist science studies, science and technology studies, and medical sociology, this study draws on multiple frameworks to analyze bariatric surgery and the growing presence of biomedical technologies in mediating the human condition. Though all provide rich sites with which to explore this topic, no current work on this topic has fully integrated all of these areas. While feminist scholars (Jaggar and Bordo 1989; Bordo 1993; Brumberg 1997; Wolf 1992) have linked ‘the body project’ – including efforts to alter one’s physical appearance vis-à-vis cosmetic surgery – to an ongoing effort to socially contain and control women and girls, they have failed to fully complicate the role of science or technology in the normalizing process, nor interrogate the ‘objectivity’ of science behind many of the existing and emerging procedures. Similarly, while feminist science scholars (Clarke et al. 2003, 2010; Haraway 1991; Wajcman 1991, 2004; Balsamo 1996; Bumiller 2009; Casper 1998; Foskett 2004; Hubbard 2002; Layne 2006; Mamo 2007; Rapp 1998; Roberts 2009; Rothman 2006; Samerski 2009; Terry and Calvert 1997) have explored how science and technologies – particularly reproductive and domestic technologies – have altered women’s bodily experience in both empowering and disempowering ways, they have not fully explored how supposedly gender-‘neutral’ technologies have implications on the lives and bodies of women. Sociology of medicine and health scholars have begun to draw a connection between obesity and growing medicalization efforts, but they are guilty of ‘black boxing’ technology without deconstructing or unpacking its development and use (Casper and Morrison 2010; Timmermans 2000). Limited sociological work on bariatric surgery has centered on user experience and marketing of bariatric surgery and problematized the social construction of the obesity epidemic (Conrad 2007; Gard and Wright, 2005; Oliver, 2006; Boero 2010; Throsby 2009a, 2009b, 2008, 2012a, 2012b); no study has yet looked at the technology itself nor

the role of non-users, specifically surgeons, medical professionals and biotechnology firms. Further, while surgical patterns suggest stratification with regards to gender, race and class, social location has been largely absent from existing sociological work on this topic.

This study draws on these frameworks using a combined methodological approach, which analyzes both patient experiences, and the role of medical practitioners and biotechnology firms; in bringing together these groups of social actors, this study aids in understanding how individuals come to embrace or resist new biomedical technologies and whether this departs or coincides with intended use of those providing medical care. Theoretically, the examination of patients' use of new biomedical technologies is of significance to the field of feminist science studies by exploring the role of technology in mediating gendered bodily experience within the context of supposedly gender-neutral technologies, diseases, illnesses, and bodily experiences. By placing gender at the center of the analysis, this study provides an opportunity to more closely examine the ways in which gender and gendered assumptions may factor into technological design and use, and, thus, ultimately affecting the health of women. Equally critical in understanding patients' usage and experience with biomedical technologies is the need to understand the social and scientific context of the tools which have the capacity to alter human bodies. Rather than take scientific efficacy for granted, this study interrogates the design, development and technical aspects of the gastric band itself, in order to provide a more comprehensive analysis of obesity surgery.

This study also has significance for existing and future bariatric surgery patients, as well as practitioners. For potential and existing patients, the study could better enable individuals to make more informed decisions concerning the procedure. For surgeons and other medical practitioners, the results could enable them to better understand their patients' experiences; further, understanding how gender and gendered assumptions

concerning eating and appearance factor into treatment may cause surgeons and clinicians to have a greater awareness of how their own biases may affect patient care. In demonstrating the varying motivations that drive patients into the bariatric surgical space, and the varying experiences of living with the band, this study may help biotechnology firms create new strategies to improve patient care, as well as design choices which better align with the patient experience. Given the growing number of individuals electing to have weight loss surgery, particularly in the context of growing medical intrusion in women's bodies and normalization of biomedical interventions in health and other contexts, this topic remains an important issue in need of sociological analysis.

### **1.6 Theoretical and Conceptual Orientation**

This study draws on several theoretical frameworks to provide a critical sociological analysis of both the actual use and the intended use of the gastric band. This study draws on biomedicalization theory, feminist body theory, and actor-network theory in an effort to begin to understand both how the human body – and specifically the female body – becomes altered in the presence of new biomedical technologies and how those technologies themselves become embedded with values which have implications for the lives of humans.

Biomedicalization theory (Clarke et al. 2003, 2010) has its roots in Foucault's (1978) 'biopower', which posits that modern power is centered on surveillance and control of individual bodies. Foucault argues that power is no longer demonstrated through death but by "the administration of bodies and the calculated management of life" (p.194). Biomedicalization extends the 'clinical gaze' to the level of molecule, arguing that bodies and nature itself are re-configured in the presence of technoscientific advances, creating new biomedicalized subjectivities and collectivities. Clarke et al.

(2003, 2010), however, argue that biomedicalization processes and practices are contingent, and argue that some individuals, groups and populations respond to, manipulate and actively resist technoscience “to meet their own needs”, though their ability to do so is a reflection of their social location (Clarke et al. 2010, p. 56). Feminist theorist Susan Bordo (1993a, 1993b), drawing on Foucault’s concept of disciplinary power, theorizes that the materiality of the female body is a reflection of its locatedness within postmodern Western culture and embodies hierarchies and power arrangements; while Bordo also sees room for resistance and creative powers of the body, she problematizes the ability to resist or subvert normalizing messages and exposes the cultural “mystifications” which are highly normative and complicate the rhetoric of choice and agency (1993a, p. 199).

Callon's (1985) and Latour's (1987, 1991) actor-network theory is a constructionist, relativist theory of knowledge which focuses on relationships among actors; in this framework, non-human entities, specifically technologies, are themselves actors ascribed with agency and can direct the action of others. Technologies themselves are not neutral, but reflect and direct the values and social context in which there are created and used. Rather than ‘follow the technoscientist’, feminist approaches to the study of science and technology have made users – specifically women – at the center of their analyses, while still drawing on other actor groups to provide a broader-based analyses of the user-technology interaction (Oudshoorn and Pinch 2003; Clarke and Montini 1993; Rapp 1998). This study builds on the previous works of feminist science scholars (Rapp 1998; Martin 1987; Martin 1994; Blizzard 2007; Casper 1998) and focuses on users and non-users of an emerging biotechnology to have a more comprehensive picture of the social, personal, and scientific context in which surgical intervention for weight loss takes place. By combining these theoretical orientations, this study aims to provide a more rich analysis of the gastric band than any one theoretical

framework alone. This study seeks to contribute to relevant debates in these areas by addressing the possibilities and limitations offered by biomedical technologies, and exploring the ways in which gendered bodies may be shaped by and shape medical technologies.

This study also takes a distinctly feminist approach to empirical research; Reinharz (1992) defines feminist research as being guided by feminist theory which serves as the framework for the research process. Methodologically, feminist research seeks to remove the power imbalance between researcher and subject; it can also be politically motivated and action-oriented, with a goal to change social inequality. Feminist research also begins with the standpoints and experiences of women (Harding 1992). A feminist approach to research also relies on 'alternative' or nonpositivist methods which are guided by a constructivist framework; in this way, feminist researchers dispute the idea that there is an objective reality independent of the observer. Instead, the researcher engages in constant reflexivity to understand how their own particular social situation and point of view affect both the questions that are asked and the interpretation of the data (Charmaz 2005, 2006; Blizzard 2007). Feminist theorists (Collins 1989; Reinharz 1992; Blizzard 2007) also acknowledge an ethic of care informs their interactions with participants, and sees emotionality and feelings as central to interpreting interactions among actors.

### **1.7 Overview of the Dissertation**

This dissertation is organized into eight chapters. Chapter 2 provides an overview of the relevant literature in the field of traditional gender studies, medical sociology, biomedicalization, science and technology studies, and feminist science studies, as well as relevant sociological and medical literature on obesity surgery.

Chapter 3 provides an in-depth look at the methods used in this study, description of different subject groups and fieldwork, and the framework used to analyze the data.

In Chapter 4, “The Rise (and Demise) of the Gastric Band”, I identify some of the major stakeholders, including biomedical firms, bariatric surgeons, the U.S. Food and Drug Administration, medical community, advocacy groups, band patients, weight loss surgery community, and insurance providers, who have an interest in the gastric band. I present the band as a contested technology, both in terms of safety and efficacy, and point to its instability in the ‘fight’ against the ‘obesity epidemic’ in the U.S. Drawing on historical data, current news articles and press releases, as well as semi-structured interviews, I use social worlds/arena analysis to identify the relevant actors/social groups and portray the varied constructions of the gastric band.

Chapter 5, “Gendering the Gastric Band”, focuses on how gender and gendered assumptions about both men and women become embedded in the gastric band, both materially and symbolically; I argue that, while the band is presented as a gender-neutral technology, it both reflects and directs gendered ways of being and doing. Symbolically, I focus on appearance norms, idealized motherhood, and gendered constructs of eating; materially, I draw a connection between how they symbolic representation of (primarily female) users of the band affects both the design of the band and the patient-practitioner encounter.

Chapter 6, “Banded for Life? Negotiating Removability and Permanency among Gastric Banding Patients” focuses on the concepts of reversibility and permanency and how biomedical technology re-shapes an individual’s identity, in both potentially empowering and disempowering ways. Drawing on cyborg and biomedicalization theory concerning the human-technology interface, I argue that, while patients may be driven to the band – as opposed to other bariatric surgery options - because it is constructed as less invasive and can be removed, once they are implanted with the band, many

patients adamantly fight to keep their bands for life. As patients embrace the band as a core part of their identities – often reveling in their improved quality of life post-surgery - they also reflect anxiety about what may happen should they ever have it removed (i.e. returning to life as an obese person). I tease out the idea that technology has become so normalized in health care – coupled with historical medical intrusion of women’s bodies - that it seems ‘natural’ to use biomedical technology in this arena; though individuals are comfortable with and embrace their new technoidentities, they reveal a certain tension with having to rely on technology to lose weight and improve their health.

In Chapter 7, “The ‘Science’ of Fills: Maintenance, Standardization and Patient Control”, I focus on the adjustment process. I argue that the band is considered an ‘ineffective’ technology partially because of its reliance on human cooperation (i.e. patient compliance); in an effort to improve outcomes, designers, surgeons and practitioners try to control patient behavior and weight loss outcomes through standardization of the adjustment process. However, patients’ use and misuse the technology as a means to control their weight and food intake, sometimes subverting the intended use of the band. Drawing on feminist science studies, traditional gender studies, and Foucault, I frame the band as an issue about power, control and agency. Chapter 8 concludes with an analysis of my findings, implications for theory and practice, limitations of the existing study, contributions to the field, and new directions for future research on the gastric band.

## CHAPTER 2

### LITERATURE REVIEW

This study draws on multiple frameworks to analyze gastric banding surgery and the growing presence of biomedical technologies in mediating the human condition. This chapter provides an overview of the theoretical and analytical literature guiding this dissertation. I begin this chapter with a review of the relevant sociological and medical literature on obesity surgery, focusing on the common themes and the gaps in the literature which draw the basis for this study. Drawing on feminist body theory, I reveal limitations in the literature which fails to draw the connection between the disciplinary practices of femininity and science. I then review literature from the field of medical sociology, feminist science studies, and traditional science & technology studies, focusing on the medicalization of human conditions, the pathologization of women's bodies, and the use of technology in health care.

#### **2.1 Obesity, Science and Weight Loss Surgery**

Scholars chart the discursive shift from obesity as a behavioral problem to a medical issue to the post-World War II period, when medicalized discourses became commonplace as more human conditions came under the purvey of medical domains (Sobal 1995; Boero 2010; Throsby 2009a; Throsby 2009b; Throsby 2008; Gard 2009; Conrad 2007; Gilman 2008; Salant and Santry 2006; Braziel and Lebesco 2001; Gard & Wright 2005; Oliver 2006). However, while feminist scholars (Bordo 1993; Bartky 2003; Braziel and Lebesco 2001; Brumburg 1997) have long considered dieting and the use of weight loss drugs as a disciplinary project of femininity and critiqued the social stigma associated with being overweight, the construction of obesity as a public health epidemic

heightened the moral imperative to apply newer, more advanced technologically-driven measures to manage one's weight, with particular ramifications for women (Cogan and Ernsberger 1999; Hilgartner 2000; Kolata 2007; Austin 1999; Burgard 2009; Braziel and Lebesco 2001; Rothblum and Solovay 2009). Although bariatric surgery has been performed in the United States since about the 1970s<sup>27</sup>, it has only recently shifted from an "esoteric perhaps even stigmatized specialty" to a lucrative medical specialization (Conrad 2007, p. 119), due in part to extensive marketing by bariatric surgeons (Salant and Santry 2006; Oliver 2006), media coverage celebrity weight loss surgery 'success' stories (Boero 2010), readily available Internet health information, and increased insurance coverage of the procedure following reports that paying for surgery is less costly than treating obesity-related conditions<sup>28</sup> (Oliver 2006). Although surgery is seen as a way to resolve and prevent obesity-related medical conditions, including diabetes and hypertension, scholars (Oliver 2006; Gard & Wright 2005; Boero 2010) warn the surgery is becoming an increasing normalized way to weight loss rather than a last resort, particularly within the context of growing technological favoritism in healthcare (Ratcliff 2002).

While bariatric surgery is framed as a 'cure' for obesity, human 'cooperation' and lifestyle changes – including diet and exercise - post-surgery are required to enhance

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<sup>27</sup> See Boero (2010) for a brief history of bariatric surgery. In information sessions I attended in the Atlanta area, doctors often described gastric bypass as the 'gold standard' in bariatrics, as it has been performed the longest and has the most long-term data available on surgical outcomes.

<sup>28</sup> In 2004, the U.S. Department of Health and Human Services reduced barriers to obtaining Medicare coverage for obesity treatments; the surgery which costs between \$20,000-26,000, may be covered if it is performed to correct an obesity-related illness (WIN 2009).

weight loss<sup>29</sup>. However, while surgical skills and technological efficacy of the procedure are credited with *successful* weight loss and reversal of obesity-related co-morbidities, patients are implicated in – and often implicate themselves in – less-than-successful outcomes (Boero 2010; Throsby 2008, 2009a, 2009b; Salant and Santry 2006). A preliminary review of medical literature (Colles et al. 2008 Kalarchian et al. 2002; de Zwaan et al. 2009; Kruseman et al. 2010) too faults patients, rather than the technology for ‘occasional failures’ (WIN 2009); medical studies (Alger-Mayer, Rosati & Malone 2009; Bocchieri et al. 2006; Burgmer et al. 2005; Chen et al. 2009; Colles, Dixon and O’Brien 2008; Fujioka et al. 2008; Guerdijkova, Kotwal and McElroy 2005; Kalarchian et al. 2002) of surgical outcomes and patient behaviors reveals a *disjuncture between intended and actual use*, suggesting patients engage in ‘maladaptive’ eating habits post-surgery, including binging, grazing, consuming high-calorie liquid foods, vomiting, and laxative and diuretic abuse. However, medical researchers’ emphasis on patient-induced failures diminishes the severity of complications which are framed as a ‘normal’ product of the band, such as vomiting or consumption of high-fat ‘slider’ foods often as a result of being overfilled with the band. It is in this space between medical literature and actual patient experience where one can see the complexities and contradictions among clinicians’ perceptions of patients’ and patients’ actual live experiences.

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<sup>29</sup> ASMBS’ official position is that behavior modification, including exercise and regular post-operative check-ups, is essential to improved post-surgical outcomes. Further, the Weight-control Information Network (WIN), a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the National Institutes of Health, which is the Federal Government’s lead agency responsible for biomedical research on nutrition and obesity, states the following: “Success is possible only with maximum cooperation and commitment to behavioral change and medical follow-up—and this cooperation and commitment must be carried out for the rest of your life” (WIN 2009).

Limited sociological work on weight loss surgery, in contrast to medical literature, paints a more complex reading of post-surgical outcomes. Throsby (2009b) argues patients draw on failures with previous attempts to lose weight through pharmaceuticals to justify their decision to have surgery; however, they intentionally refute the idea that they are 'cheating' by employing "technologies which act as substitutes for willpower" by asserting their role in making lifestyle changes post-surgery (Throsby 2009b, p. 206). However, the consequence of this "discursive strategy" is that patients who re-gain weight post-surgery must blame themselves, rather than technological failure. Salant and Santry (2006) find marketing websites for surgical centers draw on contradictory discourses concerning patients' responsibility in becoming obese and their role in losing weight post-surgery; the authors posit that because surgeons draw on medical causes for obesity, individuals may have unrealistic expectations of the process and their role in successful outcomes. Boero (2010) argues morally-guided narratives about individual's lack of self-control post-surgery – often overlaid with gendered constructs of 'emotional eating' – are often invoked by doctors *and* patients "to make sense of biomedical failure". As a consequence, neither surgeons nor patients "[question] the legitimacy or techniques of biomedicine" (Boero 2010, p. 326).

Drew (2008a) examines medical debates about bariatric surgery and how bariatric surgery patients reflect upon and negotiate medical information, resulting in the construction of 'ideal patient' guidelines; this discursive framework casts surgery as an appropriate solution to the obesity 'epidemic'. Drew identifies four components which form the 'ideal patient archetype': 'appropriate physiology', which outlines weight and health criteria for bariatric surgery; 'appropriate diet history', which demonstrates patients' history of unsuccessful dieting; 'appropriate behavior', which concerns patients' willingness to follow surgical instructions and take part in pre-surgical requirements, such as psychological evaluations and nutrition counseling; and 'appropriate attitude',

which concerns patient's desire and motivation to have surgery, as well as their expectations and willingness to change their exercise and diet habits. Patients embrace, have a mixed response, or strategically comply with this ideal in order to have surgery, demonstrating the ways in which patients can exercise acceptance, ambivalence and resistance to discursive medical and social frameworks. In an analysis of popular media, as well as interviews and surveys with bariatric patients, Drew (2011) finds that mainstream periodicals<sup>30</sup> frequently stigmatized patients as obesity surgery as medically risky, extravagant, and as an 'easy way out' from obesity, privileging dieting as morally superior to surgery; bariatric surgery is only portrayed as acceptable when patients have tried – and been unsuccessful – with other multiple weight loss techniques. In contrast, bariatric patients are aware of, yet frequently refute, these surgical stigmas. Other works focus on the complex realities of living patient's strategic use of surgery. Throsby (2012a) too sees moments of resistance among gastric band patients, recognizing the complex and simultaneous existence of both resistance and compliance; Throsby argues that patients are "far from 'brainwashed'"; rather than see surgery as simply 'bodily mutilation' scholars miss a "valuable opportunity to appreciate more fully the contradictory nature of those experiences, their problems and constraints, and, simultaneously, their pleasures."

However, despite acknowledging the lack of critical engagement with the technology itself, Boero and others have likewise committed the 'mere tools' fallacy by themselves not questioning the efficacy of the procedure, reinforcing the power and

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<sup>30</sup> In this study, five high circulation periodicals targeting African American and/or white audiences were sampled: People Magazine, Ebony, Essence, Time Magazine, and Newsweek. Magazine articles published from January 1999 to March 2005 were accessed; thirty-two articles emerged that focused on obesity surgery.

legitimacy of medical and scientific authority (Timmermans 2000). Timmermans (2000) argues that by emphasizing the sociological context of technology, as opposed to the technological context, sociologists have not interrogated the tools that frame medicalization nor sufficiently critiqued the scientists and engineers who design and develop the medical technologies that have reshaped lives and the bodily experience. Instead, most sociological studies of obesity surgery have focused largely on patient narratives, with limited engagement with medical professionals<sup>31</sup>. Further, no study has included the perspectives of biotechnology firms and practitioners to begin to unpack the assumptions and values embedded in the device.

## **2.2 The Social Construction of the Body**

A number of theorists (Douglas 1970; Scheper-Hughes and Lock 1987; Bordo 1993) have argued that the human body is a cultural construct, rather than a single biologic entity. As a medium of cultural norms and restraints, the body plays an important role in modern power relations. Bodies – whether gendered, raced or classed – become a means to “signal, manage, and negotiate information about power and status” (Martin 2003, p. 220). Nancy Scheper-Hughes and Margaret M. Lock (1987) write: “cultures are disciplines that provide codes and social scripts for the domestication

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<sup>31</sup> Throsby (2008, 2009a, 2009b) interviews patients who had undergone or were waiting to undergo weight loss surgery in the UK; Ogden, Clementi and Aylwin (2006) present a qualitative study of 15 men and women who had weight loss surgery with an emphasis on psychological outcomes. Boero (2010) incorporates interviews, textual analysis and participant observation in her study of gastric bypass surgery; she attends seven information sessions, five support group meetings and a medical conference hosted by Obesity Help, as well as observes online message board and chat rooms and analyzes weight loss program materials; she does not directly interview practitioners, nor does she specify the time period of her study, number of online forums monitored, or amount of materials studied.

of the individual body in conformity to the needs of the social and political order” (p. 26) As social and politicized bodies, individuals are inscribed with a culture’s value system; these “cultural constructions of and about the body are useful in sustaining particular views of society and social relations” (Scheper-Hughes and Lock 1987, p. 19). In Western society, bodies are inscribed to reflect “the core values of autonomy, toughness, competitiveness, youth and self-control” (p. 23). Mary Douglas (1970) first introduced the idea that the body carries tremendous symbolic significance, arguing that the body is a “text” in which complex cultural meanings are inscribed.

### **2.2.1 Discipline, Power and the Politics of Appearance**

The body as a symbol and conduit of social meaning became popularized in feminist discourse about the construction of the body beautiful (Bordo 1993; Scheper-Hughes and Lock 1987; Douglas 1991 Sault 1994; Weitz 1998, 2007; Wolf 1992). Drawing on Michel Foucault’s (1979) concept of disciplinary power and docile bodies, feminist scholars posit that women’s bodies become practiced entities which are trained to act within a narrow range of normalizing behaviors. Foucault argues that modern power is subtle and productive, and is maintained not through coercion, but through individual self-surveillance and self-correction to norms. Feminists expanded this analysis to politicize the ways in which the feminine body is a reflection of both existing social hierarchies and shared cultural anxieties over women’s attainment of power (Bordo 1993a, 1993b; Scheper-Hughes and Lock 1987). Allison Jaggar and Susan Bordo (1989) argue that women are trained in the “exacting and normalizing disciplines of diet, make-up and dress” in order to distract them from asserting their rights and battling social oppression (p. 14). Bartky (2003) argues the construction of femininity is itself a disciplinary project in which “relentless self-surveillance” functions a form of obedience to patriarchy; women who fail to participate face social sanctions for non-

compliance. Feminist writer Naomi Wolf (1991) sees beauty work and cosmetic surgery as primarily oppressive, arguing that the 'beauty myth' – or the Western ideological beauty imperative – arose as a backlash to the political gains made by women following the second wave feminist movement. Wolf writes: "the beauty myth countered women's new freedoms by transposing the social limits to women's lives directly onto our faces and bodies" (p. 270). In this way, Wolf sees beauty projects not about women's pre-occupation with their appearance but about expressions of male power. Although Wolf believes that pleasure and playfulness are essential for a "pro-woman definition of beauty," she argues that it becomes difficult to discern to what extent women seek pleasure from practices that are potentially harmful to them, particularly those who may undergo painful cosmetic surgery or other forms of bodily manipulation (p. 290). Thus, according to Wolf, there is no true 'choice' when women are "punished" for not capitulating to the dominant beauty standard (p. 1). Kathy Davis (1995), on the other hand, argues that women's decision to have cosmetic surgery is not about 'false consciousness' (p. 4). Rather than view the beauty system "as an oppressive way to discipline or normalize women through their bodies", Davis argues one must still balance a feminist critique of cosmetic surgery with an "equally feminist desire to treat women as agent who negotiate their bodies and their lives within the cultural and structural constraints of a gendered social order" (p. 5). Thus, agency can be possible. Johnston and Taylor (2008) further complicate Davis' claim that women's participation in beauty and body work (cosmetics, exercise, plastic surgery) can function as source of empowerment by drawing attention to the role of corporations in the normalizing process (p. 945). Rather than overemphasize beauty as a voluntary and individual source of meaning/empowerment and voluntary nature, the authors point to the way in which corporations integrate emancipatory ideals into marketing campaigns, fueling

internalized hatred to sell more products rather than challenge dominant beauty ideology.

Other feminist scholars (Davis 1995; Pitts-Taylor 2007; Kaw 2003) further complicate this theory by taking into account both the ways women participate in their own sexism and the ways that shaping and decorating the body can be pleasurable and potentially subversive, as well as yield social rewards. Fat studies scholars, by contrast, argue that “fatness” can be seen as purposeful resistance to cultural ideals of slenderness; in choosing or accepting a body that is seen as “ugly,” some women can individually resist societal pressure (Brazier & Lebesco 2001; Lebesco 2004). As a type of practiced or disciplined body, the slender body is a reflection of social norms and existing power relations. Although standards of beauty have morphed to correspond with the times, the prevailing Western standard idealizes thinness. This belief is so pervasive that it “almost seems natural to assume that a thin body is aesthetically preferable to a corpulent one,” despite historical periods in which the opposite was heralded (Reischer & Koo 2004, p. 299).

Popular discourse suggests the link between disciplined bodies and self-control. In this framework, slenderness is a manifestation of this ability to exercise control, while obesity represents a transgression, a loss of control and failure at the individual level. Theorists (Bordo 1993b; Scheper-Hughes and Lock 1987; Thomsson, 1994) argue that Western culture has normalized the idea that, given enough self-control, all individuals can change their bodies to meet the ideal – particularly through the purchase of products. Overweight women are then blamed for their own “moral failure to embrace ‘discipline’ and ‘will power’”.

However, while mainstream feminist scholarship have been interested in how power and inequality operates in society via raced, classed and gendered bodies (Davis 1983; hooks 1989; Butler 1996; Rich 1980), it has not necessarily considered science as

a critical mediator in women's subordination. While feminist scholars (Jaggar and Bordo 1989; Bordo 1993; Brumberg 1997; Wolf 1992; LeBesco, 2004; Braziel and LeBesco 2001; Johnston and Taylor 2008) have linked 'the body project' to effort to socially contain and control women and girls, but have failed to fully complicate the role of science or technology in the normalizing process. Further, for those mainstream feminist scholars who have explicitly looked at science-body connection – predominately within the context of plastic surgery (Bordo 1993a, 1993b; Sault 1994; Davis 1995; Kaw 2003; Morgan 2003) – they simply black box technology without considering *how* or *why* it developed; instead, they have linked growing cosmetic surgery trends, for example, to the ongoing 'body project' women (in primarily Western contexts) are engaged in. Instead of viewing this simply as a "technological beauty imperative" (Morgan 2003, p. 172) that was linked to societal beliefs about women and appearance, feminist scholars have not adequately explored how women's participation in surgical correction and other disciplinary practices, including dieting, are linked to an ongoing widespread cultural belief in both scientific authority and objectivity, technological efficacy, and acceptance about medical intrusion in women's bodies. This work, however, is important in considering the broader social context in which decisions to have bariatric surgery are made by drawing attention to the role of media, advertisement and other cultural forces affecting women's decisions to undergo technological transformation.

### **2.3 Gender, Science and Medicine**

In its critique of power and gender in equality, mainstream feminist scholarship has omitted the role of science in women's diminished social status, and has not adequately critiqued much of the 'science' behind these social inequalities. These omissions have only been addressed in recent decades by scholars outside the

mainstream feminist camp. Hilary Rose (1994) argues that second wave feminism was “very slow to become interested in science” with only an “invisible college” of feminist scholars working in this area in the 1970s (p. 71); instead, the movement was primarily interested in the relationship between science and women’s bodies as it relates to reproduction, with grassroots efforts and activism centered on educating women about their bodies. While knowledge about bodies was a liberatory project for women in the second wave, as Rose suggests, women had not yet emancipated their bodies from patriarchal science which claimed to know inherent and ‘objective’ truths about women’s bodies.

In exploring how science and technology simultaneously creates, shapes and reproduces categories of sex and gender, a number of scholars have interrogated how gendered assumptions, relationships, and ideologies become embedded in scientific and technological artifacts which, in turn, reinforce and reproduce social inequality (Balsamo 1996; Wajcman 1991, 2004; Terry and Calvert 1997; Varney 2002; Fox, Johnson and Rosser 2006; Lederman and Bartsch 2001; Wyer et al. 2001). While mainstream feminist theorists have long posited that gender was a cultural construct and a social process, enforced through daily interactions and ‘policed’ through formal and informal social sanctions (Lorber 2006; Butler 1999; West and Zimmerman 1987), it was feminist science scholars (Fausto-Sterling 2000, 2001; Martin 1996) who argued that gender as a social structure could not be legitimized without some grounding in a belief about sex and biological difference. It is at this juncture that feminist science scholars reveal the central role of science and technology in reflecting and reinforcing gendered norms and beliefs about women’s bodies, beginning with constructions of biological and physiological difference (Fausto-Sterling 2000, 2003; Martin 1993; Kessler 2001). Feminist theorists argued that these biological differences were used to support women’s inferior position in society, particularly in their capacity and ability to ‘do’

science, thus justifying their exclusion from the power and authority to construct knowledge about their own bodies. To this end, feminist scholars set out to problematize the sex/gender dualism by calling into question the way in which scientific knowledge production, discourse and practice created and reinforced these “conceptual oppositions” with implications for women (Scheper-Hughes and Lock, 1987, p. 10). Feminist science scholars, such as Fausto-Sterling (2000, 2003), Martin (1993), and Kessler (2001), instead argued that ‘sex’ – once thought a fixed biological ‘truth’ – was, like gender, the product of cultural containment. Rather than view gender and sex as distinct categories, there was no objective universal truth about sex *or* gender. Instead, gender *and* sex are malleable concepts open to scientific interpretation and influence; even at the level of the physical body there is no pre-social truth, despite scientific claims otherwise (Fausto-Sterling 2000).

### **2.3.1 Gender and the Biomedical Model of Health Care**

The predominance of the biomedical model, in both medical training and care, is a critical factor affecting women’s health and health care (Ratcliff 2002). The biomedical model, as discussed by a number of scholars (Brown 1995; Weitz 2007; Lorber 1997; Scheper-Hughes and Lock 1987), involves viewing illness as caused by some abnormal functioning at the level of the individual human body – the role of the physician is to diagnose, find and eliminate the disease. In this way, the body is constructed as a ‘machine’ in which doctors are charged with seeking a cure – usually a technical one – in order to fix and restore the body to its optimal performance. As Brown (1995) suggests, the construction of mental illness as linked to biological malfunctioning or chemical imbalance has led some doctors to adopt a mechanist approach and rely on drugs to treat conditions such as depression. For women, this biomedical approach to diagnosis

and care extends to 'women-only' conditions, such as pregnancy, menstruation and menopause (Martin 1987, 1996).

The biomedical model also privileges biological causality, locating disease at the level of organs, cells and tissues, rather than view the broader social, economic and political context in which disease occurs (Brown 1995; Ratcliff 2002; Lorber 2002; Link and Phelan 1995; Weitz 2007; Conrad 2007). Nancy Scheper-Hughes and Margaret M. Lock (1987) consider this "biological fallacy" – which pervades Western medicine – as a 'legacy' from the Cartesian dualism that separates mind from body and spirit (p. 6). Rather than examine how the mind and body work in concert, doctors search for a "real" biomedical diagnosis to explain causality; contrary to this "radically materialist thinking", Scheper-Hughes and Lock point to other, primarily non-Western cultures who approach disease and illness in a more holistic way. The danger of the biomedical model, as Zola (1995) argues, is that it not only obscures the context of disease – often providing a band-aid approach rather than truly 'solving' the problem – but it places undue responsibility on the individual patient for both causing their illness and treating it; it also has particular implications for women, who are often viewed as 'reproductive vessels' charged with ensuring the care and protection of fetuses (Hubbard 2002).

In her critique of the biomedical model, Ratcliff also argues that the model emphasizes treatment as opposed to prevention; in her interpretation, the health care system is more interested in providing expensive, high-tech solutions, rather than helping individuals avoid certain illnesses that are due largely to socio-cultural factors. Diagnosing those who are *at-risk* for certain conditions is also becoming more commonplace in health care, as both a way to reduce long-term costs associated with some illnesses, and to create new markets for drugs and other procedures. Couched as preventative care, the "medicalization of risk" blurs the line between illness and risk factors, reconstituting healthy individuals as ill (Conrad 2007, p. 163). Individuals –

meeting statistical categories of 'at risk' status – are increasingly being treated with drugs or other surgical remedies because they are seen as having the *potential* to develop a disease, either because of lifestyle, age, gender, family history; often these at-risk statuses also have a moralizing undertone in which individuals, particularly women, are placed further under medical surveillance (Clarke et al. 2003; Lupton 2005).

As the predominant model of care in Western medicine, the privileging of pathology and technical solutions over social causation and homeopathic or other non-technical remedies clearly filters down to care for all patients. But while men are likewise treated under the biomedical model, women's bodies have been doubly pathologized by medicine. A number of feminist scholars (Daly 1978; Martin 1996, 2001; Lorber 2006; Jaggar and Bordo 1989; Ratcliff 2002; Fausto-Sterling 2001) have argued the construction of women's bodies as biologically 'different' than men's has made women more susceptible to medical social control; thus, the biomedical model has differentially affected women's health and health care in both historical and contemporary contexts. Other scholars have addressed the ways in which some women themselves have played a role in medicalization efforts, and the ways women have sometimes benefited from medical diagnosis and treatment. Nancy Theriot (1996) problematizes existing theories that women were largely excluded and or victimized by a male-dominated medical community, arguing that some women, specifically white middle class women, "were not 'victims' of medical science but instead were able to use it to their advantage in their domestic power struggles" (p. 125). However, in complicating the "victimization model", Theriot seems to support an equally dangerous 'empowerment model' which gives tremendous agency to women's participation in their own care and in the construction of medical theory. An analysis of the factors impacting women's health and health care should, however, more carefully address the role of women as active and passive agents in their own care – and more clearly differentiate that *some* (primarily white

middle-class women) women have had more social power to do so. In other words, she needs to address the complex relationship women have with the health care system, in which not all women benefit or lose from these engagements, specifically women of color.

The biomedical model is directly linked to the concept of technological favoritism; diagnosis and treatment of disease is dependent on technological tools and solutions and these tools, in turn, differentiate and legitimate the field of medicine. For example, the construction of pregnancy as a disease ushered in a medical specialty in gynecology; the tools of the gynecologist – forceps and later sonograms and other screening instruments – distinguishes them from and positions them as socially superior to non-medical midwives. Medical education and training emphasizes technical proficiency and rewards those specialties which utilize high-tech instruments or methods; she argues this creates a situation whereby people are encouraged to have unnecessary surgery and try new and often insufficiently tested technologies. Judith Lorber (1997) too links this to doctors' training in the biomedical model, in which doctors are trained to locate illness in the body not the social environment using the specific tools of their trade – x-rays, stethoscopes, cat scans and high-tech instruments of diagnosis – which are considered to be more objective and more valid than both patients' accounts and doctors' own assessments. A number of scholars have problematized this notion of technological objectivity, by bringing attention to both the ways technologies are embedded with human values (Bijker and Pinch 1998; McKenzie and Wajcman 1999) and the ways in which technical tools are likewise subjective since they rely on human interpretation of results (Lorber 2003; Mol 2002). The danger in the technological favoritism approach too is the assumption of reliability; as Ratcliff (2002) argues, doctors often have a vested interest in purporting new methods and drugs, and often the standards for measuring safety and effectiveness are not adequate nor

methodologically rigorous. Other scholars have pointed to dangers in potentially dangerous side effects from birth control and hormone therapy for menopause, as well as with cosmetic surgery (Lorber 1997; Davis 1995). However, what's missing from these analyses is an acknowledgement of the way technology co-creates gender and its design is embedded with gendered assumptions about women's bodies (Wajcman 2004).

Technological favoritism likewise affects men; however, I would argue, the pressure to adopt new technologies is stronger among women, particularly pregnant women. New advances in in vitro fertilization, pre-natal screening and genetic testing, for example, present both an opportunity and a troublesome development for women – it enables them 'see' and better monitor fetal development, but it also binds them further to the institution of medicine. Thus 'natural' bodily processes of reproduction are renegotiated and re-imagined in the presence of technoscientific advancements, with real cultural/social, political and economic consequences and implications for women. Hubbard (2002), for example, challenges us to reexamine the liberation mythology embedded in new technological discourses concerning procreation, revealing that technology has worked to remove women's power, choice and agency in both reproduction and childbirth. Hubbard's work also lends itself to an examination of the motives laden in developing new prenatal technologies. As technology advances, allowing mothers to test for some (although clearly not all) medical "problems" or genetic abnormalities, it becomes increasingly easier for those with access to these technologies to have to ability to determine and construct a "perfect" child – generally one who is white, able-bodied and heterosexual. What does this then mean for those without access to these technologies, or for those who do not "fit" this medicalized and sanitized idea of perfection (i.e., the disabled, homosexuals)? However, others (Clarke et al. 2003) argue that technology can be empowering for some women; these nuances of

power/disempowerment and technological efficacy are missing from Ratcliff's analysis of women's health. Instead, she seems resolved to consider all technology as inherently bad, which is both deterministic and an overly simplistic description of the role of technology in health care, and the ways in which some women may welcome or encourage technological remedies.

The gender, race and class-based organization of society are also a critical factor affecting women's health. Gender, as a central organizing structure in Western society, is embedded in the economy, family, politics and the medical and legal systems, having a "major impact on how the women and men of different social groups are treated in all sectors of life, including health and illness, getting born and dying" (Lorber 1997, p. 3). Research has demonstrated gendered patterns in mortality and morbidity rates; Lorber uses the adage "women get sicker, but men die quicker" to explain the overall trends that women, in western industrialized societies, have higher rates on non-life threatening illnesses and live longer than their male counterparts (p. 8). Ratcliff (2002) argues that male social, political and economic power and male-centered assumptions about women's bodies affects both women's vulnerability to certain conditions or injuries – such as occupational injuries or risk for violence in the home – as well as their ability to access treatment and the nature of their interactions with health care professionals. Gender also impacts the perception of symptoms, the willingness to seek medical care, and the illness experience; it also guides diagnosis, as Barker's (2005) article on Fibromyalgia Syndrome (FMS) demonstrates. Women, because they are socially constructed as the 'emotional' sex – are also often not taken seriously by doctors (Ratcliff 2002; Lorber 1997).

Gender also influences the types of scientific and medical research that is funded and conducted, the questions that are asked by researchers and practitioners, and the funding available to what is deemed national health 'priorities' (Ratcliff 2002; Lorber

1997; Weitz 2007). As Patti Lather and Chris Smithies (1997) note, despite accounting for more than 40 percent of those infected with HIV/AIDS and among the fastest-growing of those infected, women have been “largely invisible in the epidemic” (p. xiv). Because of the way HIV/AIDS was constructed as a disease affecting homosexual men and those in the developing world, many women were excluded from study and treatment, with serious consequences for women, their partners and, in some cases of women in Lather and Smithies’ study, unborn children. Stratification by race and class likewise affects who is included or excluded in research, as demonstrated by the way in which the bodies of Puerto Rican women were used as ‘experiments’ to test birth control pills (Oudshoorn 1999a). Men are likewise affected by gendered patterns of inclusion/exclusion in clinical trials; as Oudshoorn (1999b) demonstrates, the over-emphasis on women’s contraceptive R&D has created a dearth of research on men’s contraception which has, in turn, reinforced the gendered belief that women should be responsible for pregnancy prevention.

The gendered division of labor is also reflected in the health care system; while women are entering medical school in record numbers, they are often concentrated in lower prestige and lower-paying fields, such as family practice. Men, primarily white men, make up the majority of those specializing in better-paying, high-profile areas, particularly surgery. With elective procedures, such as cosmetic surgery and bariatric surgery, women are primarily the patients and men are the operating surgeons; thus, gender stratification is an important consideration in examining the shift in medical dominance and field specialization and the impact this has on women’s health care, as well as their decision-making concerning certain medical procedures. A number of scholars (Ratcliff 2002; Weitz 2007; Lorber 1997; Guadagnoli and Ward 1998) have addressed how the doctor-patient relationships are often guided by paternalistic value systems in which the patient is the passive receiver of treatment, rather than an active

participant in their care. Guadagnoli and Ward (1998) argues that doctors are more likely to adopt egalitarian interaction patterns with those they consider equals - white, nonelderly, male, middle and upper class (p. 353) - and power differentials are particularly exacerbated by cultural differences with their patients. However, other scholars (Cohen et al. 2005) have argued that the Internet has opened up avenues to receiving health care information, 'leveling the playing field' between doctors and patients. Other scholars, like Victoria Pitts (2004), have pointed to the role of the Internet in providing a space with which women can share information about breast cancer treatment and their illness experience, potentially empowering for some. However, other scholars warn against viewing the Internet as a democratizing tool considering both existing asymmetrical doctor-patient relationships and the 'digital divide' among those with access to these technologies – particularly poor women and women of color (Leggon 2006).

Extending the impact of disease causality and illness experience beyond gender, a number of scholars (Brown 1995; Syme and Berkman 2005; Weitz 2007; Lorber 1997) have likewise addressed the link between health and health care and other vectors of social difference. Lynard Syme and Lisa Berkman (2005) address the link between class and health, stating that lower socio-economic classes have higher rates of mortality, morbidity, and disability, including higher rates of heart disease, certain types of cancer, and obesity, and race affect not only access to and quality of care and health information, but the types of social environments one is placed in that can make them more vulnerable to certain conditions, such as homicide, or toxins or other environmental pollutants. Health is also determined by other social causes, such as neighborhood structure, transportation options, public safety, social support networks, language/literacy, and marital status, among others (Healthy People 2020 2013). For

example, married men tend to have better mental and physical health than married women (U.S. Department of Health and Human Services 2007).

Although social structure and social position affect an individual's personal health and health care, long-standing patterns of sexism, racism, classism and other systems of oppression differentially affect women. Not all women have been treated in the same way by medical professions and healthcare systems, nor have all men. Power is not dispersed evenly among all women; white middle class women generally hold more social and economic power than women of color and immigrant women, which differentially affects their access to care, treatment by physicians and possible exposure to certain health risks. Further, historical mistreatment of women's bodies at the hands of medical practitioners also affects an individual's *willingness* to seek medical care because of distrust of the medical system. As Angela Davis (1993) and Dorothy Roberts (2009) have explored, the rise of the eugenics movement and forced sterilization of women of color has caused many minority women to be distrustful of birth control and technologically-driven pregnancy surveillance like genetic testing. Rayna Rapp (1998) also explores the unwillingness of many women to have prenatal screening for genetic 'disabilities' is linked to race/ethnicity and class, among other factors. In other words, 'woman' as a central category of analysis is problematic, as it obscures difference and diminishes the 'double burden' of being a woman of color or a poor woman. Instead, intersecting identities of social difference play a critical role in one's health and health care for both women *and* men.

## **2.4 The Medicalization of Illness**

As the domain of medicine has expanded into most areas of human life – from childbirth to aging – over the last century, sociologists (Zola 1972; Conrad and Schneider 1980; Conrad 1992; Conrad 2007; Weitz 2007) have been increasingly

interested in the medicalization of society and the processes and consequences of growing medical control over human phenomena. Peter Conrad (1992) characterizes medicalization as: “defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to ‘treat’ it” (p. 211). Conrad (2007) argues that medicalization has resulted in the “pathologization of everything” from breast size to shortness (p. 148); as such, a range of life experiences– including both deviance (madness, alcoholism, homosexuality, obesity, anorexia) and natural life processes (childbirth, PMS, aging, menopause) – have come under the jurisdiction of medicine, functioning as a form of social control (Zola 2005).

Medicalization, according to Conrad, occurs at three distinct levels: the conceptual level (in which medical vocabulary or model is used to define the problem); the institutional level (in which organizations adopt a medical approach to treating a particular problem); and the interactional level (the doctor-patient interaction when physician defines problem as medical and treats a ‘social’ problem with a medical form of treatment). Conrad states medicalization is a “sociocultural process that may or may not involve the medical profession, lead to medical social control or medical treatment, or be the result of intentional expansion by the medical profession” (p. 211). Broadly speaking, then, any human condition – real or created – can be medicalized. The role of the sociologist, however, according to Conrad, is simply to study the *process* by which a human problem becomes defined in medical terms, rather than place a value judgment on whether the problem is objectively real or indeed a ‘problem’.

Rather than view the medical profession as the primary agent driving medicalization, Conrad argues that patients sometimes actively push for certain conditions or problems to be medicalized, as in the case of alcoholism and post traumatic stress disorder. This occurs because individuals or groups see social or

economic benefits in having a condition defined in medical terms; for example, it can lead to insurance coverage for medical treatment or reduce social stigma – and sometimes personal responsibility – for certain conditions.

In this way, medicalization can be seen as an “interactive process” rather than the consequence of “medical imperialism” (p. 219). Conrad sees medicalization as bi-directional, meaning that just as problems can become medicalized, they can also lose their medical definition or no longer require medical treatment to solve them, as in the case of masturbation and homosexuality. However, both the medicalization and de-medicalization process often require some type of organized social movement to challenge medical control. But while some social groups stand to benefit from medicalization, Conrad warns medicalization has potential consequences in that it decontextualizes social problems and puts them under medical control; thus problems, such as alcoholism, which could be seen as collective social problems, become localized within the individual (p. 224). Individuals, rather than broader social or economic issues, are then held responsible for their own illness and judgment takes a moralizing tone; with obesity, for example, the larger cultural context which leads to the condition, such as lower socio-economic status, is obscured and the individual is blamed for failing to control their eating habits.

Erving Goffman’s (1986) concept of ‘stigma’ is also useful in understanding the link between obesity and medicalization. Those with a stigma have a devalued social identity; not only does society look down upon the stigmatized individual, but the stigmatized internalizes the discomfort and unease from social interaction which shapes his or her own self-concept. Goffman identifies three types of stigma: physical stigmas, referring to deformities of one’s body; stigmas of individual character, such as those with a mental disorder, alcoholism, and homosexuality; and stigmas of group identity based on race, nation and religion ‘Normals’, Goffman’s term for non-stigmatized individuals,

“believe a person with a stigma is not quite human” (p. 5). Goffman explains the different responses that stigmatized people can take; for example, they may try to correct a physical deformity through plastic surgery or they may turn to other stigmatized people or sympathetic others for support and coping. In theory, medicalization may reduce social discrimination by emphasizing that some of the causes of obesity are outside an individual’s control. However, as Schafer and Ferraro (2011) acknowledge, in “modern, body-conscious societies, heavy weight—obesity in particular— may imply some level of reprehensibility, or what Goffman referred to as a ‘deeply discrediting’ trait producing a ‘spoiled identity’ despite the medicalization of obesity as a disease” (p. 92). Medicalization also labels all obese individuals as “sick,” regardless of their health status, which poses harm to those who don’t see themselves as ill or who don’t try or want to attempt to lose weight (Blackburn 2011).

#### **2.4.1 Drivers of Medicalization**

Conrad argues that three major ‘engines’ are currently driving medicalization in the West: biotechnology, consumers and managed health care systems. The growth of biotechnology, seen as both the increasing influence of the pharmaceutical industry and rise in direct-to-consumer advertising, coupled with advances in genetics, have played and will continue to play an instrumental role in the medicalization of a host of human conditions from social anxiety disorder to obesity, according to Conrad. While the influence of the medical profession itself has declined, Conrad argues that consumers are becoming ‘major players’ in medicalization efforts – self-medicalization is becoming commonplace as patients are doing independent research and initiating conversations with their physician about their medical concerns, sometimes even specifically requesting remedies or a prescriptions for self-diagnosed conditions (p. 139). Conrad attributes this partially to the public’s lack of “tolerance for mild symptoms and benign

problems”, as well as the growing influence of DTC advertising and the Internet as an information-seeking and sharing tool (p. 139). However, while Conrad is correct to allow some agency to consumers, rather than depict the medical community as the primary social control mechanism, he is unclear about *which* consumers are serving as a driving force. Conrad does not delineate between different types of consumers, nor does he acknowledge that all consumers do not have equal power – consumers with the social power (economic, racial, education, etc.) have more ability to direct medicalization efforts – they have the funds and the social capital to purchase medications, to research products and to seek medical care. In fact, of all the current medicalization trends Conrad mentions, such as ADHD or male baldness, they can be seen as primarily driven by white, middleclass male consumers/patients. The social movements that inspire medicalization efforts he describes are largely class and race-based, yet Conrad seems to obscure stratification within the medicalization process itself. However, I see race, class and gender as central to the medicalization of human conditions and the degree to which some groups are susceptible to medical social control, as well as the degree to which some social groups stand to benefit from medicalization efforts. As Joan Jacobs Brumberg (1997a) argues, problems often become defined as medical problems (medicalized) when they affect a group thought previously immune from problems – in the case of anorexia, white middle class girls and women. Public attention and outrage directed at the ‘epidemic’ of anorexia was not as much as reflection of the condition itself and its potential life-threatening nature, but that a particular social group was being affected; as Brumberg suggests, had anorexia been concentrated within an ethnic minority community, it likely would not have received the attention nor resulted in concerted efforts to develop treatment for the disease. Brumberg also draws attention to a largely missing piece of Conrad’s argument about the forces driving medicalization: media and popular culture. While Conrad acknowledges media can play a role in

promoting medicalization, he downplays the role of mainstream media in transmitting health-related news and information. Conrad instead, like most scholars in this field, focuses on actors, primarily patients, doctors, and pharmaceutical companies – and DTC ads, without emphasizing the primary vehicle of transmitting messages about disease are often not based in ‘selling’ a product per se; meaning, discourses about disease and illness, in order to be popularized and become part of the public imagination, often need a large scale medium for transmitting the information – this is why patient groups and social movements centered on health rely on media coverage to get their message across. As Brumberg points out, women’s magazines were instrumental in drawing attention to the anorexia “epidemic” (p. 107), and perhaps to an extent ‘spreading’ the disease or creating the impression of an epidemic. Although correlation doesn’t empirically prove causation, following the increased public attention, more cases of anorexia were diagnosed. Brumberg attributes this to “heightened awareness and ‘diagnostic drift’, or the “medical tendency to place temporary and chronic anorexics under one diagnostic rubric precisely because of our familiarity with the disease” (p. 109). In this way, the media and the medical community worked in concert to medicalize anorexia. The construction of the obesity ‘epidemic’ was likewise a product of multiple interests – professional associations for bariatric surgeons, anti-obesity advocacy groups, and government officials – who worked with media outlets to ‘spread’ public panic about the nation’s growing rates of obesity (Boero 2012).

Instead, Conrad focuses on the managed care system as driving medicalization efforts, stating they have a role in constraining and driving the medicalization of certain diseases depending on what medications and procedures will be covered. Bariatric surgery for example, is now covered by Blue Cross as an approved treatment for obesity; in this case, it was an economic decision to cover a surgery rather than long-term care of obese patients that has contributed to the growth in the number of bariatric

procedures performed in the U.S., since it's financially more efficient for Blue Cross to cover the surgery rather than medical complications stemming from obesity, such as diabetes. Again, however, Conrad limits his scope to those who can access health care and have health insurance. He also reduces medicalization efforts to actors (pharmaceutical industry, consumers, doctors, insurance companies) rather than investigate the larger social context in which these medicalization efforts materialize. The growth of bariatric surgery is an appropriate example: while one could view the increase as a reflection of changes within the managed care system, a push on the part of the consumers who are actively seeking this surgery, and the role of the increased Internet presence of bariatric surgery information, as well as DTC advertising, one should also acknowledge the larger social forces driving the push – including social stigma concerning overweight and obese individuals, the socio-economic conditions that increase likelihood of obesity, and the gendered emphasis on appearance. Conrad specifically does not acknowledge that white women, despite making up the smallest percentage who are medically defined as obese, represent the largest number of bariatric surgery patients; this statistical reality is a reflection of the gendered nature of medicalization, as well as race and class-based stratification, in addition to larger social power dynamics. In other words, Conrad – despite his critique that a consequence of medicalization is the increased attention placed on the individual instead of social problems that may cause medical issues – diminishes the importance of the large social context in which the need to diagnosis and treat conditions exists in the first place. Put another way, context is clearly missing from his own assessment of the driving forces of medicalization.

Irving Kenneth Zola (2005) describes the four ways in which medicine has been granted and maintained authority over illness. Through expansion of 'good medicine', including disease prevention, and expansion of medical opinion and evidence to

advance a number of causes, the institution of medicine and its practitioners have maintained and expanded their legitimacy, according to Zola. In addition, by retaining access to 'taboo areas' like the inner workings of the body and retaining absolute control over technical procedures, including the right to prescribe and perform surgery, the field of medicine maintains social and institutional power. Zola argues that medicine has replaced religion and law as the most powerful social control mechanism; the danger in this shift lays in the largely insidious nature of medical control that is based in scientific 'objectivity' (p. 432). However, despite appearing to be "morally neutral" and grounded in objective truth claims, medicine – and science at-large – is highly subjective and has taken on an increasingly moral character (p. 432). Zola attributes this power shift not to medical imperialism or purposeful, albeit 'misguided efforts' of a few central actors, but rather to an "increasingly complex technological and bureaucratic system – a system that has led us down the path of the reluctant reliance on the expert" (p. 432). The danger, according to Zola, lies in the way medical management of life conditions has been "masked as a technical, scientific objective" process that has been constructed "for our own good" (p. 440). While Zola argues that medical social control functions largely because of its ability to have others buy-in to its legitimacy, Zola doesn't believe this reliance is unwitting. Rather he attributes responsibility for growing medicalization toward individuals' – and society's – need to improve or better oneself through the use of science. He writes: "the most powerful empirical stimulus for this [growing trend toward medicalization] is the realization of how much everyone has or believes he has something originally wrong with him, or put more positively, how much can be done to make one feel, look or function better" (p. 437). While I believe Zola is correct to apply agency to human actors – and ascribe responsibility to individuals and institutional structures – it's unclear who, in his framework, is more willing or susceptible to social

influences toward bodily improvement and correction and if there is opportunity for resistance within this structure.

Zola also takes issue with Conrad's idea that the rise of medicalization is beneficial in that it leads to a de-stigmatization of certain human problems by placing them under "medical scientific scrutiny and thus in objective and therapeutic circumstances". Instead, health and disease are increasingly framed within a moral paradigm; rather than not hold individuals responsible for conditions that may be biologically out of their control or those with a biological basis, medicine places increasing accountability at the hands of the individual in both the cause and treatment of their disease. He writes: "on nearly every level, from getting sick to recovering, a moral battle rages" (p. 435). Individuals internalize the moralizing tone of medicine and take responsibility for getting and staying sick – they also cast moral judgments against others for being sick. The equation of sickness with badness and deviance is particularly pervasive in diseases that have some type of (real or perceived) behavioral basis, such as AIDS, obesity or even the common cold as all are shaped as problems that are self-initiated and thus preventable through behavior modification.

Drawing a differentiation between the medical model of illness – which considers illness as an objective label to describe a condition deviates from normal biological functioning – and the sociological model of illness – in which illness is a subjective label which reflects personal/social ideas and beliefs – Rose Weitz (2007) attempts to deconstruct the ways in which labeling and treatment of diseases and illness are reflections of culture, rather than morally neutral scientific 'facts'. In this way, Weitz attempts to dismantle the idea that science is value-free and sets out to interrogate how and why conditions become constructed as medical problems and the implications this has for individuals and society at-large. Weitz argues that power is always a central component to understanding how conditions become defined in medical terms, what is

considered a medical problem, and who benefits (and loses) from the labeling of illness. Illness is itself a social construction, according to Weitz; rather than having a basis in objective reality, an illness – which can refer to biological, psychological, or social conditions – is subjectively defined as undesirable in a culture by those with the power to define and enforce such terms. The challenge in taking a strict social constructivist approach is that it places all conditions – even those which appear biologically based, such as cancer– in the category of subjective experience. Still, the framework is useful in understanding the process of medicalization, particularly in considering how conditions not only come to be defined in medical terms, but how illness definitions change over time or become broadened. For example, the number of individuals considered obese in this country has increased not because people are objectively larger than in the past, but the definitions and parameters for what is considered obese (Body Mass Index, BMI) have changed and expanded over time (Oliver 2005). Weitz warns that once conditions become medicalized, however, medical treatment is seen as the only appropriate response.

Talcott Parsons' 'sick role' has informed much of the early scholarship in the field of medical sociology. Under Parsons' schema, illness was considered deviance because those who are ill cannot perform their socially expected roles; thus illness could be seen as a threat to social stability, particularly under Parsons' functionalist reading of society which was an orderly, integrated whole maintained by acceptance of social norms. However, Parsons (1951) recognized that some illness can increase social stability; thus, the 'sick role' provided a limited place for society's view of sick people and how sick people should behave and functioned as a form of social control. The 'sick role' had four parts: first, a sick person who had legitimate reason for not fulfilling their normal social role was permitted some social flexibility, such as taking time off work without being fired. Sickness was also perceived as something outside of the person's control;

however, the sick person should recognize that illness is undesirable and actively seek to get well and follow medical advice to ensure their wellness. Weitz (2007) and Zola (2005) are critical of this perspective, arguing that society does indeed hold individuals responsible for their illness, often ascribing a moral condemnation to disease, particularly those with perceived behavioral basis. Weitz also argues that Parson's model fails to recognize that the social legitimacy of adopting the sick role depends on the socially perceived seriousness of the illness, which itself is dependent on both biological factors and the social setting – in addition to the social position of the ill person. The model also fails to describe the reality of those living with chronic illness and those without access to medical care. Parsons' model is faulty in that it focuses only on the ill person and mainstream health systems, which accounts for only a small part of those living with an illness or disability (Weitz 2007). Instead, trends toward medicalization are a reflection of power struggles, in which society held together by power and coercion. In this way, sickness is not deviance, but a form of social control.

#### **2.4.2 Biomedicalization, Science and Women's Bodies**

Clarke et al. (2003, 2010) re-theorize 'medicalization' as 'biomedicalization' and argue that 'technoscientific' innovations have transformed the organization and practice of American medicine over the past quarter century<sup>32</sup>. This theoretical framework is distinct from most medicalization studies which consider scientific developments as one of several factors driving trends toward medicalization (Casper and Morrison 2010); Conrad (2007, 2005) and Conrad & Leiter (2004), by contrast, argue that overstating the role of science and technology underscores the influence of both consumers and the

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<sup>32</sup> See Casper and Morrison (2010) for an overview of the field of medical sociology and science studies, and the theoretical shift from medicalization to biomedicalization.

market in driving the medicalization of certain conditions. Clarke et al. (2003, 2010) instead point to five key processes that have brought about biomedicalization, including the renewed focus on health prevention and the elaboration of risk and surveillance biomedicines, changes in the production and distribution of knowledge about bodies, including new online sources of health information, and the transformation of bodies to produce new individual and collective technoscientific identities, such as 'high risk statuses', DNA profiles, and Syndrome X sufferers. Working in concert, these processes have resulted in a shift in scientific control over external nature to control over all internal human processes, engendering a distinct and dramatic shift in the way individuals experience their bodies and illness.

In this framework, biomedicine is not simply about 'fixing' or 'healing' bodies but about *transforming* bodies in ways not previously possible (Clarke et al. 2003, 2010; Casper and Morrison 2010; Riska 2010; Mamo 2010; Boero 2010). Although biomedicalization is not gender-specific, feminist science scholars have utilized this framework to understand a variety of emerging biomedical practices and diseases, including in vitro fertilization (Mamo 2007, 2010), weight loss surgery (Boero 2012), sexual dysfunction (Fishman 2004), and breast cancer (Foskett 2004), among others. Scholars have also examined how pharmaceuticals and pre-natal technologies have re-shaped the body experience, reconfiguring 'natural' functions like menstruation, menopause and pregnancy (Martin 1987; Mamo and Foskett 2009; Bumiller 2009; Hubbard 2002; Roberts 2009; Samerski 2009; Rothman 2006; Layne 2006); however, their analyses have been primarily centered on women's reproductive capabilities.

Despite the role of biotechnological innovations play in the Clarke et al.'s reconceptualization of medicalization, the authors insist their approach is not technologically deterministic; rather, they see the human-technology interface as co-constitutive (2003, p.166). Other scholars (Shilling 2005; Mamo 2007) likewise see

agency as central to biomedicalization and medicalization processes, arguing individuals use and mis-use technologies to strategically meet their own ends. In this way, bodily transformation afforded by technological innovations can be *potentially* empowering for some individuals, both physically and socially (Clarke et al. 2003; Clarke et al. 2010; Riska 2010; Shilling 2005; Casper and Morrison 2010). Donna Haraway's (1991) postmodern cyborg, a hybrid of machine and human, offers possibilities for resistance and liberation from patriarchal domination; she argues that women can reclaim their bodies from science and strategically use science and technology to gain power. Other scholars have built on this model by describing the creative strains of use of new technologies and counter-contestations of techno-science (Clarke and Montini 1993) that redefine women as active agents, rather than passive victims of science and technology. Mamo (2007) also argues that women use and re-negotiate biomedical knowledge and practice in subtle and creative ways "to meet their own goals", goals which often divert from the intended uses prescribed by the medical community (p. 390).

But, while technology offers the opportunity to alter the material body in potentially liberating ways, a number of feminists have also argued that the possibilities offered by technology to create new identities, live longer, and re-shape their physical body often replicate and reinforce cultural/social norms about gender, particularly women's essentialist identities as mothers (Bumiller 2009; Hubbard 2002; Roberts 2009; Samerski 2009; Rothman 2006; Layne 2006; Balsamo 1996). Other mainstream feminist theorists (Balsamo 2002; Kaw 2003; Davis 1995; Morgan 2003; Bordo 1993; Gillespie 1996) have argued the availability of biotechnology places undo pressure on women to participate in technological transformations of their bodies, particularly for aesthetic purposes, and criticize the growing acceptance of "cyborg" bodies. Others (Shim 2010; Clarke et al. 2003, 2010; Ratcliff 2002) further argue that because biomedicine and the health care system is also highly stratified, not all individuals stand to benefit; some

individuals will have the social and financial ability to access emerging technologies while others are excluded from benefits of potentially life-saving or life-changing technologies.

Despite scholars' attempts to ascribe agency to human actors vis-à-vis technology, human action is limited to creating medical technologies and participating in scientific discovery, rather than exercising resistance to its normalizing and transformative effects. Thus, while the potential benefit of biomedical technologies is that *some* individuals have greater flexibility and more choices to re-define themselves, Clarke et al. (2003) acknowledge it is “no less normalizing or disciplining” than before this technoscientific shift (p. 182). Similarly, in her study of weight loss surgery, Throsby (2008) posits that, despite patients' narratives of how obesity surgery positively altered their physical and social bodies, their ‘re-birth’ to a more socially accepted individual signaled the reconfiguration to a disciplined subject who is able to exercise control and will-power. Thus, while identity construction and re-construction is possible in an age of technoscience, new identities are still within the normative medical framework that sees bodies as inherently flawed or in need of correcting, which has particular implications for women, long accustomed to pathologization of their bodies.

#### **2.4.3 Stratified Biomedicalization**

Historically, the dual strategies of *co-adaptive medicalization*, or the expansion of medicine into parts of life previously not considered under the purvey of medicine, and *exclusionary disciplining*, the simultaneous erection of barriers which prevents access for some groups to medical care, have led to stratification of the health care system in the U.S. by race, gender, and class. Under biomedicalization, these processes persist, have become more complex, and produced new means of social stratification, a concept Clarke et al. (2003, 2010) term “stratified biomedicalization”. In this framework,

“exclusion, inclusion, and the embeddedness of race, class, gender, and other sites of inequality dwell in the very structures of processes of biomedicalization” (p. 29), leading to an uneven distribution in who receives care, and who has the ability to protest biomedical intervention. Clarke et al. (2003, 2010) point to increased reductions in government-funded health care, coupled with cut-backs in social services, which have disproportionately affected the health status of the poor; simultaneously, there has been an increase in fee-for-service options that allow individuals of higher socio-economic classes to pay for better care and more reputable providers leading to a situation where “good medical insurance no longer ensures good primary care” (Clarke et al. 2010, p. 62). Biomedicalization also reproduces and reinforces racial inequality; in her study exploring the biomedicalization of heart disease, Shim (2010) argues that cardiovascular epidemiology has intensified the surveillance of certain racial and social class groups based on constructions of risk and pathology. Medical problems, such as heart disease, are constructed as inherent to racial and class groups, solidifying notions of social difference, reproducing inequality and legitimizing biomedical intervention of certain groups based on their demographics and perceived behaviors (Shim 2010).

Similarly, in the constructions of the obesity epidemic, cultural stereotypes concerning food preferences among ethnic minority groups pervade news reports and the public imagination, serving as an *explanation* for higher levels of obesity in some minority groups (Saguy and Gruys 2010); these reports also serve to reinforce racial differences and minimize or ignore the socio-economic and structural conditions which account for high incidences of obesity among African American and Latino groups. Despite the construction of health as a “social and moral obligation” under the framework of biomedicalization (Clarke et al. 2010, p. 63), *stratified* biomedicalization helps account for the underrepresentation of lower socio-economic *and* minority groups from the bariatric surgery population. Costs of bariatric surgery – both the actual procedure costs

and the associated pre- and post- surgical costs of medical appointments, adjustments, and required nutritional supplements – compounded by the exclusion of minority groups from basic access to care helps explain why lower income groups and racial minorities, specifically African Americans and Latinos, are largely absent from the bariatric surgical space despite accounting for the majority of those considered obese or morbidly obese. In this way, the class *and* race effect trumps the “individual responsibility to be and remain healthy” under the paradigm of biomedicalization (Clarke et al. 2010, p. 63). These socio-economic realities, however, are obscured within the broader bariatric surgical space and little attention is played on the structural conditions which lead to obesity.

## **2.5 Technological Development, Users and Gender**

Just as scholars have viewed the human-technology interface as mutually shaping, traditional science studies scholars (Bijker and Pinch 1988; Bijker, Hughes & Pinch 1987; McKenzie and Wajcman 1999; Latour 1979; Winner 1999; Casper and Morrison 2010) have likewise explored the relationship between society and technology, arguing that technologies both shape and are shaped by their social context. Rather than view technology as all-encompassing, scholars have problematized the concept of technological determinism, which holds that technological development occurs along a fixed path and that societies are, in essence, ‘forced’ to organize themselves around the introduction of a particular technology (McKenzie and Wajcman 1999). While social constructivists impart some agency to human actors, its intent is not to exaggerate the role humans have on all pathways of technological development, but, rather, explores those limited trajectories where human input and direction is most apparent. Bijker, Hughes and Pinch (1987) consider technological development as a ‘multi-directional flux’ that involves continual negotiation among groups. This approach demonstrates the

*limited* role social actors have influence over technological trajectories, particularly at the design and pre-stabilization periods. Latour's actor-network theory, a social constructivist theory of knowledge, also accounts for the role of various actors – including machines and scientific instruments in addition to people, institutions and broader society – in creating facts and technologies; this approach not only accounts for the contingency of social change, but also reveals how wills and values become embedded into material objects. Objects themselves can have agency, in the sense that they can compel humans to act in certain ways. Langdon Winner (1999) argues that some technologies – such as military weapons – are inherently political, and the design or arrangement of other technologies could itself “provide a convenient means of establishing patterns of power and authority” (p. 38).

Feminist science scholars expanded these models and placed gender at the forefront of science and technology studies, in both the use and the design of new technologies, viewing technology as “both a source and a consequence of gender relations” (Wajcman 2004, p. 107). In exploring how science and technology simultaneously creates, shapes and reproduces categories of sex and gender, a number of scholars have interrogated how gendered assumptions, relationships, and ideologies become embedded in scientific and technological artifacts which in turn reinforce and reproduce social inequality (Balsamo 1996, 2002; Wajcman 1991, 2004; Terry and Calvert 1997; Varney 2002; Fox, Johnson and Rosser 2006; Lederman and Bartsch 2001; Wyer et al. 2001). Clarke (1998) argues contraceptives serve as ‘disciplinary technologies’ which reinforce the idea that women should be responsible for reproduction, whereas Nelly Oudshoorn (1999b) argues gendered assumptions about hegemonic masculinity have affected the development, design and distribution of male contraceptives.

Similarly, material objects themselves “acquire gendered meaning”; van Oost’s (2003) study of the Phillips electric shavers, for example, demonstrates how the “gender of the envisioned user influences the material design of the object” (p. 194). Gender can be implicitly or explicitly coded into the design process; even artifacts that are designed for ‘everybody’ may have an implicit gender bias toward “male-dominated symbols and competencies” (p.196). Cockburn (1999) argues that the exclusion of women from the domain of science and engineering has led to distinctly male technology which, in turn, reinforces the gendered belief that women are physically weaker and have fewer technical skills than men. Other scholars (Cowan 1983) describe how domestic technologies –such as refrigerators and vacuum cleaners - were linked to ideological construction of “virtuous” motherhood and served to distinguish and delineate what a “good or a decent home’ was (p. 153).

While feminist science scholars (Balsamo 1996; Cockburn 1999; Wajcman 2004) have argued that technology may reinforce gender patterns and serve patriarchal interests, a number of feminist approaches to technology have likewise complicated the notation of passivity to explore how women have taken an active role in appropriating technology for ends that are sometimes at odds with designers’ and scientists’ intention (Oudshoorn and Pinch 2003; Kline 2003). Drawing on a feminist analysis of technology, Kline (2003) argues that resistance and non-use of technologies occurs in situations where the technology contradicts gender relations, value systems and identities. Oudshoorn & Pinch (2003) argue that technological development “requires the mutual adjustment of technology and gender identities” (p.210). While notions of masculinity and femininity are often reinforced by technologies, Oudshoorn & Pinch (2003), borrowing from Judith Butler’s (1990) conception of gender performance, argues technologies themselves sometimes have the capability to “destabilize cultural narratives on gender” (p. 227). However, there is acknowledgement that those opportunities are

limited, and not all individuals will have the same capability to use or mis-use technology in the same way, nor disrupt long-standing gender narratives (Oudshoorn and Pinch 2003). Klein and Kleinman (2002) further argue that one's ability to resist technologies is particularly challenging within structural constraints. Gender, as a central organizing structure in Western society, is embedded in the economy, family, politics and in the medical and legal systems, having a "major impact on how the women and men of different social groups are treated in all sectors of life, including health and illness, getting born and dying" (Lorber 1997, p. 3).

## **2.6 Summary**

This study draws on a diverse body of literature from traditional feminist students, feminist science studies, medical sociology and traditional science studies. Theoretically, the examination of patients' use of new biomedical technologies is of significance to the field of feminist science studies by exploring the role of technology in mediating gendered bodily experience within the context of supposedly gender-neutral technologies, diseases, illnesses and bodily experiences. By combining these theoretical orientations, this study aims to provide a richer analysis of the gastric band than any one theoretical framework alone. This study seeks to contribute to relevant debates in these areas by addressing the possibilities and limitations offered by biomedical technologies, and exploring the ways in which gendered bodies may be shaped by and shapes medical technologies. The next chapter presents the methodology guiding this study; semi-structured interviews, participant observation, and content analysis are described in detail, and the methods of analyzing the data are presented.

## CHAPTER 3

### METHODOLOGY

This chapter provides an overview of the methods utilized in this dissertation. First, I present an overview of the study purpose, methods, and institutional approvals, drawing on previous methodologies employed by feminist science scholars and medical anthropologists, which provided a framework for designing this study. Then, I provide a more in-depth explanation of each of the three main methods used in this study: semi-structured interviews; participant observation; and content analysis. For the semi-structured interviews, I describe each group of participants, broad interview questions, and recruiting methods used. Participant observation of multiple medical practice sites is explained in more detail, and the content analysis of both scientific and non-scientific texts is described. Finally, I conclude this chapter with an explanation of the methods used to analyze the data, presenting an overview of the major themes which emerged from this analysis.

#### 3.1 Study Purpose and Overview of Methods

The intent of this study is to examine the role of the band in the obesity epidemic, the ways and degree to which individuals experience their bodies in the presence of a particular weight loss technology (gastric band), and whether that use diverts or coincides with the intended use of the device. In order to address questions of both *actual* and *intended* use, as well as deconstruct the technology itself, several methods are employed. Mirroring an approach used by feminist science scholars and medical anthropologists (Mamo 2007; Boero 2010; Mol 2002; Rapp 1998; Blizzard 2007; Casper 1998; Layne 2006; Martin 1987; Martin 1994; Layne and Hess 1992), this study involves

a qualitative mixed-method study<sup>33</sup> which draws on patients, medical practitioners, surgeons, and biotechnology firms to understand the personal and broader context in which the surgery occurs and in which individuals make meaning of their bodies through the lens of biomedical technologies. This approach also helps chart the socio-historical trajectory of the gastric band and understand the scientific and social context in which it was designed, developed, marketed, and used.

The following table (Table 3.1) provides an overview of the methods and subjects studied as part of this study; each is described in more detail in the following sections.

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<sup>33</sup> In her study of fetal surgery, Casper (1998) draws on multiple methods and data sources to engage in what she terms a “multisite ethnography”, conducting fieldwork in the U.S., Puerto Rico and New Zealand over a three-year period. In addition to conducting formal and informal interviews with fetal surgeons, pediatricians, sonographers, obstetricians social workers, nurses, laboratory coordinators and patients and their families, as well as other medical professions, she attended clinical staff meetings, ObGYN rounds, brown bag lunch presentations at capital hospital, observed four surgical observations on human fetuses, attended scientific and clinical meetings, and conferences on fetal research held by the Institute of Medicine. Casper also examined scientific and non-scientific works, including medical record and archives, biomedical literature, and popular cultural representation. Other feminist science scholars have conducted ethnographies to understand the use and broader context of biomedical technologies, spending at least one year in the field directly working with clinics or immersing themselves in multiple sites.

**Table 3.1: Overview of Methods and Data Collection**<sup>34</sup>

<b>Interviews</b>	<b>Participant Observation</b>	<b>Content Analysis</b>
Existing Patients ( <i>21F, 1 M</i> ) <ul style="list-style-type: none"> <li>• Gastric Banding procedure</li> <li>• Surgery within 10 years of interview</li> </ul>	Information Sessions for potential patients (9)	ASMBS Website, press releases, public communications ( <i>2001-present</i> )
Bariatric Surgeons (4)	Support groups for potential/existing patients (39); Online patient forums ( <i>as available</i> ); <i>Facebook group</i> (1)	Allergan Website, press releases, public communications, technical manuals for patients ( <i>2001-present</i> )
Medical Practitioners (nurses, nutritionists, psychologists, etc.) (8); Associated Actors (bariatric support group leader/life coach, WLSFA founder) (2) <ul style="list-style-type: none"> <li>• Band Patients (1)<sup>35</sup></li> <li>• Bypass Patients (3)</li> </ul>	Patient-practitioner interactions (Nutritional consults, 'fills', etc.) (38)	Ethicon-Endo Website, press releases, public communications, technical manuals for patients ( <i>2001-present</i> )
Scientists and Developers affiliated with biotechnology firms (Allergan and Ethicon-Endo) (5)	Continuing education courses (2)	Scientific journals and popular press ( <i>2001-present</i> )

As shown in Table 3.1, several methods were employed at tandem over the course of 12 months (December 2010 to December 2011). *Semi-structured interviews* were

<sup>34</sup> Number of interviews and time periods covered are italicized.

<sup>35</sup> One of the medical practitioners was also a band patient and one was a gastric bypass patient; both of the 'other' actors were gastric bypass patients.

conducted with the following groups: 1) existing gastric banding patients; 2) bariatric surgeons specializing in gastric banding; 3) other medical professionals (such as nutritionists, nurses, exercise physiologists, psychologists, etc.) and relevant stakeholders, who are affiliated a surgery center or hospital; and 4) scientists and developers affiliated with biotechnology firms which manufacturer gastric banding devices. *Participant observation* was conducted at the following sites: 1) information sessions for potential patients; 2) support groups and online forums for potential and existing patients; 3) continuing education and training sessions; and 4) surgical centers and/or hospitals that perform the surgery. *Content analysis* was employed for the following: 1) Website and materials produced by the American Society for Metabolic and Bariatric Surgeons (ASMBS); 2) Websites and marketing materials for the two primary biotechnology companies which manufacture gastric banding devices<sup>36</sup>; and 3) Scientific journals and popular press/media articles related to obesity surgery.

However, while this study involved interviews, analyses and observation at several sites, this approach differed from traditional ethnographic work on emerging biotechnologies. Other feminist science scholars have conducted ethnographies to understand the use and broader context of biomedical technologies, spending at least one year in the field directly working with clinics or immersing themselves in multiple sites; this study instead takes a 'rapid approach' which will be conducted over a 12-

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<sup>36</sup> Allergan, which manufactures The LAP-BAND<sup>®</sup> Adjustable Gastric Banding System, the first adjustable medical device approved in the United States for individualized weight loss, is based in Irvine, California. Ethicon Endo-Surgery, a Johnson & Johnson Company, manufacturers the REALIZE Band; the global company has its world headquarters in Cincinnati, Ohio.

month period<sup>37</sup>. Although users – the ‘implicated actors’ (Clarke and Montini 1993) – are central to the study of this particular biotechnology, it is equally critical to consider the other actors who likewise have a stake in this particular biomedical intervention for obesity; thus, this approach involves the perspectives of the medical community and relevant biomedical firms, in addition to the patients themselves. In addition, this study did not revolve around one particular practice or surgery center, but involved several practices within the Southeast, in order to ensure greater diversity and capture the multiplicity of experience and perspective<sup>38</sup>.

### **3.1.1 Human Subjects and Institutional Review Board**

Approval from Georgia Institute of Technology’s Institutional Review Board (IRB) was granted to conduct patient and surgeon interviews and conduct participant observation (IRB Protocol H10169)<sup>39</sup>. A revised protocol amendment was submitted to the IRB and approved in June 2011 to expand the study population to include interviews with medical practitioners who work directly with bariatric patients. This group, broadly termed ‘medical practitioners’, included nurses, nurse practitioners, psychologists, exercise physiologists, physical therapists, nutritionists, dieticians, primary care physicians, and physician assistants who work directly with bariatric patients pre- and post-surgery; this group also included surgery center-affiliated administrative professional staff who assist patients in gathering the necessary documentation and

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<sup>37</sup> See Bernard (2006, p. 352) for further explanation of a rapid approach to ethnographic fieldwork, as described later in this chapter.

<sup>38</sup> In the greater Atlanta area, there are several dozen surgery centers and practices which perform bariatric surgery; some centers are housed in hospitals, while others have a loose affiliation with a hospital and offer other services, such as cosmetic surgery. Further, some centers perform only gastric banding, while others cover multiple procedures. Thus, this research presents multiple perspectives on this topic.

<sup>39</sup> The researcher holds Human Subjects Training Certification (March 2008-indefinite).

approvals before and after the surgical process including ensuring insurance compliance and billing. Expanding the study population proved beneficial to the research in that the perspectives of additional individuals provided another dimension to understanding both the decision-making factors that lead individuals to have surgery and the experiences of patients post-surgery. As evidenced from attendance in information sessions and support group meetings, there are a host of individuals with whom the patients interact which has implications for their pre- and post-operative experiences; the majority of patients have limited contact with the surgeons outside of the actual procedure and instead interface with allied medical professionals on a more regular and long-term basis.

A second IRB protocol (Protocol H11174) was approved in August 2011 to conduct interviews with individuals who currently have a direct role in the research, design, development, marketing and/or sale of the gastric band and are affiliated with a biotechnology firm<sup>40</sup> that manufactures and markets the adjustable gastric band. Participant observation of education and information seminars on the gastric band was also covered under this protocol. The initial protocol submitted for this population was denied because of concerns regarding proprietary corporate information; however, it was determined that subjects interviewed from the biotechnology firms would have the choice

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<sup>40</sup> There are two pharmaceutical firms in the U.S. which manufacture and market the gastric band, Allergan (based in California, maker of the LAP-BAND) and Ethicon Endo-Surgery, Inc. (the surgical arm of Johnson & Johnson based in Ohio, maker of the REALIZE band). These firms define themselves in various ways; for example, Allergan defines itself as a multi-specialty health care company, while Ethicon, is a Johnson & Johnson company, that develops surgical products for laparoscopic and minimally invasive procedures. In the interest of consistency, I refer to both Allergan and Ethicon as biotechnology firms or biotechnology companies throughout this text.

to limit what they chose to disclose during the course of the interviews. This was clearly stated in the consent form (Appendix F).

### **3.1.2 Feminist Research**

In this study, I took a distinctly feminist approach to research, which involves not only being guided by feminist theory to frame my research questions, but also having empathy and a connection with my interviewees, establishing trust and ‘believing’ the interviewees’ accounts (Reinharz 1992, p. 28). Although feminist research often involves studying women from the standpoint of women (Harding 1992; Reinharz 1992; Hesse-Biber and Leavy 2007), other scholars (Oudshoorn 1999; Connell 2005) expand gender to also include men and apply feminist principals to the study of masculinities. As scholars (Reinharz 1992; Hesse-Biber and Leavy 2007) acknowledge, the women studied do not always trust the researcher, especially if there is a difference in social class, race, ethnicity, or sexual orientation (Reinharz 1992, p. 65). One challenge in doing interviews and ethnographic field work in the bariatric surgical space had to do with size; some of the individuals interviewed expressed some initial discomfort because I was not an obese person, while others presumed I had already had bariatric surgery which led to my interest in the topic. As a non-obese person, I was considered an outsider in some ways in the beginning of the study. On several occasions at meetings, patients and others explicitly asked if I had bariatric surgery or said, with some sarcasm, “why are *you* here?” Before a support group meeting of gastric band patients, one woman said she “hated me” because of my size – with a laugh. While these interactions sometimes made me uncomfortable, they were not the norm and the vast majority of the weight loss surgery community I interacted with were welcoming and honest. For those who asked what drove my desire to study this topic or those who needed more information about me as a person, in order to build trust, I explained my struggles with

my weight and that I empathized deeply with their struggles, their frustrations, their fears, and how others would view them. I feel this came across in our interactions and believe this helped me earn the trust and respect of many patients. Some interview subjects, however, may have been more open and less hesitant to speak to me had I been larger. Interestingly, I believe being a non-obese person allowed surgeons and practitioners to feel more comfortable and be quite candid about their frustrations and challenges in working with bariatric patients. They seemed to view me as one of them - just trying to help patients – and my frame indicated, at least to them, I cared about health and nutrition. Had I been larger at the time of my research, I am not certain I would have had such frankness from some of the medical professionals I interviewed.

Feminist research also seeks to “understand the social realities of women as actors whom previous sociological research has rendered invisible” (Reinharz 1992, p. 46); as such, ethnography often involves the development of relationships with participants and an active involvement and immersion in the research process. Many feminist ethnographers reject the positivist tradition and advocate for the elimination of distance between the subject and object, sometimes documenting their own experiences; as such, this approach may be viewed as less scientifically rigorous than traditional positivist methods. However, as a number of theorists (Clarke 2005; Charmaz 2005, 2006; Harding 1992; Reinharz 1992), no method is purely value free. Charmaz argues that “no qualitative method rests on pure induction – the questions we ask of the empirical world frame what we know of it. In short, we share in constructing what we define as data” (Charmaz 2005, p. 509). In taking a nonpositivist approach to research, new concepts concerning the lives and bodies of women can be formulated (Reinharz 1992; Blizzard 2007). In my own role as a feminist researcher, I felt a strong connection to both the patients I interviewed and the clinicians who offered care – I became entrenched in their experiences, empathized with their situation, and began to

understand the daily struggles and triumphs they experienced in their 'journey'. I believe coming from this position of understanding created a sense of comfort between myself and those I spoke to and observed over the course of the year. As I removed the distance between my subjects and myself, it was impossible to separate how I felt about my own body from what they felt about theirs; this was not a study about me and my own struggles with bodily acceptance, but it became evident over the course of my fieldwork that the two were intertwined. But as I became more connected to all of the subjects, I struggled to create a story that portrayed the complexity of living with and managing the care of this patient population, rather than one of sole empathy, contempt or disparagement. As I relayed in this dissertation, the gastric band is a complex, instable technology, just as its human conduits are, and just as how the medicalization of obesity itself remains contingent and uncontainable.

### **3.2 Semi-structured Interviews**

Interviews took place with four distinct groups: 1) existing gastric banding patients; 2) bariatric surgeons; 3) medical practitioners who work directly with bariatric patients; and 4) scientists and developers associated with two leading biotechnology firms which manufacture and market gastric banding devices. A fifth group, which I term 'other actors' who were affiliated with the bariatric community, were interviewed but were not the focus of this study.

Semi-structured interviews were used for this study. This type of interviewing, which uses open-ended questions, "maximizes discovery and description," allowing the researcher to generate theory and account for the diversity of women's experiences (Reinharz 1992, pp. 18-19). This technique allows participants to speak to their "lived experience," which can be particularly useful in studying sensitive issues (Bernard 2006,

p. 213). According to Russell Bernard (2006), effective probing is a critical element of successful interviewing; the objective is to “stimulate a respondent to produce more information, without injecting yourself so much into the interaction that you only get a reflection of yourself in the data” (p. 217). The advantages of this approach include greater flexibility in the interview process, allowing the interviewee to explain and expand on their responses, and permitting the researcher to change questions and the direction of the interview as appropriate, as well as follow-up with additional questions; a skilled interviewer can thus elicit honest and in-depth responses. Because each interview is unique, it can be difficult to compare results; this was remedied by creating a set of questions to frame the direction of each interview. The semi-structured nature can also have disadvantages in that interviews may be time-consuming, in terms of conducting the interview itself and analyzing the data. However, despite the disadvantages, semi-structured interviews were selected because of the adaptability of the approach and the ability to generate in-depth responses from interviewees, which were critical in analyzing gastric banding surgery. A description of each group of participants, broad interview questions, and recruiting methods will be described in more detail in the following sections. See Table 3.2 for an overview of the individuals interviewed.

**Table 3.2: Semi-structured Interviews**

<b>Existing Band Patients</b>	<b>Bariatric Surgeons</b>	<b>Medical Practitioners</b>	<b>Biotechnology Firms</b>	<b>Other Actors</b>
<b>22</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>2</b>
Female (21) Male (1)		Nurses (4) Nutritionists (2) Psychologists (2)	Allergan (1) Ethicon (4)	Bariatric Support Group Leader/Life Coach (1) Advocacy Group Founder (1)

### 3.2.1 Existing Band Patients

To understand the *extent to which female patients embrace or resist biomedical technologies* for weight loss, and how they experience their bodies in the presence of biomedical technologies, interviews were conducted with 21 female patients and 1 male patient<sup>41</sup> who had gastric banding surgery performed in the United States within 10 years of the interview.

The interview questions were divided into the following groups: a) personal and educational background; b) decision-making factors leading to the surgery; c) experiences with food, eating and the body pre- and post-surgery; and d) additional expectations, experiences and perspectives. Follow-up prompts were used, as needed, to clarify a question or elicit more of a response from the study participants. See Appendix A for a list of band patient interview questions.

Band patients were not compensated for their participation. Informed consent was obtained verbally from each of the participants who were provided with a consent

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<sup>41</sup> Boero (2010) conducts in-depth interviews with 10 gastric bypass patients; Throsby (2008, 2009a, 2009b) interviews 29 women and 6 men who had or were waiting to have obesity surgery. Feminist scholars (Blizzard 2007; Casper 1998; Mamo 2007) who examined emerging biotechnologies interviewed between 18 and 37 patients. Blizzard's (2007) work on fetoscopy, a medical procedure which allows access to fetuses in utero when they are complications, presents a useful model for studying gastric banding. In her study, Blizzard initially contacted a surgeon - one of the few performing the procedure in the U.S. - who agreed to open up his work to ethnographic analysis; all the procedures were performed by the same physician at one of two locations and all patients interviewed shared the same physician. Blizzard spent a year doing an ethnographic analysis at a community-based religious hospital, where she worked alongside medical practitioners and patients; in addition to interviews with 'patient-mothers', their partners nurses, ultrasound operators and other medical professionals, Blizzard observed 20 surgeries, and attended professional conferences; she returned to the site a year later to follow-up with the medical team and patients. However, while this provides a useful model, given the number of practices which perform bariatric surgery, it was not necessary to focus on a sole surgeon or practice. Expanding the analysis to multiple locations and medical practitioners added another dimension to the study that provides for a richer analysis of this topic.

form outlining the purpose, risks, and benefits of the study (Appendix B). The form also described how participant confidentiality would be maintained. Participants were given a copy of the informed consent for their records; the informed consent also included my contact information, and the contact information for the faculty advisor, should participants have any additional questions concerning the research.

Participants were asked to self-assign their own aliases. Throughout the interviews, participants sometimes referred to their surgeon, hospital, and, in some cases, other medical professionals they came into contact with during the pre- and post-surgical process; in order to protect confidentiality, the names of the department or individuals are not included in these narratives. Rather, they are replaced by a neutral descriptor, such as “surgeon” or “hospital” placed in brackets within the text. Pseudonyms were created for all the hospitals and surgeons observed and interviewed; these are used consistently throughout the text.

Participants were contacted in four main ways for inclusion in this study: a) directly through a physician/medical center which opened its facility to ethnographic analysis<sup>42</sup>; b) through attendance at Atlanta-area hospital or surgical center-sponsored support groups for post-operative patients<sup>43</sup>; c) through participation in online chat rooms

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<sup>42</sup> See Blizzard (2007) for a model on contacting patients directly with the permission of a particular surgeon. Blizzard initially contacted a single surgeon - one of the few performing fetoscopy in the U.S. - who agreed to open up his work to ethnographic analysis; because of patient confidentiality, she did not contact patients directly but distributed informational packets with a letter of introduction from the doctor to their former patients via the physician's office. In my research, I met a number of patients during their clinician visits, primarily when they came into a practice site for adjustments. Through these sites, eight (8) patient interviews resulted.

<sup>43</sup> Several hospitals and surgical centers in the Atlanta metropolitan area sponsor “Post-Op Support Groups” for those who have had weight loss surgery. Initially, several hospitals and surgical centers were contacted to see if they are willing to allow the

and support groups<sup>44</sup>; d) through network sampling; and e) through chain referrals from other existing patients participating in the study. “Snowball sampling” is a type of network sampling method traditionally used to study hard-to-find populations (Bernard 2006, p.192). In this approach, key informants are identified and asked to name potential participants until the sampling framework is saturated (Bernard 2006). In addition to asking band patients for referrals for additional participants, I also had a number of personal friends who offered to put me in touch with patients and practitioners who worked with bariatric patients; none of my personal contacts panned out, but I was able to interview five (5) additional band patients via snowball sampling. During clinical observations and support groups, several patients initially expressed interest in being interviewed but did not respond to my e-mail or phone call following up on our conversation. Because this is a sensitive topic and some individuals are not willing to share their experiences with someone with whom they are not familiar – and some

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student researcher to attend the planned support group and observe the session in order to recruit potential participants and/or observe patient-medical interactions.

<sup>44</sup> Throsby (2008, 2009a, 2009b) recruited participants through participation in weight loss surgery online forums in the UK; Boero (2010) also monitored online forums for gastric bypass patients and attended information sessions and support groups, in addition to a conference sponsored by Obesity Help. In this study, the researcher joined a Facebook group for patients of Southeastern U.S. hospital’s bariatric practice; this Facebook group had more than 190 members, some of whom were considering bariatric surgery or had had bariatric surgery at another hospital or facility, representing individuals from all over the United States and the UK. The researcher was invited to join the group by one of the group’s founders who was also interviewed for this study. That patient, “Diana”, posted an announcement to Facebook group encouraging its members to contact me to be interviewed. From that particular group, and Diana’s contacts, five other patients were interviewed. An additional individual contacted me and stated she was willing to answer questions via e-mail but decided to not be interviewed. As part of my research, the group members’ posts were monitored.

patients did not openly share that they even had surgery with their own social networks – the researcher did not persist with these individuals out of respect for their decision<sup>45</sup>.

An attempt was made to ensure there was a diverse sample of women interviewed, in terms of socio-economic status, race, age, religion and sexual orientation. However, as indicated, the majority of the individuals who elect to have gastric banding are Caucasian, middle class women, which is not representative of the obese population in the United States<sup>46</sup>. This was remedied somewhat by focusing on differing surgical centers and hospitals which serve a more demographically diverse patient population. Two of the three clinical sites where the bulk of my fieldwork was conducted reported that approximately half of their patient population was comprised of African American females; the third clinical site reported the majority of its patients were Caucasian females.

The majority of the patient interviews (16) took place over the phone. Six (6) of the interviews took place in person. Each of the participants was asked to choose where they would prefer to have the interview take place, and were told in advance to choose a location where they felt most comfortable, since they would be discussing their personal experiences. Two (2) of the in-person interviews took place at a surgical center in the lobby after their clinical visits and one (1) took place in the participant's workplace, after the office had closed; two (2) of the interviews took place in a coffee shop; one (1) was

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<sup>45</sup> In total, I asked 28 band patients to participate in an interview, for a positive response rate of 78.5%.

<sup>46</sup> ASMBS (2009) reports that the majority of those who had the surgery in 2006 were female (81%), white (75%), were a higher socio-economic status (80%) and had private health insurance. Comparatively, the Centers for Disease Control and Prevention reports that non-Hispanic white women made up 21.8 of the obese population. It should also be noted that about 15 million people in the U.S. have morbid obesity; however, only 1% of the clinically eligible population is being treated for morbid obesity through bariatric surgery (WIN 2009).

conducted at a church near the participant’s home in a private room. All interviews were audio-taped using a digital voice recorder; handwritten notes were taken throughout the interviews. All interviews were transcribed and typed verbatim; interviews were edited for grammatical errors in the final version.

### 3.2.1.1 Description of Band Patients

Twenty-two (22) band patients were interviewed for this study; a brief overview of the patients is provided in Table 3.3.

**Table 3.3: Description of Band Patients (n=22), Select Demographics**

<b>Gender</b>	<b>Race/ Ethnicity</b>	<b>Age</b>	<b>Relationship Status</b>	<b>Education</b>	<b>Years Post- Surgery</b>
Female (21)	Caucasian (13)	20-29 (2)	Married (12)	High School/ GED (9)	Less than 1 year (9)
Male (1)	African American (7)	30-39 (7)	Same-Sex Partner (2)	Associate/ Bachelor’s (13)	1-2 Years (5)
	Latina/ Hispanic (1)	40-49 (8)	Divorced (5)		2-3 Years (8)
	Caribbean (1)	50-59 (3)	Single (3)	<i>Pursuing Master’s (3)</i>	
		60-69 (2)			

Participants were in various stages of post-operative recovery, from one month post-surgery to three years after surgery. Nine (9) of the patients were less than one year post-surgery; five (5) of the patients were 1-2 years post-surgery, and eight (8) of participants were 2-3 years post-gastric band. The weight loss of patients ranged from 10 pounds to 153 pounds; one of the patients had lost more than 90 pounds but had regained all of her weight back within 2 years of her initial surgery– at the time of the

interview, she had just received insurance approval for a conversion from the band to the gastric bypass surgery. All of the patients had the adjustable gastric banding surgery; one of the patients had the gastric band with plication – in this procedure, the stomach is inverted and a band is placed on top of the stomach with the intention of restricting the amount of food. This patient was part of a clinical trial that was being performed by one of the bariatric practices studied in this study; during the course of this study, that study was suspended and the surgeon was no longer performing that procedure.

The majority (21) of the patient participants were living in the Southeastern United States at the time of the interview and one (1) was living in the Western United States; however, most (13) originated from other parts of the United States or U.S. Virgin Islands. Four (4) of the participants were from military families or had served as active duty military and had lived throughout the U.S. and around the world. All participants were U.S. Citizens.

Participants ranged in age from 24 to 63-years-old, with the median age being 42. The age breakdown was as follows: 20-29 (2); 30-39 (7); 40-49 (8); 50-59 (3); 60-69 (2). All but one of the participants was female. The majority (13) of the interviewees self-identified as Caucasian; seven (7) identified as African American; one (1) identified as Caribbean descent; and one (1) identified as Latina.

In terms of relationship status, twelve (12) of the participants were married (1 of whom was re-married) at the time of the interview in heterosexual relationships; two (2) of the participants had same-sex long-term partners. Five (5) of the interviewees were divorced and three (3) were single. The majority (19) identified as heterosexual; three (3) identified as homosexual. The majority (14) of the subjects had children either living at home and adult children; eight (8) of the subjects did not have children. Four (4) of the subjects had grandchildren.

Six (6) of the patients interviewed had a close family member (parent or sibling), spouse, or partner who had bariatric surgery, including the band, gastric bypass and sleeve. Two (2) of the patients I interviewed were sisters. All but one (1) of the patients interviewed reported knowing someone, either personally or professionally who had had some type of weight loss surgery, either prior to or following their own surgery.

The majority (13) of the patients interviewed had a college or technical degree; of those, three (3) had or were in the process of pursuing a graduate degree. The majority (16) of the participants were employed full-time and had various occupations in education, healthcare, telecommunications, and business. Three (3) of the participants were unemployed at the time of the interview and were seeking employment; one (1) was retired and two (2) self-identified as housewives or stay-at-home moms. The majority of the participants (18) had their surgery paid for by their insurance provider; those with insurance were required to undergo a pre-surgical process ranging from 3 to 6 months<sup>47</sup>. Four (4) of the patients were 'self-pay' meaning they financed or paid cash for their banding surgery. The patients had their surgery performed at various bariatric centers in the Southeast and on the West coast; as a result, there was some variation in experience and outcomes. Nine (9) of the participants had their surgery performed by the same surgeon (Dr. B); four (4) by another surgeon (Dr. A); three (3) by another surgeon (Dr. C); three by another (Dr. F) and three by three different surgeons; as a result, seven (7) different surgeons were represented among the patients interviewed for this study.

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<sup>47</sup> Depending on the insurance providers, patients were required to undergo a pre-surgical process from 3 to 6 months; this process involved physician-supervised weight loss, nutrition consultations, mandatory support group meeting attendance, pulmonary clearance, psychology evaluations, and/or additional medical requirements as specified by their insurance providers.

In terms of health, the majority (18) reported having health problems prior to surgery, ranging in severity, from acid reflux and foot and back problems to high blood pressure and type 2 diabetes. Four (4) of the participants reported having no health problems prior to surgery; of those, all expressed concern with eventually developing health problems as a result of being overweight. All of the patients stated their BMI range was in the 'obese' or 'morbidly obese' range prior to surgery.

### **3.2.2 Bariatric Surgeons**

The second group of individuals interviewed for this study was bariatric surgeons, or those who perform non-cosmetic bariatric surgery, including gastric banding. The intent was to understand the *role of the medical community in framing expectations for patient use of the gastric band and their role in the weight loss process*. In-person interviews were conducted with 4 surgeons<sup>48</sup>. Three of these surgeons were male; one was a female. The average range of experience was 5 to 15 years. Three of the surgeons also practiced as general surgeons, in addition to their bariatric surgical specialty. Two of the interviews took place during fieldwork, including in the operating room and on rounds at a Southeastern metropolitan hospital (named 'County Hospital' in this study); one took place during a break for an educational workshop for bariatric

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<sup>48</sup> As initially envisioned, the study would revolve around one physician's practice, similar to Blizzard's (2007) model; however, the increasing number of surgeons specializing in the field of bariatric surgery, combined with the need to get a broader sense of medical expectations concerning patients' role in meeting successful weight loss goals, required interviews with more surgeons, in addition to those practitioners who work directly with patients. While there were limitations with respect to the willingness of surgeons to be interviewed, participant observation at information sessions provided additional data on the perspective of bariatric surgeons. In addition, materials produced by the American Society of Metabolic and Bariatric Surgeons, the largest professional association of bariatric surgeons, were used extensively to gain a broader sense of the sentiment of the bariatric community as a whole. This is discussed further in Chapter 4.

practitioners, and another took place at a surgical practice's office. In addition to these interviews, the researcher attended information sessions held by four (4) other surgeons in the Southeast and took extensive notes on the surgeons' presentations; this participant observation supplemented the interviews, in order to get a more comprehensive and varied perspective on bariatric surgery from the surgeons themselves. As a result, this study included the perspective of eight (8) different surgeons, representing six (6) different bariatric practices in the Southeastern United States.

The interview questions were divided into the following groups: a) personal and educational background; b) role of the technology/surgeon in meeting successful weight loss outcomes; c) role of the patient/patient responsibility in meeting successful outcomes; and d) additional expectations, experiences and perspectives, including determination of which patients are eligible for which procedure. Follow-up prompts were used, as needed, to clarify a question or elicit more of a response from the study participants. See Appendix C for a list of surgeon interview questions. Interviews were audio-taped and transcribed by the researcher. Interviews ranged from 20 minutes to 2 hours<sup>49</sup>.

The surgeons were not compensated for their participation. Informed consent was verbally obtained from each of the participants who were provided with a consent form outlining the purpose, risks, and benefits of the study (Appendix B<sup>50</sup>). The form also described how participant confidentiality would be maintained. Participants were given a copy of the informed consent for their records; the informed consent also included my

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<sup>49</sup> Several interviews took place during surgery and on rounds; during this time, surgeons were interviewed and the procedures were observed.

<sup>50</sup> The consent form for patients, surgeons, and medical practitioners are the same.

contact information, and the contact information for the faculty advisor, should participants have any additional questions concerning the research.

Participants were assigned aliases, chosen randomly by letter (A-F). Throughout the text, surgeons are referred to as 'Dr.' with a capital letter; for example, the surgeons interviewed for this study were named Dr. A, Dr. C, Dr. D, and Dr. E . Surgeons who were observed during information sessions but who were not directly interviewed were also assigned a pseudonym with a single letter. Throughout the interviews, participants referred to their home hospital; in order to protect confidentiality, the names of these sites are not included in these narratives. Rather, they are replaced by a pseudonym (see section on participant observation for a description of those sites).

Participants were contacted in several ways. As stated, biomedical firms which manufacture gastric banding devices provide information on surgeons who perform this procedure in the U.S., searchable by zip code<sup>51</sup>. Surgeons were initially identified as those affiliated with an ASMBS Bariatric Surgery Center of Excellence. The ASMBS provides a list of facilities, surgical groups and surgeons that satisfactorily meet the standards set forth and are hereby designated as an ASMBS Bariatric Surgery Center of Excellence; globally, there are 413 Facilities and 712 Surgeons that have received this designation. In the State of Georgia, there are 24 surgeons with this professional designation<sup>52</sup>. The ability to interview these surgeons was a result of attendance at information sessions, education sessions and/or network sampling. For example, one of

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<sup>51</sup> Allergan, the manufacturer of the LAP-BAND® Adjustable Gastric Banding System, provides both a list of surgeons and support groups for those considering the procedure: [http://www.lapband.com/en/lapband\\_is\\_for\\_you/find\\_a\\_surgeon/](http://www.lapband.com/en/lapband_is_for_you/find_a_surgeon/). Ethicon Endo-Surgery, maker of the REALIZE Band, also provides a list of surgeons and support groups: <http://www.realize.com/dtcf/pages/choose-weight-loss-surgeons.htm>.

<sup>52</sup> These figures were from 2010.

the general surgeons – who primarily performed bariatric surgery – who I interviewed introduced me to his partner, a female general and bariatric surgeon, who agreed to be observed and interviewed; she was interviewed in the operating room and during patient rounds. A band-only surgeon – who was also a general surgeon – agreed to be interviewed at the request of his practice’s bariatric patient advocate, who I had developed a good rapport with during the course of the fieldwork.

### **3.2.3 Medical Practitioners**

The third group of individuals interviewed for this study was medical practitioners who work directly with bariatric patients<sup>53</sup>. The intent was to understand the *role of the medical community in framing expectations for patient use of the gastric band and their role in the weight loss process*. Interviews were conducted with eight (8) practitioners, including nurses, psychologists, and nutritionists. All the interviews took place in person at a location of the participant’s choosing; four (4) of the interviews took place in the practitioner’s office and four (4) took place at a restaurant or coffee shop. One (1) of the interviews was a ‘joint’ interview with a nurse and a bariatric support group leader, who was also a personal friend of the practitioner and a gastric bypass patient. Four (4) of the practitioners were registered nurses (RNs) or nurse practitioners (NPs); of those, two (2) were also serving as ‘Bariatric Coordinators’ of their affiliated medical practice, which meant they had both clinical and administrative responsibilities including leading the practice’s support groups and/or information sessions. One (1) of the RNs interviewed

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<sup>53</sup> Most surgery centers and hospitals provide ‘total’ care, including psychological assessment, nutritional support, and in-house support groups, thus patients interact with a number of medical professionals, aside from the bariatric surgeon. Further, many surgery centers also have support staff – usually termed ‘patient advocates’ - which interact with patients from the beginning of the process through post-surgery.

had gastric bypass surgery prior to completing her nursing degree; another NP had gastric banding surgery after assuming her position at a Southeastern suburban bariatric practice (named 'Obesity Solutions' in this study)<sup>54</sup>. One of the clinicians served a dual role in her bariatric practice as a nutritionist and an exercise physiologist; in this role, she cleared potential patients for surgery with pulmonary function tests and stress tests, as well as provided nutrition counseling before and after surgery. Two (2) of the clinicians were psychologists who conducted psychological evaluations on potential patients to assess their readiness for weight loss surgery and also ran support group meetings; often these evaluations were required by the insurance provider and the bariatric practice. Another clinician interviewed served as a clinical bariatric dietician and worked with both potential and existing patients on behavioral and lifestyle modification before and after surgery, pre-surgical weight loss, and nutritional counseling. All of the clinicians had at least a bachelor's degree; four had master's degrees; and two had doctorate degrees. Two (2) of the practitioners were male; the remainder (6) were female. Four different bariatric practices were represented by this group of subjects.

In addition to the semi-structured interviews, informal interviews were held with other individuals associated with a bariatric practice, including three bariatric

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<sup>54</sup> This nurse had gastric banding surgery at the urging of the practice's surgeon, who believed that, as a band patient, she could provide another level of service and care to other patients in his practice; she described going into the surgery center the day of the procedure to tell the surgeon she had changed her mind and waking up an hour later with a gastric band. While she had no regrets about the surgery, I found the story to be problematic, unethical, and a blatant example of the power bestowed to some medical doctors. Nonetheless, she was able to offer the perspective of both a clinician and a patient; however, the interview focused primarily on her role as a clinician. She performed fills, unfills, and post-operative visits at the practice, and also led the pre-surgical informational sessions for patients about to have surgery. The practice also offered medical weight loss, and she administered B12 and lipovite injections as part of that service.

coordinators, who assisted with insurance submittals, and others with a supporting role in their practice. For example, during and between surgical observations, the researcher spent about 10 hours talking with the nurse who served as a surgical assistant to one of the bariatric surgeons in the operating room at 'County Hospital'; there were also numerous conversations with the bariatric patients advocates<sup>55</sup> at 'Obesity Solutions' and 'University Hospital', as well as dieticians employed at 'University Hospital' and medical assistants at Obesity Solutions.

The average range of experience with bariatric practitioners was 2 to 21 years; the majority (5) of the participants had been practicing more than 15 years of clinical experience, but worked with other patient populations prior to working directly with weight loss surgery patients. The majority (7) of clinicians interacted with potential and existing bariatric surgery patients, including gastric banding, gastric bypass and sleeve procedures. The length of the interviews ranged from 34 minutes to 1 hour and 29 minutes. A total of 494 minutes of interviews were recorded, or 8 hours and 25 minutes.

The interview questions were divided into the following groups: a) personal and educational background; b) role of the technology/surgeon in meeting successful weight loss outcomes; c) role of the patient/patient responsibility in meeting successful outcomes; and d) additional expectations, experiences and perspectives, including determination of which patients are eligible for which procedure. Follow-up prompts were used, as needed, to clarify a question or elicit more of a response from the study participants. See Appendix D for a list of interview questions. Interviews were audio-taped and transcribed by the researcher.

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<sup>55</sup> Many of the practices observed employed at least one bariatric patient advocate, which was an individual assigned with guiding patients through the process, including meeting insurance requirements and scheduling their surgery.

The medical practitioners were not compensated for their participation. Informed consent was verbally obtained from each of the participants who were provided with a consent form outlining the purpose, risks, and benefits of the study (Appendix B). The form also described how participant confidentiality would be maintained. Participants were given a copy of the informed consent for their records; the informed consent also included my contact information, and the contact information for the faculty advisor, should participants have any additional questions concerning the research.

Participants were asked to self-assign their own aliases. Throughout the interviews, participants referred to the hospital or surgical center they worked for, and its corresponding surgeon; in order to protect confidentiality, the names of the department or individuals are not included in these narratives. Rather, they are replaced by a neutral descriptor, such as “surgeon” or with a pseudonym I created for the hospital or surgical site they worked for.

Participants were contacted in several ways. New patient information sessions and support groups for existing patients are generally run by medical practitioners, including nurses, and psychologists, and other administrative support staff. In gaining entry to sessions and meetings, the researcher had the opportunity to interact with practitioners who work closely with banding patients in various capacities; in addition, in working with surgical centers and hospitals, I had the opportunity to develop relationships with a variety of medical practitioners. As a result of these relationships, the practitioners were particularly willing to assist me with my research, welcoming me to their meetings and allowing me to observe them in the clinical setting on numerous occasions.

#### **3.2.4 Developers**

The fourth group of individuals interviewed for this study was designers and technoscientists, or specifically those who are involved in the development and

marketing of the gastric band at two of the leading biotechnology firms which manufacture and market the adjustable gastric band in the United States. The intent was to *determine the extent to which values and expectations are embedded within technical objects*, and particularly whether gendered assumptions about weight and appearance enter into both the design process and into technical instructions and training for those performing the surgery.

Interviews were conducted with 5 individuals representing both Allergan, the manufacturer of the LAP-BAND, and Ethicon Endo-Surgery, the maker of the REALIZE Band. All five (5) individuals interviewed were male. Four (4) of the five worked at Ethicon. These five individuals served diverse roles within their respective companies as research and development scientists and engineers, product developers, account representatives, and medical directors, responsible for design, conducting clinical trials, moving the product through the regulatory pathways, outreach to physician groups, sales and marketing, and generating evidence-based research on safety and efficacy outcomes related to the band. The interview questions were divided into the following groups: a) personal and professional background; b) design and technical issues (rationale behind development, particularly of newer models, including historical information about the device); c) expectations of patients post-surgery; and d) additional expectations, experiences and perspectives. Follow-up prompts were used, as needed, to clarify a question or elicit more of a response from the study participants. See Appendix E for a sample list of interview questions. Interviews were audio-taped and transcribed by the researcher.

Participants were not compensated for their participation. Informed consent was verbally obtained from each of the participants who were provided with a consent form outlining the purpose, risks, and benefits of the study (Appendix F). The form also described how participant confidentiality would be maintained. Participants were given a

copy of the informed consent for their records; the informed consent also included my contact information, and the contact information for the faculty advisor.

Participants were asked to self-assign their own aliases; however, all of the interviewees opted to use their real names. To protect confidentiality, I do not name them in this study; instead, I simply define them by the job title, such as bariatric account representative. This individual sometimes referred to a specific surgeon, hospital, and or a clinician they came into contact with during the course of their position; in order to protect confidentiality, the names of the hospital and its affiliated clinicians are not included in these narratives. Rather, they are replaced by a neutral descriptor.

Participants were contacted in three main ways for inclusion in this study: a) directly through a physician/medical center which opened its facility to ethnographic analysis; b) through network sampling; and c) through chain referrals from other existing biotechnology firm representatives participating in the study. The number of participants was subject to the willingness of the firms to cooperate with this research study; initially, the contact information for a bariatric account representative at Ethicon was provided from a clinician the researcher met during clinical observations. This representative then put me in touch with the company's North American Product Developer, who then reached out to one of the company's clinical scientists who was interviewed; this clinical scientist referred the researcher to the team's principal R&D engineer. The expectation was to make similar headway with Allergan, initially starting with a referral from a clinician interviewed for this study; the researcher was then directed to Allergan's Medical Information Office, and was asked to submit my questions directly through this online portal. In December 2011, the company provided a number of published studies and question-specific annotated literature reviews to answer my questions. The researcher was then put in touch with Allergan's Medical Director who agreed to be interviewed. He offered to put me in touch with more colleagues at his company, but did

not do so. This unevenness of representatives from Allergan compared to Ethicon was remedied by relying heavily on the scientific literature they provided, as well as press releases, marketing materials and Web-based informational items which were publically available. In addition, one of the surgical centers observed provided a number of brochures and other promotional material produced by Allergan which was used in this analysis.

### **3.2.5. Other Actors**

Two additional interviews were conducted with other ‘actors’ who were affiliated with the bariatric community and were involved in supporting roles, but did not have medical degrees; one interview was conducted with a bariatric support group leader and one was conducted with the founder of a charitable organization that raised funds for weight loss surgery patients – both of those interviewees were former gastric bypass patients. The researcher met the support group leader during participant observation at University Hospital, where she occasionally volunteered as a co-support group leader, and attended every support group meeting offered by the hospital as a guest; she invited me to attend the support group she led at another hospital. She was a close personal friend of one of the clinicians interviewed from University Hospital, a nurse; they were both interviewed simultaneously while we were eating dinner, and were asked the same set of practitioner questions. The second individual was referred to me by one of the band patients interviewed for this study; as the founder of a non-profit organization which raised funds to pay for bariatric surgery for those who were able to do so, she provided a unique perspective from the sense of advocacy efforts. Both individuals were also gastric bypass patients, and it was useful to have the perspective of those who selected another form of bariatric surgery; these interviews reaffirmed the somewhat tense interactions I observed between band and bypass patients in support group meetings.

Since these actors were not central to the study – although their role in the bariatric space is still valuable – their voices are limited within the confines of this study.

### 3.3 Participant Observation

To understand both the ways in which patients *actually experience* their bodies and the *role of the medical/scientific community in framing expectations and determining patient success and/or failure*, participant observation was conducted. Specifically, observations were conducted at the following sites: 1) weight loss surgery information sessions for potential patients; 2) support groups and/or online forums for existing patients<sup>56</sup>; 3) patient-practitioner interactions (Nutritional consults, ‘fills’, etc.); and 4) educational sessions for providers and patients<sup>57</sup>.

Participant observation is a type of fieldwork used primarily in anthropological research, although it has roots in sociology<sup>58</sup>; data can be collected in several forms, such as audio recordings, videotape, photographs, direct observation, and questionnaires, among other forms (Bernard 2006). It often involves making oneself an ‘insider’ among a group and “immersing yourself in a culture and learning to remove yourself every day from that immersion so you can intellectualize what you’ve seen and

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<sup>56</sup> See Pitts (2004) and Fox et al. (2005a, 2005b) for a model on conducting online research of patient support groups.

<sup>57</sup> As part of her ethnographic analysis of weight loss surgery, Boero (2010) attends information sessions and support groups, and a medical conference hosted by Obesity Help. In their work on fetal surgery, Blizzard (2007) and Casper (1997), respectively, attend medical conferences as part of their ethnographic work.

<sup>58</sup> See classical and contemporary sociological works by William Foote Whyte (1993, *Street Corner Society: The Social Structure of an Italian Slum*, 4<sup>th</sup> edition, University of Chicago Press) and Elijah Anderson (1968, *Tally's Corner: A Study of Negro Streetcorner Men*, Little, Brown & Company) for the use of ethnography and participant observation as a method for studying problems which cannot be adequately answered with other methods.

heard [and] put it into perspective” (Bernard 2006, p. 344). However, participant observers can also be ‘outsiders’ who participate and record what they see. Some feminist ethnographers see the value in immersing themselves in their fieldwork and choose to align themselves with one group or side, while others see the advantages in maintaining some distance from their subjects (as reviewed in Reinharz 1992). Reinharz (1992) states that some settings require anonymity and distance, whereas others require the researcher to forge closer relationships. For this study, which involved fieldwork at information sessions, support groups, clinical encounters, and education sessions, there was a need to maintain both distance and closeness; for example, information sessions are largely technical in nature whereas support groups are settings which require more closeness with participants in order to understand their position, motives, and experiences with the gastric band.

While most fieldwork can take a year or longer, a number of studies have been conducted over the period of a few months or weeks; medical anthropologists often engage in “rapid assessment procedures” including “participatory rapid assessment or PRA” which allows the researcher to collect data without spending an extended period of time developing a rapport with subjects (Bernard 2006, p. 352). This involves entering into an ethnography with a clear question based on prior research and a limited number of variables to observe; for this study, which involved unobtrusive observation of informational sessions and support groups to see the context in which patient responsibility is addressed and the ways in which the medical community frames the expectations of the patient, a rapid approach was most appropriate.

Overt observation involves the researcher being open about the reason for her presence in the field of study, often using a ‘sponsor’ or key informant to lessen any potential hostility towards the researcher (Bernard 2006). This type of observation may lead to an observer effect, where the behavior of those being studied may be altered by

the presence of the researcher. However, this approach has advantages in that the data may be openly recorded and the problems of 'going native' are avoided.

Participant observation has a number of advantages in that it can provide insight into the study of a cultural/subculture group that other methods cannot; by becoming engrained within a community or social institution or organization, the researcher has the opportunity gain valid, insightful data about a group's behaviors and motivations and lends greater credibility to one's interpretations of the observation (Bernard 2006). However, participant observation is conducted by a biased human who collects the data; thus, the researcher must understand how his/her gender, sexuality, ethnicity, class, and theoretical approach may affect observation, analysis, and interpretation.

Because this study builds off the work of medical anthropologists<sup>59</sup>, it was important to capture some of the clinical encounters – including surgeries and band adjustments - and other sites observed during the course of the study – such as information sessions and support group meetings - through the use of vignettes throughout this research. In doing so, the intent was to not only give the reader a better understanding of the pre- and post-surgical process, but also point to the complexities, the ambiguities and the realities of living with a band and working directly with those who have the band. All names and identifying details have been changed; the vignettes are italicized throughout this work.

### **3.3.1 Information Sessions**

In order to understand the context in which the surgery occurs, and how medical practitioners frame the surgery's risks, the surgical process, expectations of patients

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<sup>59</sup> See Throsby (2012b) for an example of vignette writing in the bariatric surgical space.

post-surgery, as well as define successful or unsuccessful outcomes, bariatric surgery information sessions, which are intended for those who are *considering* having or are *planning* to have bariatric surgery but have not yet had the procedure, were attended. Several hospitals and surgical centers in the Atlanta metropolitan area sponsor “Bariatric Surgery Information Sessions” for those considering having weight loss surgery<sup>60</sup>. These information sessions are free for potential patients and are offered either monthly or bi-monthly. Some of these information sessions were intended for those considering all types of weight loss surgery (gastric band, gastric bypass and sleeve gastrectomy), while two (2) of the surgical centers studied focused on gastric banding surgery. A total of nine (9) information sessions, representing five (5) different hospitals and surgical centers were attended. Three (3) sessions offered by the same surgical center were attended because of the center’s focus on the gastric band; this same surgical center also rotated the locations of its information sessions in various parts of the metro Atlanta region, which provided an opportunity to observe the interactions and questions of potential patients of varying socio-economic backgrounds. Attending more than one of these sessions proved to be beneficial in diversifying the potential patient sample; it also became a way to engage with the staff at this center and develop relationships with them. For example, at one of the information sessions, I assisted the bariatric coordinator set up the presentation materials and computer equipment prior to the session start. At another suburban surgical practice site observed in this study, three information sessions were observed; the practice had two different bariatric surgeons who led the information sessions and performed surgery and I attended one session led

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<sup>60</sup> The two major manufacturers of gastric bands, LAP-BAND and REALIZE band, provide a listing of information sessions for those considering gastric banding surgery.

by Dr. J and two sessions led by Dr. H (who was the head of surgery for the hospital). It was useful to attend three sessions for this practice because it offered all three surgeries – band, bypass, and sleeve – and showed a fairly lengthy technical video presentation on the different surgery, necessitating additional views. In addition, this practice site had a larger potential patient pool and was fairly diverse in terms of gender, income level and medical conditions. Additional sessions at other practices were observed and this part of the observation ended when data saturation was reached and no additional information was being generated. See Table 3.4 for a list of the information sessions attended.

**Table 3.4: Information Sessions<sup>61</sup>**

<b>University Hospital</b>	<b>Obesity Solutions</b>	<b>Westside</b>	<b>County Hospital</b>	<b>Regional</b>
3	3	1	1	1
Gastric Banding Gastric Bypass Sleeve Gastrectomy	Gastric Banding	Gastric Banding Gastric Bypass Sleeve Gastrectomy	Gastric Banding Gastric Bypass Sleeve Gastrectomy	Gastric Banding

Initially, several hospitals and surgical centers were contacted via e-mail to see if they were willing to allow the researcher to attend the planned information session, observe the session, and recruit potential participants. Six (6) surgical sites were initially contacted; only five (5) permitted me to attend and take field notes. The sixth, a suburban-based hospital, informed me that I could attend but was not permitted to take

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<sup>61</sup> Number of sessions attended and the type of surgery offered by the center. Some surgeons perform all three procedures and some only perform the gastric band. All hospitals and/or surgery center names listed here are pseudonyms.

notes of the information session; to do so, they also required that permission from Clinical Trial Evaluation Team (CTET) at the hospital was obtained, as well as personal liability insurance in the event something were to transpire in the course of my research. This request was linked to the hospital's efforts to be named a Center of Excellence by the American Society of Metabolic and Bariatric Surgeons (ASMBS). I declined to attend the session.

### **3.3.2 Support Groups and/or Online Forums**

In order to better understand how patients are actually using the technology in their daily life and how technology is altering their bodily existence, I attended patient support groups for both potential and existing patients. Several hospitals and surgical centers in the Atlanta metropolitan area sponsor "Support Groups" at no cost for those who have had weight loss surgery and who are considering weight loss surgery; potential patients are often required to attend support groups as a prerequisite to bariatric surgery primarily because of insurance policies. In addition, surgery centers also offer online support for patients. Some online forums not affiliated with a particular practice or surgeon, such as Obesity Help, were also monitored, to observe patient experiences<sup>62</sup>.

Over the course of the year, I attended 39 in-person support group meetings in the Southeastern United States; these support groups were held by four (4) different hospitals or surgical centers and were attended by pre- and post-surgical bariatric

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<sup>62</sup> Both Boero (2010) and Throsby (2008, 2009a, 2009b) observe online forums; Boero specifically observes Obesity Help, while Throsby observes forums in the UK.

patients<sup>63</sup>. The support group meetings generally lasted from 45 minutes to two and a half hours. One of the hospitals (County Hospital) offered a variety of different support groups; one for pre- and post-surgical patients, one for post-surgical patients (up to one year out of surgery) and one for ‘veterans’ (those more than 1 year post-bariatric surgery). All three types of support groups were attended to gain varied perspective from those considering surgery and those at various stages post-surgery; these support groups were ‘mixed’ meaning all bariatric patients – not just band patients - were permitted to attend these groups. Over the course of the fieldwork, fewer and fewer band patients attended these support groups. One of the surgical centers where fieldwork was conducted held monthly support group meetings; in the beginning of my fieldwork, the support group contained all gastric banding patients but as the affiliated surgeon began doing other bariatric procedures, including gastric bypass, sleeve gastrectomy, and gastric plication, these patients also attended these meetings. Another suburban hospital (University Hospital) where I spent much of my time offered support groups for all patients (called “general support groups”), gastric banding patients only, and gastric bypass/sleeve patients. At University Hospital, I attended five (5) general support group meetings and 10 gastric band meetings. See Table 3.5 for a listing of the support groups attended, the types of patient the support group meeting was geared toward, support group leader, and special topic of a support group, if any.

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<sup>63</sup> Many potential bariatric patients were required to attend support groups as a condition of insurance approval for bariatric surgery; one of the hospitals in my study also required support group meetings in addition to the patients’ insurance requirements.

**Table 3.5: Support Groups<sup>64</sup>**

<b>Name of Hospital or Practice Site</b>	<b>University Hospital</b>	<b>Obesity Solutions</b>	<b>Westside</b>	<b>County Hospital</b>
<b>Number of Support Groups Attended</b>	15	8	1	15
<b>Type of Support Group Meeting</b>	Gastric Banding (10) General Support (5)	Gastric Banding	Gastric Banding Gastric Bypass Sleeve Gastrectomy	PrePost (7) PostOp (4) Veterans (4)
<b>Support Group Leader</b>	Nurse	Exercise Physiologist/Nutritionist Psychologist	Former Patient	Psychologist
<b>Special Topics of Support Group</b>	Diet and Nutrition	Plastic Surgery Diet Exercise	Plastic Surgery	Plastic Surgery

The support groups provided an interesting context with which to examine not only the experiences and perspectives of those considering or who had banding surgery, but to observe the interactions between different types of bariatric patients. In these settings, I was able to observe non-users of the gastric band, specifically those who elected another type of surgery, to examine differences and similarities between and among bariatric patients.

Most of the support groups were 'free form' meaning there was not a pre-determined topic; three (3) of the support group meetings I attended at three (3) different research sites had a plastic surgeon serve as a guest speaker and offer a presentation

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<sup>64</sup> Number of sessions I attended and the type of surgery offered by the center.

on plastic surgery for excess skin removal following weight loss surgery (three different surgeons), and one brought in a dietician to discuss post-operative nutrition. Pre-determined topics concerned a variety of subjects, ranging from nutrition post-surgery, exercise, grocery store shopping, and handling the challenging of the holidays post-weight loss surgery. The leaders of the support group varied at each of the locations; one center's in-house exercise physiologist/nutritionist led the support group (with support from the psychologist), another was led by the nurse/bariatric coordinator, the urban hospital's support groups were led by a psychologist, and the suburban hospital's support group was led by a former gastric bypass patient. I interviewed each of these individuals during the course of the study.

Online forums for weight loss surgery patients were also observed; the observations focused on Obesity Help, Lapbandtalk.com, and a closed Facebook group for all bariatric patients. On Obesity Help, I followed two forums – 'LAP BAND Forum' and the 'Realize Band Forum'. On Lapbandtalk.com, the 'Main Lap Band Surgery Forum' was observed. During the course of the research, I was invited to join the Facebook group; the founder/site administrator was a gastric band patient, but the site was open to all bariatric surgery patients from throughout the U.S. These forums were useful in further understanding the bariatric surgery community and specifically 'bandsters' – a name many band patients call themselves to designate their membership in the gastric band community.

### **3.3.3 Patient-Practitioner Interactions**

During the course of the year-long research, 38 patient-practitioner encounters were observed, including: hospitals and surgical centers tours (2), bariatric surgeries in the operating room (6), patient-practitioner clinical encounters (30). These clinical encounters included the adjustments (14 fills, 6 unfills), one-on-one pre-surgical

nutritional consultations (3), group pre-surgical nutritional information sessions (2), pre-operative information sessions (2), medically supervised weight loss visits (2); and one (1) post-operative visit.<sup>65</sup> Each of these provided not only valuable instrumental information, but the opportunity to view the patient-clinician interaction to better see the realities of what patients experience before and after surgery, and how the medical community constructs their role in successful or unsuccessful outcomes.

### **3.3.4 Education & Training Sessions**

Participant observation also included attendance at an education and training session for medical practitioners who worked directly with gastric banding patients; this one-day workshop was sponsored by Ethicon, the maker of the REALIZE gastric band. The session was taught by a bariatric surgeon from University Hospital and was attended by seven (7) medical practitioners, including nurses, physicians assistants, medical assistants, and bariatric practice managers who had traveled from throughout the Southeast to attend the workshop. This session led participants through the proper protocol for adjusting patients (adding or removing saline) with the gastric band. It also provided an opportunity to learn more about the perspective of bariatric practitioners about the post-operative management of patients – termed ‘aftercare’ –setting appropriate patient expectations, with regards to weight loss, and standardization of patient care. Participant observation was also conducted at a ‘Healthy Eating’ class, offered by County Hospital; this dietician-led class was attended by bariatric patients, who paid a fee for the 8-week course, which guided patients through mindful eating and appropriate lifestyle and behavioral changes post-surgery. My initial intention was to

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<sup>65</sup> This patient was visiting Obesity Solutions following a reoperation for a band slip.

attend a medical conference sponsored by the ASMBS but was not able to attend this event due to lack of resources.

### **3.4 Content Analysis**

In order to gather some historical information and understand the scientific context of gastric banding surgery, a content analysis of both scientific publications (academic journals) and non-scientific publications<sup>66</sup> (public communications produced by professional medical organizations and biotechnology firms, including Web-based communications) was conducted. The intent was to uncover the ways in which both practitioners and developers frame the need for the surgery, the patients' responsibility in meeting successful outcomes, and the role of the technology itself; further, an examination of relevant materials from the biomedical firms provided a framework for understanding the development of the device and its intended use. Examining the firms' marketing materials also provided insight into the ways in which gendered norms and expectations are presented and reinforced; for example, pictures of patients and accompanying narratives concerning shopping for clothes in smaller sizes and losing weight to resolve infertility issues both reflects and shapes gendered norms concerning women as consumers and essentialist identities as mothers.

Bernard (2006) states that content analysis usually involves testing hypotheses from the literature and creating a set of codes for variables in the theory; the codes are then systematically applied to the text and their reliability tested. Content analysis can be relatively simple - researchers can approach texts with a simple question and look for the presence or absence of a single message; by defining a nominal variable or several

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<sup>66</sup> Oudshoorn (1999b), in her study of male contraceptives examines non-scientific text, including press releases, in their study of the circulation of scientific knowledge.

variables, content analysis can add another dimension to the study (Bernard 2006). This portion of the study included counting and interpreting the repetition of a number of themes (such as role of behavioral modification in successful weight loss outcomes and the risks the surgery presents) and the context in which they are presented (whether they refer to obesity as medical problem or epidemic). I coded the data into the following broad categories: Obesity-related Health Conditions; Safety; Efficacy; Patient Responsibility; Gender; Surgical Techniques; Design; Post-surgical Care; and Cost/Economics.

Specifically, I examined the following: the scientific journal, *Surgery for Obesity and Related Diseases*<sup>67</sup>; journal articles were identified using the search terms “gastric band”, “gastric banding”, “laparoscopic gastric band”, and “laparoscopic adjustable gastric band” on PubMed, a service of the U.S. National Library of Medicine, National Institutes of Health; miscellaneous public communication, such as fact sheets, position papers, and press releases, produced by American Society of Metabolic and Bariatric Surgery, the professional medical association for bariatric surgeons; press releases, fact sheets, historical information, and technical information about the development/design, intended use and instructions for healthcare providers and patients specifically for the gastric band from the official websites of Allergan and Ethicon Endo-Surgery. Materials from January 2001 to January 2013 were studied; this timeframe coincided with the FDA’s initial approval of the LAP-BAND in 2001. In addition, I also consulted popular media to gain some historical and contextual information regarding the gastric band’s role in the obesity epidemic, looking specifically at the *Wall Street Journal*, *New York*

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<sup>67</sup> The official journal of the American Society of Metabolic and Bariatric Surgeons.

*Times*, *Los Angeles Times*, Bloomberg News, and CNN; these texts were also useful in assessing some of the financial background of Allergan and Ethicon.

These cultural artifacts were collected in a number of ways, including obtaining electronic articles from the Georgia Tech Library's online databases (Academic Search Premier, Lexis Nexus, Web of Science, etc.), as well as collecting the above information directly from the public websites. Additional archived materials and historical information were also collected directly from the organizations or other bodies, such as the U.S. Food and Drug Administration (FDA) and the U.S. Patent and Trademark Office (USPTO). I was able to gather brochures and other marketing materials from the practices I observed.

### **3.5 Data Analysis**

Because of the amount of data used in this study and the varying theoretical frameworks serving as the foundation for this study, several means to analyze the ethnographic and interview data were employed. In this section, the data analysis process is outlined, focusing on situational and social worlds/arena analysis, thematic analysis, and the use of qualitative software for managing the data.

#### **3.5.1 Situational and Social Worlds/Arena Analysis**

Situational analysis was used to initially analyze the ethnographic and interview data (Clarke 2005). This type of analysis begins with using the situation – in this case, the bariatric surgical space – as the locus of analysis, and descriptively mapping out the most critical human and nonhuman elements in this space. In creating situational maps, Clarke (2005) advises to ask a series of questions as a guiding framework: “Who and what are in this situation? Who and what matters in this situation? What elements ‘make a difference’ in this situation?” (p. 87). The purpose is to identify all the “analytically pertinent human and nonhuman, material, and symbolic/discursive elements of a

particular situation as framed by those in it and by the analyst” (p. 87). First, ‘messy’ situational maps were created in the initial stages of data analysis, in order to prevent premature closure; in creating several of these maps and returning to them over time, I identified the salient non-human and human actors in the bariatric surgical space, and the social context in which the band emerged as a weight loss technology, as well as the varying human and non-human actors who affected the experience of band patients. As the analysis continued, I created “ordered” situational maps which specified: the individual human elements/actors; collective human elements/actors; nonhuman elements actants; implicated/silent actors/actants; discursive constructions of individual and/or collective actors; discursive constructions of nonhuman actants; political/economic elements; sociocultural/symbolic elements; temporal elements; spatial elements; major issues/debates (usually contested; related discourse (historical, narrative, and/or visual; and other key elements (p. 97). From the ordered maps, I performed an analysis to understand how each element relates to each other and the nature of the relationships between human and non-human actors and elements. These maps were modified until data saturation was reached.

In an effort to understand the multiple constructions of the gastric band, this study also draws on arena analysis (Clarke and Montini 1993), which attempts to empirically “specify all the key individuals and social groups ‘active’ around the technology, around prior or subsequent related technology, or related social issue” (Clarke and Montini 1993, p. 44). Social worlds/arena/discourse analysis is grounded in symbolic interactionism and focuses on meaning-making among collective groups (Clarke 2005, p.109). In making the social worlds/arena map, “one enters into the situation of interest and tries to make collective sociological sense out of it” (p. 110). Clarke outlines some questions to consider: “What are the patterns of collective commitment and what are the salient social worlds operating here? What are their

perspectives and what do they hope to achieve through their collective action?" (p. 110). Arena analysis considers there are 'N sides' to any technology, or multiple perspectives on a given technology; extending beyond actor network theory, which focuses on technoscientists and nonhuman actors, arena analysis considers all actors, both present and implicated (Clarke and Montini 1993; Casper & Clarke 1998). The social-worlds approach allows assessment of the relative power of all these 'actants' by analyzing the consequences of their actions and activities in this shared arena (Casper & Clarke 1998). In this approach, all actors - human and non-human - are significant; understanding each actor's position aids in the understanding of how power is distributed in these arenas.

While this study considers there are N sides to any technology, this study primarily considers the perspectives of patients/users, surgeons, professional associations, medical practitioners, and biotechnology firms. Despite the diversity of actors - from manufacturers to users - there are other actors which are absent, yet relevant, to this analysis. There are other actor groups within this 'social worlds' who will not be directly studied, such as fat-activist organizations<sup>68</sup> which criticize both the stigmatization of obesity and call on alternative ideals of feminine beauty. Other relevant actors include the social networks of gastric band patients, such as family and friends, and competitors to the bariatric surgery space, including the diet industry and

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<sup>68</sup> It may be necessary to include greater reference to the critical obesity studies literature and engage more closely with the work of fat acceptance organizations in future research. While their presence in the broader oppositional space is described in Chapters 1 and 4, the researcher opted to not directly interview this group and instead focus on those most relevant to the analysis; in this case, patients seemed unaware that there was a counter-construction of obesity and organized opposition to the band. Instead, patients, like clinicians and representatives from the biotechnology firm, did not question the social construction of "obesity" and articulated their belief that obesity was indeed a medical disease which necessitated surgical intervention.

pharmaceutical firms – while these actors may not publically challenge bariatric surgery nor the band explicitly, their presence in the broader space in which patients live and the band operates drives and defers some to and from the gastric band and other surgical options; thus, they should be considered silent actors. Other social actors, the medical practitioners who deal directly with band patients are critical groups whose own experiences and perceptions of the band’s safety and efficacy enter this contested space, contributing to the band’s rise and potential demise. While their voices represent another set of ‘actors’ who are committed to action in this arena (Clarke and Montini 1993), this study focused on the role of users, surgeons, practitioners, and biotechnology firms, while still acknowledging the presence of other actors who may affect the perspective and experience of these groups. Other scholars working in the tradition of science studies have also brought attention to *non-users*; in this instance, specifically those considered but who elected to *not* have gastric banding surgery. As Clarke and Montini (1993) acknowledge, the researcher’s decision to include or exclude the voices of some actors over others empowers or disempowers some; the intent is not to dismiss the voices of other actors, but to focus the study on those actors who are *most* relevant. For this research, the emphasis on users – those with a gastric band – is most relevant to the study of the historical trajectory of the gastric band. Still, non-users, specifically other bariatric patients, are included in this analysis. For example, I interviewed three gastric bypass patients who were either clinicians working in the bariatric field or associated actors (support group leader and founder of advocacy group); I also attended dozens of general support group meetings which were attended by gastric bypass and sleeve gastrectomy patients. These meetings often included a discussion on why these patients selected bypass or the sleeve over the gastric band, and provided an opportunity to examine the similarities and differences among bariatric patients regardless of procedure to identify whether the experiences of band patients

were unique or indicative of bariatrics in general. Future work will more strongly consider those implicated actors, particularly those non-users who elected a different bariatric procedure or opted to not have bariatric surgery despite their initial interest in one of the procedures. Inclusion of those who were interested in having surgery and were not able to afford to have surgery will also be useful to a more in-depth analysis of how stratified biomedicalization operates in the bariatric surgery space.

### **3.5.2 Thematic Analysis**

Interviews were analyzed using thematic analysis. Thematic analysis is a qualitative form of analysis and is defined as a process-oriented approach that involves using a systematic technique of identifying and coding themes (Boyatzis 1998). Richard Boyatzis (1998) defines a theme as a “pattern found in information that at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon” (p. 4) Boyatzis states that thematic analysis has a variety of purposes and can be utilized as: “a way of seeing; a way of making sense out of seemingly unrelated material; a way of analyzing qualitative information; a way of systematically observing a person, an interaction, a group, a situation, an organization, or a culture; or as a way of converting qualitative information into quantitative data” (p. 4-5).

Using thematic analysis requires the researcher to develop four distinct abilities, as outlined by Boyatzis. There are the abilities to: sense themes; recognize codes and encode them reliability; develop codes; and interpret the information within a theoretical context or conceptual framework. Thematic analysis is used by scholars in the humanities and social sciences, such as sociology, psychology, cultural anthropology, and a number of other fiends, including the natural sciences. Some researchers consider the use of thematic analysis to be problematic in that the methodology allows for greater

researcher error than other qualitative methods. Boyatzis states that the process of categorization, classification and interpretation may be skewed by: the researcher's own value system or opinions (projection); "convenience" sampling techniques; and the researcher's own fatigue and boredom during data collection and coding process. He offers a number of remedies to preventing or lessening the impact of these obstacles (p.12-16).

For this study, themes were systematically developed using an inductive approach, rather than generating themes deductively from theory and previous research. Also known as data-driven codes, this method allows the researcher to construct a theory from the raw information (p. 30). The benefit of using this approach is that its proximity to the raw data increases the reliability of the code.

Thematic analysis was supplemented through the use of a qualitative software program, NVivo, to manage and organize the field notes. NVivo 9<sup>69</sup>, developed by QSR International, handles most data, including Word documents, PDFs, audio files, database tables, spreadsheets, videos and pictures; it allows the user to classify, sort and arrange information, to help identify themes and uncover subtle trends. An automated analysis lets the researcher search for an exact word or words that are similar in meaning to test theories. The program also allows the user to display connections, ideas and findings with word trees, tree maps, connection maps and cluster analysis, as well as export and share files.

Based on initial data collection, a list of codes was developed as follows: Physical/Physiological Changes; Social Changes; Food Rules; Pre- and Post-Surgical

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<sup>69</sup> See [http://www.qsrinternational.com/products\\_nvivo.aspx](http://www.qsrinternational.com/products_nvivo.aspx) for more information on the NVivo 9 package; I was provided access to a student license through Georgia Tech.

Expectations; Role of Technology in Successful/Failed Surgical Outcomes; Role of Individual in Successful/Failed Surgical Outcomes; Decision-making; Risks/Rewards of Surgery; Gendered Norms/Expectations. From these codes, major themes emerged from this study: Contested Technologies; Gender-based Design-making Factors and Outcomes; Biomedical Identities; and Struggle for Human/Nonhuman Control. These themes form the framework for this dissertation.

### **3.6 Study Focus**

While this study places gender as the central lens of analysis, the majority (21 of 22) of the band patients I interviewed were women, as opposed to a comparative study of male and female patients. While feminist scholarship has focused largely on the role of science in shaping, controlling and re-defining *women's* bodies and thus their lived experience, more recent feminist science work has begun re-envision 'gender' to mean both men and women, particularly in the areas of reproduction (Riska 2010; Oudshoorn 2003; Oudshoorn 1999b). However, as surgery trends indicate, while only 35.3 percent of women are obese in the United States, they comprised 80 percent of the individuals who had bariatric surgery in 2006 (ASMBS 2010); in contrast, men are the majority of those considered clinically eligible for obesity surgery but were the minority of patients. Throughout the course of my research, the majority of patients I encountered – whether in support groups, information sessions, or during clinical rounds with surgeons and practitioners – were women. Men, when present, were often accompanying females to provide support, or were gastric bypass or sleeve patients. For example, a typical information session for potential patients considering all three surgical options (band, bypass and sleeve) would have 25 attendees; of those, 3 or 4 would be male and one or more may be attending the session in support of a female partner, whereas the others stated they were hoping to have either gastric bypass or sleeve gastrectomy. The same

gender disparity was shown in support group meetings<sup>70</sup>. In this way, access to men with a gastric band affected the study population.

Still, the emphasis on female patients was an intentional decision in designing this study. While the male experience with gastric banding is an important area of study, the gendered nature of surgical trends, coupled with the supposed gender neutrality of the device, presented a unique opportunity to consider whether gendered assumptions are built into the design and intended usage of the band; it was also useful in understanding how gendered embodiment affects and is affected by biotechnologies. This study draws on the work of feminist theorists (Wolf 1991; Bordo, 1993; Thompson, 1994; Bartky 2003; Braziel and LeBesco 2001; Rothblum and Solovay 2009) who argue women's bodies are subjected to a harsher brand of cultural scrutiny concerning weight and appearance. This study also draws on the work of other scholars who point to the historical pathologization of women's bodies at the hands of science and medicine (Merchant 1980; Daly 1990; Hubbard 2002; Lorber 1997; Theriot 1996, Weitz 2007; Martin 1996; Lorber 2006; Jaggar and Bordo 1989; Bordo 1993; Kaw 2002; Ratcliff 2002; Fausto-Sterling 2001). Considering these frameworks, it is critical to understand how this particular biotechnology affects the bodies and health of women. Further, as feminist science scholars have suggested, gender, race, class and other markers of social difference among users is relevant to the study of technological use; rather than view users as a homogeneous group, exploring the diversity of users acknowledge that not all users will have the same position, meaning or capability to use or mis-use

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<sup>70</sup> In support group meetings and information sessions, existing and potential patients generally went around the room before the session began to introduce themselves and tell others what surgery they had/were planning to have; for these introductions, I was able to delineate between who was had or planning to have the gastric band, and who was there in support of a friend or family member.

technology in the same way – some will have greater flexibility and ability to resist whereas others will not. I was fortunate to interview a diverse group of women of varying races, ethnicities, social classes, sexual preferences, and education levels; although my central focus was not to compare the experiences between and among these women, I acknowledge that each woman has varying experiences based on their social location.

This study also intentionally focused on one procedure, gastric banding, as opposed to incorporating and examining all types of bariatric surgery. While these results may limit applicability to other surgical methods, providing a common framework and narrow focus of study yielded richer insights than incorporating all types of bariatric surgery into a singular study. For example, the gastric band has a specific and distinct historical trajectory, as well as different risks and benefits, than other procedures. However, it is important to note that I position the band in *relation* to other bariatric options; this approach does provide a broader perspective while still allowing a narrow focus. Attendance at information sessions and support group meetings offered an in-depth view into the experiences of patients who had other types of weight loss surgery. For example, general support group meetings were attended by those who had gastric bypass, sleeve, and gastric band; thus, they provided a site by which to examine the broader-based experience of having WLS and the differences and similarities between and among patients depending on their procedure. The absence of certain patients also revealed the extent to which band patients are marginalized by other patients. Information sessions also included medical information on all types of weight loss surgery; I was also able to witness several gastric bypass surgeries, as well as a sleeve gastrectomy, which helped in my understanding of the other surgeries.

While this study provides an analysis of the gastric band, by focusing on its development and use, there is acknowledgement that there are several brands of gastric band; this study, however, was limited by the bands and generations used by the

practices I studied, with an acknowledgement that many of the patients I interviewed were not aware of which band they had implanted. While I acknowledge that the band is far from a homogenous actor, I made an attempt to generalize the band to account for these differences, while still drawing attention to the controversies and debates surrounding *both* the LAP-BAND and the REALIZE band. While I sought to ensure representatives from both of the two leading biotechnology firms which manufacture the band were included in this study, I was able to interview more representatives from Ethicon Endo-Surgery than from Allergan. Initially, I had reached out to local contacts who served as Allergan bariatric account representatives and was told I had to direct my questions via their medical information request system. I was provided with a number of medical articles and position statements concerning the band, which I incorporated into this dissertation; I was also able to secure a phone interview with Allergan's Medical Director and supplemented the interview with the medical literature, technical materials, news articles, public records from the Food and Drug Administration, and the marketing brochures I was provided throughout the course of my fieldwork. Throughout the text, I attempted to show the perspectives of both companies, despite the limitations.

### **3.7 Summary**

In this chapter, I outlined the three primary methods utilized in this dissertation: semi-structured interviews; participant observation; and content analysis. Providing an in-depth look at each of these methods, I provided a summary of the interview participants, as well the ethnographic fieldwork I collected, and the materials I included in the content analysis portion of this study. I then provided a description of the analytic methods used to organize and code the data. From these varying participant groups, fieldwork sites and scientific and non-scientific texts, I was able to form the major themes

emerging from this study: Contested Technologies; Gender-based Design-making Factors and Outcomes; Biomedical Identities; and Struggle for Human/Nonhuman Control. These themes are interwoven throughout this dissertation, forming the basis for an understanding of the both the broader social context in which the band emerged as a weight loss technology and the individual experience of being banded, revealing disjunctures, complexities, and ambiguities in these collective and individual worlds. In Chapter 4, I more closely explore the controversies surrounding the gastric band, focusing on issues concerning the band's safety and efficacy and its role in solving the obesity epidemic. I center my analysis on the major social actors with an interest in the bariatric surgical space, including biotechnology firms, bariatric surgeons, the U.S. Food and Drug Administration, public and private insurance providers, the medical community, bariatric clinicians, the weight loss surgery community, and the predominately female users of the gastric band.

## CHAPTER 4

### THE RISE (AND DEMISE?) OF THE GASTRIC BAND

The social meanings of new and existing technologies “are contingently stabilized and contestable”, their fate largely dependent on the social context in which they are developed, used and exist (Wajcman 2009, p. 7). The gastric band is likewise the product of the broader context in which it is marketed, designed and used: America’s fatphobia, the increasingly technological and scientific nature of biomedicine, and the focus on health as a matter of “ongoing moral self-transformation” are among the forces contributing to the band’s rise in the bariatric surgical space, my term for the multi-layered social arena in which bariatric surgery exists (Clarke et al. 2003, p. 172). But the band’s acceptance and viability as a weight loss technology has shifted over time as new marketing strategies are employed, new bariatric options emerge, and new scientific evidence is produced; just as forces work in concert to elevate the stature of the gastric band, others work to weaken its hold in the marketplace.

In the wake of America’s obesity ‘epidemic’, surgeons and activists lobby for increased recognition that bariatric surgery is more effective in treating obesity-related medical conditions than other non-surgical options, including pharmaceuticals and commercial diet programs. These groups do not interrogate the construction of obesity as a disease; instead, scientific discourse legitimizes the use of surgical solutions to ‘cure’ obesity by bringing attention to the ‘deadliness’ of the disease. Other groups threaten this position, challenging claims of surgical efficacy and drawing attention to the complications stemming from bariatric surgery; social science scholars and advocacy groups have also disputed the validity of the obesity ‘epidemic’ and the belief that ‘fat’ equals unhealthy (Campos et al. 2006; Oliver 2006; Gard and Wright 2005; Boero 2010,

2012; Conrad 2007). Within this contested space lies the laparoscopic adjustable gastric band (LAGB or 'gastric band'), the only medical *device* used in the "fight" against obesity. When it emerged in the U.S. market, drawing off documented success in Europe and Australia, the LAP-BAND exploded in the surgical marketplace, due largely to intense direct-to-consumer advertisements, offering a less invasive surgical option for obese patients. More than 10 years later, just as the public – influenced by growing accounts of America's obesity epidemic and organized advocacy efforts to draw a link between bariatric surgery and resolution of type 2 diabetes, one of obesity's most dangerous consequences – begins to recognize the value of bariatric surgery, the band struggles to retain its momentum, particularly as new surgical options emerge. While the biomedical firms that manufacture and market the gastric band claim the band is "proven" to allow patients to "take charge of their weight — and their health", the band's popularity continues to erode in the U.S. marketplace (Allergan, n.d.d).

This chapter examines the multiple, sometimes conflicting constructions of the gastric band, put forth by some of the major social actors with an interest in the bariatric surgical space, including biotechnology firms, bariatric surgeons, the U.S. Food and Drug Administration, public and private insurance providers, the medical community, bariatric clinicians, the weight loss surgery community, and the predominately female users of the gastric band. These collective actors are not unified, but remain – sometimes sharply - divided on *which* surgery is better, *which band* is better, and *who* – or *what* – is to blame for poor results. At the center of the controversy remains the most salient non-human agent of all – the gastric band – itself an unstable actor which has undergone numerous design modifications and generations, changes which are partially attributable to its construction as an *ineffective* technology. In this chapter, I discuss how efforts to sell the gastric band directly to consumer helped usher in the band as viable weight loss technology. I present the band as a contested technology: its safety and

efficacy in affecting weight loss outcomes – both in the short and near-term – remain continually challenged, thwarted, commended and condemned. While the band showed initial promise as an alternative, viable option in efforts to “solve” the nation’s obesity epidemic, I will argue its stability is threatened by a variety of social actors. I position the debate about the band’s efficacy as linked largely to concerns on the part of clinicians and biomedical firms about *patient* compliance, suggesting the viability of the gastric band as an effective weight loss technology is in question, as long as patients are perceived to be in ‘control’ of outcomes; these patient-blaming discourses, in turn, obscure the technological malfunctions of the band and reduce the responsibility of clinicians with implications for patient care.

#### **4.1 Selling the Gastric Band**

Every year, 108 million Americans – 85 percent of them women – go on a diet; most dieters make four or five attempts each year to lose weight (ABC News 2012). America’s efforts to shrink its growing waistline has amount to a \$20 billion dollar a year industry, stemming from the sale of diet books, diet drugs, and commercial diets featuring high-paid celebrity spokespeople (ibid). It is these engagements – and failures – with dieting that drives many into the bariatric surgical space, a space that has become increasingly bombarded with marketing tactics which relay the severity of obesity and underskirt the risks associated with weight loss surgery (Salant and Santry 2006).

While the band has been sold in the United States since 2001, it didn’t explode into the marketplace until Allergan’s \$3.2-billion acquisition of breast implant maker Inamed Corp. in 2006 (Associated Press 2006; Rundle 2008). Although Allergan bought Inamed for its portfolio of cosmetic medical devices, the company “quickly realized the real jewel was Lap-Band,” David Pyott, Allergan’s CEO, said in a 2008 *Wall Street*

*Journal* article (Rundle 2008). Shortly after the acquisition, Allergan rolled out an extensive direct-to-consumer advertising campaign for the LAP-BAND – an unusual tactic for a medical device (Erdely 2008); its campaign included a television commercial featuring a distressed woman trying to "tame" a roaring lion pulling her into a refrigerator (Rundle 2008). Within a week of launching the campaign, visits to Allergan's Lap-Band website increased nearly fivefold and sales of the device soared 50% to \$270 million in 2007. Still, it was the backing of healthcare giant Johnson & Johnson that lent credibility to the device, parlaying the gastric band from a "gimmick" to a viable option in the obesity market; with its "small army of specialized salespeople selling other bariatric surgery supplies and instruments" Ethicon pushed its product onto the marketplace, but has not sought to expand its BMI threshold like its competitor Allergan (Rundle 2008).

Although Ethicon had the stronghold in the marketplace for bariatric surgical instruments, to compete in the gastric band market, Ethicon launched RealizeMySuccess.com<sup>71</sup>, a website that allowed bariatric patients to track and monitor their progress, gave banding patients the ability to create a 3-D model of themselves and see what he or she might look like after a dramatic weight loss (Ethicon 2009; Rundle 2008). In response, Allergan shifted its strategic by focusing on the *health* benefits associated with the surgery, and rolled out a new multimillion-dollar LAP-BAND

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<sup>71</sup> Ethicon Endo de-activated Realize mySUCCESS, an online site for patients, in April 2012. The website states: "Weight loss support and behavior modification are important components of your weight-loss process. Your surgeon's practice is and should remain your key contact for post-surgical support. We've also compiled a list of weight-loss management resources from third-party sources that may be helpful to you, based on feedback from REALIZE mySUCCESS users. Many of these programs provide journaling and tracking options, as well as additional features such as social networking and food lists." The site redirects users to [www.MyFitnessPal.com](http://www.MyFitnessPal.com), [www.Caloriecount.about.com](http://www.Caloriecount.about.com), [www.SparkPeople.com](http://www.SparkPeople.com), [www.LIVESTRONG.COM](http://www.LIVESTRONG.COM), [www.FitDay.com](http://www.FitDay.com), [www.choosemyplate.gov/SuperTracker](http://www.choosemyplate.gov/SuperTracker), [www.WeightWatchers.com](http://www.WeightWatchers.com), and [www.ObesityHelp.com](http://www.ObesityHelp.com).

campaign in 2008, targeting its commercials to female audiences of daytime soap operas (Rundle 2008). Allergan also signed a co-marketing pact with Covidien Ltd. to scout out general surgeons interested in the banding business; Ethicon likewise began courting surgeons and training them on REALIZE band surgical techniques. Potential patients can now visit both companies' sites for band surgeons offering free information seminars in their city or region. Both companies – as well as private hospitals and surgery centers – rely extensively on the use of patient testimonials to draw more patients into the bariatric surgical space. These testimonials – featuring 'successful' patients who lost substantial amounts of weight and 'reclaimed' their life as a result serve as powerful images luring potential consumers (Salant and Santry 2006; Murray 2009).

Not held to the same advertising standards as Allergan and Ethicon by the FDA, banding surgery has been promoted by a growing number of outpatient banding centers; with the backing of venture capitalists, the multi-site centers "spend liberally on marketing to lure cash-paying customers<sup>72</sup>". Dallas, Texas-based True Results clinics have launched extensive television campaigns throughout the state and performed more than 11,000 surgeries since 2001. In Texas, "we basically took the Lasik playbook and ran it for banding," founder Peter Gottlieb said in a *Wall Street Journal* article. Operated by The American Institute of Gastric Banding, True Results' National Medical Director is Australian surgeon Dr. Paul O'Brien, one of the world's leading experts in the band – and one of the leading researchers producing scientific evidence that the band is a safe and effective device. The company has since expanded its clinics to Arizona and

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<sup>72</sup> Gastric banding surgery costs are considerably less than those of gastric bypass or sleeve gastrectomy.

unsuccessfully attempted to move into the Atlanta, Georgia marketplace (personal communication). Similarly, oBand Surgery Centers Inc., with surgery centers in Los Angeles, Las Vegas, Orange County, Calif. and South Florida, ran billboard ads on busy thruways in Los Angeles and ran commercials on the "Dr. Phil" and "Oprah Winfrey" television shows, in an effort to target female consumers. In a 2008 *Wall Street Journal*, Atlanta-based bariatric surgeon Dr. Ken Champion said: "There's no question that advertising and the commercialization of the band is what's driving it" (Rundle 2008). These tactics – working in concert with other social forces permeating the bariatric surgical space – helped propel the band's rise to popularity in the United States.

#### **4.2 (De)Constructing the Gastric Band**

*In the Operating Room of an urban public hospital, a team of nurses, an anesthesiologist, a bariatric surgeon, and surgical assistant begin to prep another patient for gastric banding surgery. Mr. Rodriguez, a 36-year-old African American male, lays motionless on the table, as the anesthesiologist asks him to count backwards until he falls asleep. On a metal table just a few feet from his tan, sock-covered feet, there's an unopened, plastic-covered box for the LAP-BAND AP Adjustable Gastric Banding System. Dr. A explains that the patient's kidneys are deteriorating – he's on a waiting list for a transplant, but must lose 100 pounds first. "It's good motivation," says Dr. A. The anesthesiologist remarks, "he's so young to have so many problems," while a nurse scrubs down his body. "This is the sickest young person I've ever done for you," she continues. The surgeon replies that this is Mr. Rodriguez's second attempt at bariatric surgery – "he's canceled before because he had uncontrolled renal failure." One of the OR nurses opens the LAP-BAND box and begins to flush the small device with saline, the word ALLERGAN boldly written in black ink on the wide white silicon belt, as music blares from small speakers attached to the surgeon's iPhone. Dr. A makes the first incision shortly after 10 a.m., and makes two more, inserting trocars through each, pushing the instruments and the band through the abdominal cavity, allowing tiny cameras to see inside his body. He guides his instruments through the colon, then large intestines, and small bowel, watching the high definition monitors positioned all around the patient. He moves to the stomach and begins to wrap the band around the top portion of the stomach, buckling it; with Kanye West and Dave Matthews playing in background, Dr. A stitches the band in place to prevent erosion and minimize the risk of slipping. He then begins to place the quarter-size port on the patient's right side, using the deployable hooks to anchor it to the fascia, sewing it for extra security. He removes the instruments and the trocars and begins to sew the incisions, less than 30 minutes later. When complete, he shakes his team's hands and tells them "good work" as he makes his way over to the telephone to call in his notes, clinically describing Mr. Rodriguez as a morbidly obese man with hypertension and diabetes. The anesthesiologist begins to wake him out of his slumber, 'Cornelius – can you open your eyes?', as one of the nurses calls for bed help to OR 6. "If he just follows up, he'll do*

*well,” says Dr. A. as he leaves the OR, en route to the waiting room, where the patient’s sister is waiting.*

As this scene from the operating room suggests, the band is many things – a life-saving device, a second chance, a tool, and a commodity product; but while the band is merely a device in its materiality, symbolically, the band itself is laden with meaning and is shaped by its socio-cultural context, existing alongside high-tech machinery and specialized instruments, and discourses that reaffirm the health-related consequences of obesity and legitimize surgical intervention in curing “sick” bodies. While the OR and its inhabitants suggests acceptance of the band as a viable option in ending the nation’s obesity epidemic, the band’s role is actually complex, shifting, and multiple.

In the contentious battle over bariatric surgery, a diverse arena of actors “deploy their constructions to convince others of the validity of their perspectives, to create alliances, to denigrate enemies, and to further their own divergent interests” (Clarke and Montini, 1993, p.44). None of these actors – including the most salient non-human actant, the gastric band – is homogenous and among these groups, stark differences arise as they jockey for power, acceptance, or market dominance. While some actors seek to gain greater social, scientific, governmental acceptance of bariatric surgery, others debate the efficacy of one of its newest biomedical interventions for obesity, the adjustable gastric band. New actors continue to emerge in this space – including threats to the gastric band market, in the form of new obesity devices and new surgical techniques – which both challenge the band’s sustainability as a weight loss technology and strengthen its dominance as an alternative to more invasive types of bariatric surgery (Kaplan 2011). Drawing on published news articles, press releases, advertisements and marketing materials, personal interviews, and observations of weight loss surgery forums, patient videos and testimonials, this analysis focuses on

issues concerning the band's safety and efficacy and its role in solving the obesity epidemic.

#### **4.2.1 The Gastric Band**

While patients, surgeons, medical providers, and the news media often construct the gastric band as a homogenous actor, generally called the “lap band” regardless of brand name or simply “lap band surgery,” the existence of two bands on the U.S. market – each with several major and minor design changes in their respective histories – dismantles the notion that there is a singular ‘gastric band’. Although each company only sells its latest version, LAP-BAND AP Standard (APS) and AP Large<sup>73</sup> (APL) and REALIZE C, a bariatric account representative from Ethicon estimates there are 7 or 8 different types of bands currently implanted in patients in the U.S. alone (personal communication); the existence of multiple bands – each with varied surgical techniques for placements and differing fill volumes – has been problematic from both a patient care standpoint and a perception about the efficacy of the band (personal communication).

Entering the U.S. market in 2007, six years after its competitor, Ethicon faced “an uphill battle” to establish itself as a distinct brand, explains an Ethicon Bariatric Account Representative: “even now, ‘lap band’ is a generic term - it’s like trying to sell copies against Xerox or tissues against Kleenex” (personal communication). The Principal R&D Engineer at Ethicon likewise points to the challenge in differentiating REALIZE in a crowded market, adding that reliability will be the differentiating factor between the two brands:

Everyone calls our band the Lap-Band, just like everyone calls a Band-Aid a Band-Aid even though it’s a trademark, everyone calls

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<sup>73</sup> Intended for the “largest anatomical situations” (Allergan 2013c).

it a Band-Aid or a Coke, there's really not a whole lot of difference between them....it's almost like the band has reached the point where it's almost a commodity product. Really what it comes down to now is who can make one more reliable than the other - they all work the same way, they're all accomplishing the same thing, there hasn't been, I don't believe there's, enough data out there that says one works better than the other from the weight loss perspective because when you look at the percentage, in my opinion, when you look at the percentage it's 75 percent or more is patient ability to be compliant, that kind of oversees the other percentage side of it of the actual performance of the band doing the work (personal communication).

The commodification of the band – evidenced overtly in the operating room where Allergan's name is branded prominently on the implanted band much in the same way one might wear a name brand t-shirt or carry a designer purse – makes it distinctly different than other bariatric procedures. But to differentiate the products from one another in the marketplace, as the engineer from Ethicon indicates, limited research (Cunneen et al. 2008) has demonstrated there is no difference in long-term outcomes between the LAP-BAND and REALIZE bands in terms of excess weight loss (EWL) or change in patients' BMI post-surgery. But here, the engineer also expresses the criticality of *patients'* compliance with the post-surgical guidelines, diminishing the culpability of the band in effecting outcomes; this discourse infiltrates much of the bariatric surgical space, laying the foundation for the minimization of the *technology* as responsible for failed outcomes.

Compared to low-calorie diets, pharmacotherapy and lifestyle changes, the band has been shown to be statistically significant in terms of its effectiveness in reducing patients' weight, resolving metabolic syndrome and improving quality of life over a two-year period (O'Brien et al. 2006); another study (Dixon et al. 2008) found the gastric band to be more effective than conventional diabetes therapy in resolving Type 2 diabetes among patients in Australia. Though these studies point to improved health

outcomes as a result of the band, many of the researchers – such as Dr. Paul O’Brien who has received funding from Allergan and serves as medical director for the surgical band ‘chain’ True Results in the U.S. - have links to band manufacturers and a vested financial interest in promoting the effectiveness of the device. Still, in the competitive bariatric surgical space, the band’s outcomes are continually challenged and commended, with conflicting medical research demonstrating the results of the gastric band to be inferior *or* on par with other bariatric procedures, particularly the gastric bypass, from the perspective of weight loss outcomes and resolution of obesity-related diseases. In a systemic review, Tice et al. (2008) report excess body weight loss (EWL) was 76% with Roux-en-Y gastric bypass versus 48% with laparoscopic adjustable gastric banding; in this study, diabetes was resolved in 78% versus 50% of cases, respectively. In a large randomized trial, Nguyen et al. (2009 Prospective randomized) find that, while both the band and the bypass are “safe and effective approaches for the treatment of morbid obesity” (p. 631), the percent of excess weight loss was higher for the bypass patients (68% +- 19%) compared to band patients (45% +- 28% after four years). One study (Weichman et al. 2011) finds that band patients lost 52.9% Excess Weight Loss after 3 years. Nguyen et al. (2009) show that, at year one, gastric bypass patients achieved 64% EWL, while gastric band patients lost 37% EWL. Tice et al. (2008) find excess body weight loss at 1 year was consistently greater for Roux-en-Y gastric bypass than laparoscopic adjustable gastric banding (median difference, 26%; range, 19%-34%). Resolution of comorbidities was also greater after Roux-en-Y gastric bypass. In the highest-quality study reviewed by Tice et al. (2008), excess body weight loss was 76% with gastric bypass versus 48% with gastric banding, and diabetes was resolved in 78% versus 50% of cases, respectively. In a meta-analysis comparing results of gastric banding to laparoscopic sleeve gastrectomy (LSG), Wang et al. (2013) show LSG achieved greater EWL, with the mean percentage EWL for LAGB 37.8 %

after 12 months and EWL was 51.8 % for the sleeve gastrectomy. LSG also had better results in treating type 2 diabetes. Researchers find that, despite the low short-term complications associated with the band, the result of the band to be “suboptimal” and conclude that the gastric band surgery is a “disservice to many morbidly obese patients” calling for gastric bypass to be “treatment of choice” for morbidly obese patients (Guller, Klein, and Hagen 2009). However, despite evidence that suggests the band is inferior to the bypass, in a systematic review of medium-term (less than 3 years) and long-term (greater than 10 years) outcomes for several bariatric procedures, O’Brien et al. (2006) found that, while there was greater excess weight loss for gastric bypass than the gastric band, there was no statistical significance between the two procedures at years 3, 4, 5, 6, and 7. Nadler (2008) find that, despite bariatric surgeons’ preference of bypass over the gastric band, adult and adolescent gastric band patients had equivalent weight loss with significantly less morbidity. A number of studies (Irani et al. 2011; Chin 2009; Gobble et al. 2007) have shown the gastric band to be safe and effective as a revision procedure following a failed gastric bypass procedure. The competing and contradictory research results surrounding the band – as well as other bariatric procedures - reveal the ways in which the scientific community itself remains sharply divided about the effectiveness and benefits of all forms of bariatric surgery. The lack of consistency in findings is often linked to the study design and technical matters, and attribution of causality where one does not exist, making it difficult for some members of the lay public to assess the validity of research results, complicating their ability to make informed choices.

While some scientific evidence suggests the band has comparable results to other procedures, studies (Favretti et al. 2007; Puzziferri et al. 2008) have reported highly variable weight loss *among* gastric banding patients which contributes to a lower mean EWL percentage. Snyder et al. (2010) similarly find that the gastric band has the

greatest variation in its level of 'success'; while there no consensus of a formal definition of 'failure' in bariatric surgery outcomes, most definitions focus around a failure to achieve a satisfactory percentage of EWL or a certain reduction in BMI. Snyder et al. (2010) find that 16.7% of band patients had 'poor' weight loss, which was defined as losing less than 20% of their excess weight; failure rates in the first several years after surgery range from 10%–20%, with greater failure rates occurring the longer the band is in place (p. 60). Rather than focus on 'success' as linked solely to percent of EWL, the authors argue there are other measures of successful outcomes, including: percentage of body mass index (BMI) lost; reduction in BMI; improvement in obesity-related medical illnesses; and improvement in other quality of life (QoL) indicators. Snyder et al. (2010) also argue there is limited long-term data on the band's results, due to the U.S. lag time in adoption, compared to Europe, Asia and Australia, which began using the band in the 1990s; the authors argue there is also better patient follow-up in Europe because surgical services are provided by a national healthcare system. Although some researchers (Nguyen et al. 2009; Schouten et al. 2013; Snyder 2010) conclude that the band is an effective weight loss technology, follow-up is considered paramount to successful outcomes. Here, and in other contexts, the idea of *patient* compliance becomes central to discussions concerning the efficacy of the gastric band. And despite the inconsistency in the findings and the debate within the medical community, scientists remain unified in the belief that "fat is bad" and surgical intervention is the only viable alternative to ending the nation's obesity epidemic (Boero 2012, p. 129).

Overall, the band's safety record has been heralded by a number of researchers (Ray and Ray 2011; Snyder et al. 2010; Eid et al. 2011; Kuzmak 1991); however, a growing body of evidence suggests that while the morbidity rates are significantly lower with the band than other bariatric procedures, there are higher rates of reoperation following gastric band surgery. Numerous studies (Nguyen et al. 2009; Tice et al. 2008)

report gastric bypass patients had higher perioperative and late morbidity rates and a higher 30-day hospital readmission rate; however, Tice et al. (2008) show that reoperation rates were higher among patients who received the laparoscopic adjustable gastric banding and Mittermair et al. (2009) and Balsiger et al. (2007) similarly report high rates of reoperation (32%) for complications related to band slippage, pouch or esophageal dilation, band erosion, and port or tubing complications. Snyder et al. (2010) point to changes in surgical technique which have reduced the band slippage or prolapse rate to about 4 percent. Conflicting safety and effectiveness evidence surrounds the band, as well as other bariatric procedures; a bariatric account representative at Ethicon explains that while no surgery is completely without drawbacks, bariatric surgery remains the only viable solution to the nation's obesity epidemic:

The problem with all the procedures is whether or not it's a lifetime solution for everybody. And the answer is it's not. The question then becomes, what's the alternative? Because the long-term success rate for any of the three procedures...it's not 100 percent, but it's the best we've got, it's a lot better than medically managed weight loss in the long term (personal communication).

Despite the Ethicon representative's belief that bariatric surgery is a better alternative than medically managed weight loss, the lack of consistency in research results brings into question the validity of this premise; it also obscures the possibility that there are other alternatives to obesity – that is, to *not* engage in scientific or medical management and to *remain* obese.

#### **4.2.2 Biomedical Companies**

In the United States, two pharmaceutical companies compete in the gastric band market: Allergan, the seller of the LAP-BAND, and Ethicon Endo-Surgery, Inc., the maker of REALIZE. The LAP-BAND has dominated the U.S. market since 2001; the

REALIZE C band - a re-name and re-design from the Swedish Adjustable Gastric Band (SAGB), which has been used in Europe since 1986 – didn't receive FDA approval to sell its version of the gastric band until 2007. Although Ethicon sought to gain entry in "one of the fastest-growing areas of surgery today," providing a "minimally invasive alternative for people who otherwise might not consider a weight loss surgery method" (Johnson & Johnson 2002), the band market has been wrought with challenges. While the overall bariatric surgery market has declined, due in part to the economic collapse in the U.S. and shrinking insurance coverage of the procedures (Elliot 2012), the band market in particular has experienced dramatic losses: in 2011, it made up 44 percent of all bariatric surgeries, by 2012, its share had declined to one-third. Simultaneously, the number of gastric bypass procedures has increased and the sleeve gastrectomy has become increasingly covered by insurance providers. The Ethicon product development manager for the North American market estimates the overall band market declined 22 percent in 2010, while Allergan reported sales of the LAP-BAND fell for the fifth consecutive quarter in 2012 (Pfeifer 2012). In 2008, Allergan's band sales peaked at \$296 million; they declined to \$37.4 million in the third quarter of 2012 (Pollack 2012).

The declining sales of the gastric band are the results of a culmination of forces – including early marketing efforts put forth by Allergan that promised a 'cure' for obesity, a flood of unqualified surgeons jumping into the band surgery business, and lack of follow-up and aftercare for band patients – that have led to a backlash, according to Ethicon's North America Product Development Manager:

...this was the first procedure that was really marketed to the customer and it was marketed as 'cure your hunger', diets doesn't work, lose weight fast. The band doesn't cure you – all the band does is kick start you to change your behavior and lose weight and keep the weight off long-term. It's one of things that you reap what you sow. The reason ...[there's] a precipitous drop in band procedures being done... they did such an effective job of marketing the band early on in 2001, they had no competition but the message was lose weight fast, cure your hunger, the band's

going to cure you and a lot people got, a lot of patients saw these ads and responded to this, a lot of surgeons saw this, people coming to their office, everyone saw this as a quick solution, the doctors saw it as a way to make money fast instead of doing a bypass procedure which has a very low complication rate but things when they go wrong can go really wrong, hey I can do three bypasses in a day but I can do 7 bands in a day and my reimbursement's the same, which led to the proliferation of people doing bands left and right and unfortunately in my estimation and what we've seen many doctors were putting these bands in – the procedure isn't difficult – but they weren't taking care of the post-operative piece associated with what needs to be done for the patient to make them successful. What you're getting now is 8, 9 years of snowball effect of patients going "I'm not losing weight or I've regained my weight" and now you have this undercurrent of people saying the band doesn't work – the band works wonderfully if it's managed appropriately and appropriate expectations are set (personal communication).

While the band has "lost luster among bariatric surgeons because studies suggested it was not effective in the long run for one-third to two-thirds of patients" (Pollack 2012), biomedical firms claims that inconsistency in patient outcomes is attributed to *surgeon's* unwillingness to deal with patient aftercare The product development manager of Ethicon explains:

One is you've got a group of patients that didn't do well and they're telling their story of why they didn't do well and you've got a group of surgeons going 'I don't feel like dealing with these damn patients anymore that didn't do well – they're a drain on my time and my practice resources, I'll go back to stapling where I can get more consistent outcomes. And I don't have to deal with post-op adjustments. I operate on Monday, I see you on Wednesday, you leave the hospital Wednesday, you come to my office three weeks later, I check you again in 3 months and we're pretty much done'. Less time, less care, less issues with the patients (personal communication).

While some surgeons believe the band is a considerably less-effective weight loss technology compared to the gastric bypass, the Medical Director at Allergan explains that patient outcomes are influenced by multiple factors – including surgeon follow-up and lack of compliance on the part of patients - which drives the notion that the band is

not effective, relative to other options; he also points to lack of quality data with respect to consistency in surgical technique and brand and generation of the gastric band:

With the band as opposed other bariatric procedures, there's some additional variation and variability that's important to quantify, and what I mean by that is the current band is the latest model and it is far improved compared to previous bands, in fact , when you look at the FDA presentation...you would see that they compared the old study, what's called the A Trial with the first band to this study and the rates of complications are far fewer with the new band...part of that is due to the band and part of that is due to the surgical technique that has changed. So when you read studies that say here's 10 year data with the band, well it's kind of a mix of things now because you're looking at old bands, old techniques and that's one component, and how often a patient comes in for adjustments. If you assess those adjustments, it's highly variable as opposed to bypass – when you do the bypass it's pretty much done, so there's some variability to it. It makes it harder to really say here's the standard you can really expect because it's partly user dependent (personal communication).

The variability in patient outcomes remains the Achilles heel of the gastric band, driving many surgeons and practitioners to steer their patients away from the band and toward more invasive procedures, like the gastric bypass, with a longer history of data, or 'in-between' procedures, like the sleeve gastrectomy (Pollack 2012). A Bariatric Account Representative from Ethicon explains that, because the band is a purely restrictive device, unlike other bariatric procedures, patients' role in making 'lifestyle changes' – compliance with the post-surgical 'rules' and regularly maintaining their fills – is critical to doing well with the band:

The biggest complaint is just inconsistency. [Surgeons] talk about this quite a bit...a roux-n-y patient will lose weight in a very predictable manner for the first 12 months, maybe 18 months. And after maybe they gain it back, maybe they keep it off. A band patient some of them do great, they lose all the weight, do phenomenally well in the excess as far as weight loss, what's expected, what data has shown. But some just struggle, they don't do well. The way I kind of framed it is with the band, with any band, the patient has to make a lot of lifestyle changes and whether they make the lifestyle changes or not, would dictate

whether they lose the weight. With the roux-n-y, the patients will lose the weight regardless of whether they make the lifestyle changes or not...(personal communication).

Here, band *patients* are presented as responsible for both successful and unsuccessful outcomes; for those who 'succeed' by medical terms, their 'commitment' to the process is heralded by a diverse group of others, but for those who "don't do well" this emphasis on patient accountability has implications in the clinical encounter.

Along with the variability in patient outcomes, both Ethicon and Allergan have reported mixed outcomes which are below the threshold of 'success' post-bariatric surgery, often defined as Excess Weight Loss of 50%; however, this definition is often contested among surgeons and biotechnology firms, with respect to other 'success' indicators, such as improved quality of life (Snyder et al. 2010). Ethicon reports that, in a 3-year clinical trial, patients lost a mean of 40% of their excess weight at 1 year and 43% at 3 years. The REALIZE Band helped resolve 48.7% of type 2 diabetes, 78.3% of high cholesterol, and 94.6% of obstructive sleep apnea problems (Ethicon n.d. c). Patients experienced a 22% increase in good cholesterol (HDL) 36 months after surgery. They also experienced a decrease in bad cholesterol (LDL), total cholesterol, and triglycerides (ibid). In its original Premarket Approval (PMA) study, LAP-BAND patients had a mean excess weight loss (EWL) of 36.2% at 36 months. In an ongoing study, at 12 months, patients with the LAP-BAND System had a mean Excess Weight Loss (EWL) of 47.5% (Allergan n.d. d). Allergan reports that in separate studies weight loss with the LAP-BAND was shown to help improve and resolve conditions, such as asthma (93%), Type 2 diabetes (90%), sleep apnea (93%), gastroesophageal reflux (90%), and hypertension (79%). Allergan also presents results of an international study reviewing long-term results of multiple studies over a 5-year period, which shows LAP-BAND patients lost 55% of their excess weight. After three years, results with the LAP-BAND and REALIZE band are shown to be comparable, with patients achieving EWL of 43%.

The gastric bypass's resolution of diabetes is often lauded by a diverse group of actors, who point to evidence of diabetes remission as proof that bariatric surgery is a necessary treatment for obesity; as a result, biotechnology firms have attempted to show similar results in efforts to improve acceptance for the surgery, drawing on scientific evidence that suggests band surgery 'pays for itself' in two years for patients with diabetes (Allergan 2011e). Allergan's Medical Director challenges the claim that the gastric bypass has superior results to the gastric band:

There's a perception that bypass cures diabetes right away before they leave the hospital. But what do we know about that? If you take a patient with Type 2 diabetes and you basically didn't give them any food, their blood sugar is going to be pretty darn normal. And that's what happens in a bypass patient is that they have this surgery and they can't eat anything for a couple of days practically and then it's hardly anything for a while, so that's why in the first 3 months they lose weight so much faster because they're recovering from this drastic procedure and they have very little caloric intake (personal communication).

The marketing manager at Ethicon thinks otherwise, stating that, while the band has good weight loss results, gastric bypass has the "best results long term." Positioning the band as having similar results to bypass was more of a marketing effort, rather than an evidence-based statement, explains the product developer:

..when the Lap-Band came out in the U.S. in 2001, they were going up against gastric bypass, they were trying to illustrate that this was as effective as gastric bypass weight loss and I think to find anybody who that would say that's an accurate statement has a vested interested in the Lap-Band. I think both work...gastric bypass is by far the number one weight loss procedure done in the U.S. and has the best results long term, I don't think anyone is going to argue with that, the data that tells you that (personal communication).

However, the medical director of Allergan – an internist - believes that the overall lack of *quality* data in the broader field of bariatrics is problematic, adding that poor-designed

research studies have also driven the perception that the band is a faulty alternative to gastric bypass:

My annoyance at this whole space is just coming into it as an internist and coming into industry working on diabetes and cardiovascular disease where we have trials of thousands of patients, so very, very good data and you come to a surgical space where they do 60 patients and say this changes how we practice. I'm sorry, you haven't convinced me. I think there's such a lack of good quality data that, from my perspective, generate that before we say anything is per se dead. Because we don't honestly know which is best until we generate that information....I think it's way too early to say a band is dead until we have better quality data. Because I think there's such a need for people to lose significant amount of weight, I think there's a role for a lot of different procedures (personal communication).

Allergan's defense of the band is linked to their limited share in the bariatric surgical marketplace; while Allergan has one obesity device approved for use in the United States, Ethicon – which has products in all segments of the bariatric market – is “procedure agnostic”, explains a clinical scientist at Ethicon. The company's official position is that all three procedures – band, bypass, and sleeve - “have demonstrated efficacy for losing excess weight and improving comorbidities” with that caveat that “certain procedures may be more appropriate for certain patients” (Ethicon n.d. d). The clinical scientist explains further:

If a patient is not going to benefit from the band, it doesn't help us to sell the band to that patient because a bad outcome is not eventually going to be good for our business and also it's basic economics, [it's] good for our business if the patient goes and gets a different bariatric surgery, we have solutions for those other bariatric procedures as well (personal communication).

As the scientist indicates, the emphasis is on growing the overall market for bariatric surgery, relaying an important component of the drivers of bariatrics – economics.

#### 4.2.2.1 Safety Claims and Controversy

While many bariatric surgeons and patients generally consider the gastric band as safer and less invasive, compared to other surgical options, several high-profile LAP-BAND-related deaths in 2010 have threatened to further erode the band's share of the bariatric surgery market – and compromised LAP-BAND's reputation as the “1 selling gastric banding system in the world” (Allergan, n.d. b). Despite the negative publicity, Allergan touts a “18-year safety and effectiveness record”, and often positions the LAP-BAND as considerably *safer* than other procedures, particularly the gastric bypass (ibid); pointing to “increased risk of post-operative complications”, Allergan cites statistics on the higher mortality rate for gastric bypass – 0.5% relative to the 0.05% for the band, as well as major complications (23% for the bypass; 0.2% for the band) and risk of nutritional deficiencies stemming from a malabsorptive procedure<sup>74</sup>. Allergan also publicizes both online and in its print advertisements that gastric bypass has a 10 times higher risk of short-term death following surgery compared to LAP-BAND (Allergan, n.d. e). Both companies provide information online and in their marketing materials on the risks associated with gastric banding, including band erosion, band slippage, port displacement, tubing-related complications including port disconnection and tubing, band leak, esophageal spasm, gastroesophageal reflux disease (GERD), inflammation of the esophagus or stomach, and port-site infection – all of which are constructed as relatively minor compared to the “major complications” associated with the gastric bypass and,

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<sup>74</sup> By late March 2013, Allergan had re-designed its website and its strategy concerning positioning the LAP-BAND in the bariatric surgery marketplace; its new efforts are centered as constructing the sleeve gastrectomy as a more dangerous and less effective procedure than the band and gastric bypass by pointing to a “3 times greater chance of readmission to the hospital, 3 times greater chance of reoperation, and 3 times the length of hospital stay following the procedure” (Allergan 2013a).

more recently, the sleeve gastrectomy. However, the Product Development Manager for Ethicon explains that while the band is safe, its complication rate is higher, despite most patients' association of safety with "being on the table and waking up":

..what we're finding right now is that the band probably has higher complications. It's safe and effective and it's probably the safest from a complication, no one technically dies from a gastric band procedure. If you look at it from a pure complication standpoint – nausea, vomiting, port disconnects, port flips, band leaks - those are all complications that sometimes require a secondary intervention. I think when people equate safety to being on the table and waking up, that's what the patient population equates to safety, which is safety but when you take a look at what are the complication rates beyond that extreme I think people would kind of wake up and say I didn't know that, I wasn't aware of that (personal communication).

Complication rates, as well as poor outcomes, however, are sometimes attributed to incorrect *surgical* techniques; placement of the band during surgery is a "fine art" – placing it too high on the top of the stomach lessens the amount of food patients can eat but "the higher you put it, the more complications you have in terms of patients vomiting up food, nausea, vomiting, swallowing difficulties", explains a clinical scientist at Ethicon (personal communication). If a band is placed too loosely, then it will not provide the proper level of restriction, but if the band is placed too tightly, it can lead to heartburn, reflux, or chronic vomiting, possibly requiring a revisional surgery to another bariatric procedure (O'Brien 2011). Each band has its own specific guidelines for surgical placement, but sometimes surgeons "use the same techniques for both bands. And then they come back and say your band is not working right or it's too loose or whatever, but they didn't follow the method that was for Lap-Band not for Realize band and that's so hard to get across, that there are two different products that have to be placed slightly different," explains the principal R&D engineer at Ethicon (personal communication).

Although Allergan was not implicated, false advertising of the benefits of the LAP-BAND has been the subject of FDA action; in 2011, the FDA issued a series of warning letters to eight surgery centers in California for misleading advertising (FDA 2011c). The FDA charged the centers, along with marketing firm 1-800-GET-THIN LLC, with failing to provide required risk information, including warnings, precautions, possible side effects and contraindications on its ads. The ads — splashed on billboards, bus placards, newspaper advertisements in Los Angeles and San Diego, and shown on television, radio and the Internet — feature slender, smiling men and women claiming they lost massive amounts of weight and gained control of their lives after Lap-Band surgery, without specifying the risks associated with the procedure (see Figure 4.1).



**Figure 4.1: Billboard advertising the LAP-BAND (Source: Tauger 2011)**

The advertisement shown above also reaffirms the *gendered* imperative to lose weight and improve one's appearance, reflecting our culture's obsession with slenderness which has particular ramifications for women. The proliferation of these images in public spaces normalizes the engagement with technology – and the ease of its adoption - in efforts to meet the dominant cultural standard of beauty. And in so doing, obscures the associated risks.

The FDA's action followed the death of five patients in California who passed away shortly after their LAP-BAND surgeries in 2010 (Hiltzik 2010; Ross and Galli 2012). The companies were required to pull their misleading advertising and to notify FDA within 15 working days of their actions, or face additional consequences, including product seizure or civil money penalties; Allergan, which stopped selling the LAP-BAND to the company in 2012, is not named in the letters or as a defendant in pending wrongful death lawsuits filed against the surgery centers. Still, legal troubles for Allergan are mounting; in May 2012, Allergan was issued a subpoena from the U.S. Department of Health and Human Services' Inspector General; in January of that year, House Democratic lawmakers from the Committee on Energy and Commerce called for hearings on medical devices, including the LAP-BAND, following a study in the medical journal *Archives of Surgery*, that found almost half of patients with a gastric band had no weight loss or needed the device removed after six years (Flinn 2012). In an interview with a Bloomberg reporter, Allergan company spokeswoman Naziah Lasi-Tejani stated the study used an older band and older surgical technique, which affected weight loss (Nussbaum 2012). She added that a newer version of the band and updated techniques improved outcomes; complication rates in the study were also "significantly higher" than what the company has seen in clinical practice, suggesting surgeon training is key to better results.

In a 2011 press release, Allergan responded directly to "questions [which] have been recently raised about the safety and effectiveness of the LAP-BAND® System, specifically with respect to average weight loss and complications", pointing to two studies published in the peer-reviewed journal *Surgery for Obesity and Related Diseases*, "which provide scientific evidence supporting that the LAP-BAND Adjustable Gastric Banding System, is "a safe and effective weight-loss procedure" (Allergan 2011d). One study (Ray and Ray 2011) concluded that LAGB procedure can be safely

performed in a community medical practice, with patients experiencing meaningful excess weight loss. The second study (Rani et al. 2011) examined patients who received LAGB following the failure of gastric bypass and found they achieved significant weight loss two years post-banding procedure. Still, despite its efforts to counter negative publicity, Allergan's financial losses may cause it to unload its latest liability – the Lap-Band. A October 30, 2012 *Los Angeles Times* article reported that Allergan Inc. was considering selling its Lap-Band weight-loss unit “amid rapidly declining sales and a swarm of negative publicity about patient deaths and a criminal investigation of one of its former customers” (Pheifer 2012). In the same article, Allergan chief David E.I. Pyott stated: “We're exploring strategic options for the obesity intervention business, as the sales dynamics do not fit the profile of a high-growth company like Allergan” (ibid). In a 2012 interview with the *New York Times*, Pyott said Allergan had already hired an unnamed investment banking firm and was sending letters to other medical device companies seeking a buyer for its obesity intervention business, which also includes a balloon-like device that is not yet approved in the United States but used in some other countries (Pollack 2012). As of January 2013, Allergan still owned the once-profitable device, which now accounts for only 3 percent of its total sales.

#### 4.2.2.2 The Future of Banding

Although the band still remains a viable option for many patients – concerned with the dangers of the anatomy-changing gastric bypass – its popularity has lessened, partially as a result of patients' desire to lose weight more rapidly and the availability of new surgical options:

...I believe the U.S. is starting to move toward the same direction of seeing patients opt to not have bands and opt to have more drastic procedures because they're wanting to have that immediate impact of hey, look I've lost X number of pounds. I think the band is kind of a safer route, it's more a gradual weight loss,

it's reversible, so it really depends on the individual. So I think we're seeing more of the in the market you see more of it balancing itself out. It was the big hype and everyone was going toward it and now we have all these options and it's probably going to level out (Ethicon R&D engineer, personal communication).

While Allergan successfully sought to expand its market, gaining FDA approval to offer the band at a lower BMI threshold to 30 with a co-morbidity in 2011, Ethicon made the "business decision" to keep its current indication of patients with a BMI of 40 or greater or BMI of 35 or higher with a co-morbidity (Ethicon North America Product Development Manager, personal communication). Allergan's successful efforts to lower the BMI requirements expanded the pool of potential customers from 15 million to 42 million (Pfeifer 2011); the company has been working to target major employers to add the coverage for these lower BMI patients with little success. Citing lack of insurance coverage for the low BMI market, Ethicon's North America Product Development Manager states the focus should be on advocacy efforts to increase the total numbers of individuals electing to have bariatric surgery and to look at the lowering the BMI indication for all existing bariatric procedures:

.. you look at the economy today, the cash pay market has pretty much dried up, there isn't money floating around for loans and other things, with care accounts, the decision was made instead of spending the money to look at the low BMI market ...we're looking at 30 million people in the United States that have are surgically or are morbidly obese – 0.8 percent or about 265,000 procedures are done a year. What makes you think that, I have a hard enough time getting that group of people into surgery, what makes me think the yahoos with a BMI of 30 are going to rush in? And we're talking about – and you've got to be careful we're talking about excess weight loss of 40 to 50 percent so a guy with a BMI of 31 it's probably what 45 pounds overweight. So now we're going to look at paying \$12,000 to lose 20 pounds? You can pay me that – I'll be your personal trainer. It's a huge market but until insurance reimbursement is there for that market, I just don't see it moving and it hasn't moved down the dial since December of 2010 when

they got approval for it. Once again, our thought is this – I’m all for a low BMI but we’re looking at BMI across the board. Why am I going to pigeon hole myself into one procedure – we’re the leader in obesity surgery in the world and we’re looking at a very procedure agnostic case, I’m now going to promote bypass, sleeve or band one other the other – they all work and have benefits, they all have drawbacks. But I’d rather see advocacy efforts to push the current group into surgery more and I’d rather see science done on our end widening to say here are four options for that low BMI market, not just one that has the greatest amount of variability (personal communication).

The oversimplification of the complexity of obesity – depicting it as something that can be ‘cured’ with the assistance of a personal trainer – stands in contrast to much of the discourse presented at information sessions for potential bariatric patients which point to the multitude of factors which contribute to obesity. But for the Ethicon representative, the issue is simply an economic one – one based on the best return on investment and expanding the potential pool to draw more patients into the bariatric surgical space. To do so, the representative must improve the *results* of the gastric band to demonstrate it remains a viable option in the obesity epidemic.

Rather than seek approval for the lower BMI threshold, Ethicon has instead focused on aftercare of its current band patients in an attempt to improve patient outcomes; its program, Aftercare Pathways, attempts to provide standardization of adjustments and guides practitioners on assessing patient’s Vomiting, Eating and Weight loss to compile a VEW score, to determine how much, if any, fluid to add or remove from the band<sup>75</sup>. Ethicon is also moving toward pressure-guided adjustments which will take the ‘guessing’ out of the adjustment process, allowing the band to self-

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<sup>75</sup> As part of my fieldwork, I attended a training session on the Aftercare Pathways program at University Hospital; similar training sessions and workshops were being held all over the country by Ethicon representatives.

adjust based on pressure readings (personal communication). These efforts, to add 'science' to the aftercare space are intended to improve outcomes and eliminate the vast variability in weight loss results among patients, thus extending the lifespan of the 'dying' medical device.

Though Ethicon has dominated the global market for surgical instruments used in bariatric surgery, Allergan has sought to grow its obesity product portfolio. In 2007, Allergan purchased Swiss medical technology developer EndoArt SA, a leader in the development of remote controlled implants used to treat morbid obesity and other conditions; the acquisition gave Allergan ownership of EndoArt's FloWatch(R) technology, which powers the EASYBAND(R) Remote Adjustable Gastric Band System (Allergan 2007a). The EASYBAND(R) device is surgically implanted around the upper stomach and can be adjusted depending on the patient's individual weight loss needs using an external control unit placed over the device; the control unit transmits power and commands to, and receives information from, an implanted antenna connected to the EASYBAND(R), which can then be adjusted precisely in minutes. In a press release announcing the acquisition, Allergan's Chairman of the Board and Chief Executive Officer Pyott stated that the purchase of EndoArt SA was "representative of our commitment to actively pursue the development and commercialization of next-generation products and technologies capable of providing high-quality, healthier and less traumatic weight-loss treatment solutions to patients, physicians, governments, employers and health care payers." Ethicon representatives explain they've looked into – but dismissed - improvements to the gastric band, in the way of electronic enhancements, deeming them to be too “cost prohibitive” (personal communication). The Principal R&D engineer explains that adding additional components to a device also leads room for error:

I think from a patient perspective, the more and more whistles you add to something, the more opportunities for failure – when you start automating things or adding electronics to the device. Right now, it's purely a mechanical, it's not a nuts, no motors, no electronics, no smart system, but as soon as you start going down that path, one you're adding cost, two, you're adding complexity to the design and three, patients don't really want to hear that you're putting something electronic in them because that gives the sense that that can break down and have to go in and replace it, they don't want to have to do that and they probably wouldn't be willing to pay more cost for it either....you have to understand what the technologies are and are the technologies cheap enough that people are willing to pay for it. Yet the way the band is today, it gets the job done so why add more it when something is working.

Although it has initially planned to expand its market base, Allergan dropped efforts to gain FDA approval to allow adolescents to use the gastric band, following concerns over product safety (Pollack 2012; Armour 2012). While Allergan is looking for a buyer of its obesity devices, including the ORBERA™ IntraGastric Balloon System, a non-surgical alternative for the treatment of obesity, approved for use outside the U.S, (Allergan 2013b) the company still states that “given the serious immediate and long-term consequences of the global obesity epidemic” it is “actively pursuing the development of next-generation products and technologies capable of providing high-quality, healthier, and less traumatic long-term weight-loss treatment solutions” (Ibid).

While threats to the band market continue to erode its popularity, company officials don't believe the band will ever entirely “disappear”; the North American Product Manager at Ethicon states: “I really believe that banding is not going away, it's not going to disappear, it still may continue to erode a little bit and move into different procedures that tap into that. I think one thing it did do was it did get people in the funnel” (personal communication). Ethicon's R&D Engineer explains that while new bariatric procedures have emerged – and surgeons are eager to try ‘new technology’ – the band still remains one of many options in the war against obesity; while the sleeve procedure has taken

some of the band's share of the market, he believes once new data comes out, the band's popularity will be on the "incline":

we keep hearing that the band market is declining, yet with going to the [banding] summit, you walked out of there not thinking it's declining, really what they are saying is there's not enough [data]. Things seem to be moving toward sleeve but these surgeons that happen to be band supporters are saying we don't have enough information about the sleeve, we don't know the long-term effects; therefore, our belief is they're going to start learning of other complications that come along with the sleeve and you're going to start seeing an incline back in the band. I think every time a new technology comes out with obesity in one way or another, you're going to see that across the board, all procedures are going to start losing some of their share of being selected as the tool to use because everyone wants to try the new technology. But, at some point, there's going to be some warnings and then people are going to start to go back to doing the method. I don't think band is going to go away, I just don't see it being the only option that people choose from, it's just going to be many, many different methods of addressing the problem and band is just one way of doing it and it's the one that's surgical but less invasive (personal communication).

Shifting opinions about the band, changing trends as procedures fall in and out of fashion, and conflicting medical evidence about bariatric surgery provides the space to the band to regain its market share, just as these same forces helped erode the band's popularity in the U.S.

#### **4.2.3 Bariatric Surgeons**

Despite efforts to change the conversation surrounding bariatric surgery, the FDA probes threaten to not only turn some people away from bariatric surgery, but also to return the status of weight loss surgery from medically necessary to cosmetic. In a 2012 *General Surgery News* article, Robin Blackstone, MD, former president of the American Society for Metabolic & Bariatric Surgery (ASMBS), responded to the FDA probe into the California surgical centers (Stern 2012): "This massive advertising campaign has been

problematic, partly because bariatric surgery is a serious surgical therapy for very serious metabolic diseases, namely diabetes, and the ads, which portray surgery as a cosmetic solution, does not do bariatric surgery justice.” Blackstone charged that the ads seemed “to give people the impression that somehow [gastric banding] is not surgery and it doesn’t make them aware of all the options.” Despite its concerns about the misleading advertisements, the Society doesn’t have the authority to take action, since the surgeons involved aren’t members of their organization.

While not explicitly challenging the efficacy of the gastric band, ASMBS has issued statements surrounding the introduction of new surgical techniques, acknowledging the less-than-optimal outcomes from the band. The ASMBS has broadcast its support for the sleeve gastrectomy – opening up pathways for the surgery to be used as a primary bariatric treatment, rather than as staged procedure to the gastric bypass, and opening channels for increased insurance coverage. Citing evidence that the sleeve has a risk/benefit profile that lies between the gastric band and the Roux-en-Y gastric bypass, the ASMBS states that “SG is superior to LAGB in terms of weight loss (EWL 66% vs. 48%), comorbidity reduction, or diabetes remission” (ASMBS 2011e).

Following FDA approval to lower the BMI threshold for Allergan’s LAP-BAND to 30 and above, with a co-morbidity, ASMBS issued a position statement concerning appropriate treatment for those with ‘Class I’ obesity, suggesting that while the band has a lower complication rate, other procedures are proven to be effective:

..there is a high level data supporting the use of laparoscopic adjustable gastric banding, gastric bypass, and sleeve gastrectomy in this population. Compared to gastric bypass and sleeve gastrectomy, LAGB has a lower rate of early, severe postoperative complications. The effectiveness of gastric banding, however, is clearly more dependent on the quality of follow-up than other bariatric surgical procedures and may therefore be unsuitable if good aftercare is not assured and funded. Additionally, there are no weight loss independent effects of

gastric banding that can influence metabolic improvement and many bariatric practices may not be able to achieve the excellent weight loss results with LAGB that are reported in the literature. Finally, some patients are averse to having a foreign body placed around their stomach. Therefore, Roux-en-Y gastric bypass and sleeve gastrectomy should also be considered as acceptable options for this patient population, particularly for patients with poorly controlled type 2 diabetes that may benefit from the additional metabolic effects these procedures provide in addition to weight loss... it remains up to the judgment of the treating physicians and the patient to choose the option they feel is in the patient's best interest (ASMBS 2012a).

While the ASMBS advocates for growing acceptance of bariatric surgery at-large, regardless of procedure type, among practicing bariatric surgeons, field research revealed there is not a universal alliance among those performing bariatric surgery concerning *which* procedure is safer and *more* effective and debate looms about the efficacy of the band relative to other bariatric procedures. While most bariatric surgeons perform all three forms of bariatric surgery, some - particularly general surgeons - only perform gastric banding; a general surgeon, who performs all three surgeries at County Hospital, explains that he's "not thrilled with weight loss with the band in general" due largely to "too many variables with patient follow-up." He explains that he "recommend[s] bypass but patients don't want it." He says: "some people are not comfortable with rearranging the anatomy - the band can be removed easily and there are a lot less complications. But if the band worked as well as bypass, I'd never see a bypass" (personal communication). Similarly, Leslie, a bariatric nurse from University Hospital, says that most of the surgeons who operate out of her hospital "do everything they can to steer everyone away from the band because they're high maintenance people, they're not successful so it's a negative reflection on their practice". She explains that "they would rather do the gastric bypass but people come in and they're very adamant, no I don't want that. Your diabetes resolution isn't going to go away - I don't care, I want this.

They do everything they can to steer them away.” When asked why that was the case, the nurse explained that when the band first entered the marketplace, surgeons would “steer them towards the band, because of kickbacks,” adding that, because of issues with erosion, slippage, port flips, and lower weight loss outcomes, surgeons now steer them to the gastric bypass. Dr. D, a general surgeon whose practice focuses on band surgery, explains he’s “pretty much ostracized from the bariatric community because they want you to be a bariatric surgeon not just a band guy.” He explains that many bariatric surgeons advocate for the gastric bypass - and most recently the sleeve – because of its perceived efficacy when it comes to resolution of obesity-related health problems; however, he believes that’s “semantics” – driven largely by surgeon’s unwillingness to follow-up with patients in the long-run. He believes the effects of gastric bypass are more dangerous than the conditions they are intended to cure:

Every procedure loses weight – bypass loses 10 percent more than a band. However, what’s 10 percent? Ten or 15 pounds. If you’re looking from a physician perspective, that amount of weight doesn’t mean a hill of beans when most of the medical improvement is in the first 30 percent of weight loss or 25 percent of weight loss, so I think it’s semantics to be honest with you, I really do. It’s a physician’s philosophy about bariatrics that really kind of drives people toward which procedure they really like. Bypass was created as a surgeon’s fix for obesity. So, in that mold, it was I want to do a procedure that patients lose weight but I bet they’ll have diarrhea and they’ll be losing electrolytes and whatever but I won’t have to see them very often. So you see them 2 to 3 times that first year and then you turn them back to their primary care doctor. But the problem was when they established that structure, primary care doctors weren’t ready for that, they didn’t understand the normal sequence of events, they don’t like to follow up with these patients as much as the surgeons do. So initially what happens, is a lot [of patients] weren’t getting their multivitamins and B12 shots and yadayadayada, they all became really anemic and had metabolic function disorders...(personal communication).

The surgeon problematizes the idea that weight loss always leads to *better* health by describing the ways in which bypass results in *unhealthy* bodies with numerous complications. In so doing, he not only points to the divisions within the bariatric community and the fractures in the health care system, which complicates the aftercare for all bariatric patients, but also obscures possible complications stemming from the band.

While philosophical differences exist between bariatric surgeons, in terms of which procedure is best for the individual, surgeons also have divergent ideas of *which* brand of gastric band has better outcomes. Some practices exclusively use one band, believing it has better outcomes; one surgeon explained he used to use the REALIZE band but switched to the LAP BAND following research that patients had “better weight loss with lap band<sup>76</sup>” (personal communication). The Ethicon bariatric account representative explains the – largely economic - factors that drive usage of one band versus another:

Some surgeons really believe in one product versus another, some have contracting in place that’s preferential pricing for one company versus another company and they just use the one’s that available and cheaper, some will put both products in front of the patients and say which one do you want and some will just decide when they’re in the OR, oh, I think I’m going to use the Realize band today, it’s very mixed (personal communication).

While some bariatric surgeons believe the LAP-BAND has superior results to the REALIZE Band, others argue that the brand or generation of the band is inconsequential to outcomes; rather, patient compliance with the diet and lifestyle changes. Dr. G, a

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<sup>76</sup> The research the surgeon is referring to was conducted by the 2012-13 president of ASMBS, Dr. Jamie Ponce a Dalton, Georgia-based bariatric surgeon that who was the principal investigator for the “C” trial with the Lap-Band® and the Swedish (Realize™) Band trial, as well as consultant for many bariatric surgery companies (Dalton Surgical Group, 2013).

bariatric surgeon, tells patients “It doesn’t matter – it’s the difference between a Ford and Chevy, or Pepsi and Coke, it’s a brand name, the results are about the same” (personal communication).

#### **4.2.4 Food and Drug Administration**

Unlike other bariatric surgeries, gastric banding – since it involves an implantable medical device – requires federal oversight and regulation through the U.S. Food and Drug Administration (FDA). The FDA is responsible for protecting public health, in a variety of means, including ensuring medical devices - intended for humans - are safe and effective. Both the LAP BAND and REALIZE band are considered Class III medical devices, which are required to undergo clinical trials prior to market approval, termed the Premarket Approval Process or PMA. Since 1985, FDA has only approved three medical devices for the treatment of obesity - only two of these devices remain on the market. The first, the Garren Edwards Gastric Bubble (P840025), was approved September 17, 1985; the device was a cylinder-shaped elastomeric polyurethane balloon that was inserted orally into the stomach via an endoscope and then inflated with air, measuring 200 to 220 cubic centimeters. The device was intended to move freely in the stomach, creating a sense of fullness, and was to be removed after 4 months (FDA 2012b). Within the first year, significant problems with spontaneous deflations requiring surgical explant were reported; by 1992, the PMA for the Garren Edwards Gastric Bubble was voluntarily withdrawn by the owner. A total of 19,000 devices were implanted between 1985-1988 (FDA 2012, p. 20). The lessons learned from the failed launch of the Gastric Balloon paved the way for tighter controls – including post-market studies, sham controlled studies, and trials with large numbers of patients - over the next generation of anti-obesity devices – the gastric band.

Bioentrics was approved to begin its 8-site, three-year, 299-patient (the majority, or 85 percent were women) clinical trial on the LAP-BAND in 1995 (Olvey 2012); in that trial 89% of patients (266) experienced at least one adverse event, including: nausea and vomiting (n=152), gastroesophageal reflux (n= 103); band slippage/pouch dilation (n= 72); stoma obstruction (n=41); esophageal dilation/dysmotility ; (n=29); dysphagia<sup>77</sup> (n=26); port displacement (n=18); and gastric erosion 1% (n= 4). Serious adverse events include reoperations to either revise or remove the device were reported; 52 subjects (18%) had a revision surgery for either a new band (9%) or a port replacement (9%) and 25%, or 75 total subjects, had their bands removed due to adverse events (51 patients or 17%) or insufficient weight loss (24 subjects or 8%). Although the study objective was to achieve at least a 50% excess weight loss (EWL) at 24 months that would be sustained out to 36 months, the reported EWL was 37.8% at 24 months and 36.2% at 36 months. In 2000, the FDA Advisory Panel reviewing the clinical data initially recommended “not approvable” at that time based on inadequate safety information, specifically regarding esophageal dilation; the Panel believed, however, that weight loss at 2 years was adequate. Bioentrics was later given conditional approval for the device in 2001, requiring a Post-Approval Study be conducted with 300 patients; the approval allowed the California-based company to begin marketing the device to patients with a BMI of at least 40 or a BMI of 35 with at least one comorbid condition, like diabetes, sleep apnea, or hypertension. Although the LAP-BAND received FDA approval, the band’s explant rate – the times the band had to be surgically removed due to complications, including erosion or dysphagia, or insufficient weight loss - over the course of all the clinical trials was estimated at a rate of 6.5 explants per 100 persons,

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<sup>77</sup> Difficulty swallowing.

leading the FDA to require Bioentrics to include the explant rate in the package labeling and to collect additional data on the original indication (Min 2012a, p. 65).

In 2007, Allergan – which had since purchased the band from Bioentrics/Inamed - won approval to conduct a new clinical trial for approval to lower the BMI threshold for patients to 30, with a comorbid condition. In February 2011, the FDA approved the expansion of the use of the LAP-BAND to include obese individuals with a BMI of 30 to 34 who also have an existing medical condition related to their obesity. The FDA denied Allergan's efforts to expand the indication to include people with a BMI of 35 to 39 and no obesity-related condition. In the study which led to the lower BMI ruling, more than 70 percent of patients experienced an adverse event related to LAP-BAND, most often vomiting and difficulty swallowing; adverse events ranged from mild to severe and most were mild and resolved quickly.

Ethicon, the maker of REALIZE, was given approval to begin its three-year clinical trial in 2003; the first pre-market trial involved 276-subjects – 78.3% female - at 12 clinical sites. The objective was a mean %EWL of 32.6% at 36 months. Like Allergan, the majority of REALIZE patients (96.4% or 266) subjects reported at least one adverse event, including vomiting 44.9% (n=124), nausea 31.9% (n=88), gastroesophageal reflux 19.2 % (n=53), dysphagia 9.4% (n= 26), band slippage/pouch dilation 6.2% (n=17), catheter-related complications 5.4% (n=15), stoma obstruction 4.3% (n=12), esophageal dilation/dysmotility 3.7% (n=10), and band erosion 0.4% (n=1). One death was reported in the study and 43 subjects (15.6%) required another operation for band replacement (2), band revision (10), and band removal – also termed explantation – (4), port replacements (5) and port revisions (22). Ethicon received approval to begin marketing the REALIZE band in 2007.

Despite efforts to position the gastric band as having comparable results over time as the gastric bypass, long-term efficacy of the gastric band has not been proven.

In a 2012 presentation to the Gastroenterology and Urology Devices Panel of the Medical Devices Advisory Committee, the group that oversees medical devices, including the gastric band, Lauren J. Min, Ph.D., an epidemiologist, (2012b) reports on systematic literature review of the effects of weight loss from gastric banding on diabetes, dyslipidemia and hypertension, stating that studies show there is a correlation between weight loss and diabetes remission and improvement, but there was no evidence between weight loss and hypertension. There were also mixed results for relationship between weight loss and high blood pressure. Min (2012b) argues that there's "limited information regarding long-term effectiveness of LAGB and whether sustained weight loss leads to sustained reduced in cardiometabolic risk" (p. 98). Limitations of the existing research – including small sample sizes, short-term follow-up, and domination of studies by one group of scholars, including Dr. Paul O'Brien, one of the LAP-BAND developers – were noted as problematic in adequately assessing the effectiveness of the band in resolving common obesity co-morbidities.

Concerning safety, the FDA also monitors complaints and adverse events related to the both the LAP-BAND and the REALIZE Band, primarily through MedWatch<sup>1</sup>, the voluntary online FDA Safety Information and Adverse Event Reporting program (FDA TPLC 2013). MAUDE - Manufacturer and User Facility Device Experience – data shows that 8,455 device problems have been reported between 2007 and 2012 (FDA 2013) – the majority of the device problems were related to Leak (1800); Fluid leak (1569); Slippage of device or device component (791); No Known Device Problem (767); Device remains implanted (424); Migration of device or device component (129); Patient-device incompatibility (113). Complaints ranged from reflux, stoma obstruction, and port wounds to more serious injuries requiring reoperation, including band erosion. MAUDE data shows that 2330 bands were explanted, or surgically removed during that time. Adverse report events to the FDA – filed injuries and cases where the band had to be removed

“due to intolerance, severe reflux, huge pouch and dilated esophagus” – were often constructed as a “consequence of incorrect band placement, over-restriction or stoma obstruction” rather than a mechanical issue with the device.

In 2011, FDA issued a series of warning letters to eight surgery centers in California for misleading advertising of the Lap-Band (FDA 2011c); the FDA charged the surgery centers, along with the marketing firm 1-800-GET-THIN LLC which produced the advertisements, failed to provide required risk information, including warnings, precautions, possible side effects and contraindications, on its ads. In a 2011 press release, Steven Silverman, director of the Office of Compliance in FDA’s Center for Devices and Radiological Health expressed that “FDA’s concern is that these ads glamorize the Lap-Band without communicating any of the risks” (FDA 2011d). By federal law, product advertising for certain medical devices, such as the LAP-BAND, must contain relevant warnings and information about precautions, side effects, and contraindications (medical reasons that make a treatment inappropriate). The FDA’s action followed the death of patients in California who passed away shortly after their LAP-BAND surgeries in 2010 (Hiltzik 2010). The companies were required to pull their misleading advertising and to notify FDA within 15 working days of action taken to correct them, or face additional action, including product seizure or civil money penalties.

#### **4.2.5 Band Patients**

Users of the gastric band – predominantly female – remain the most salient and increasingly visible actors in the bariatric surgery arena. Band patients, like other bariatric patients, have become increasingly organized on the World Wide Web, creating online support groups and forums, and using YouTube and social media, like Facebook,

to connect with other 'bandsters' across the globe, to document their experiences, and share advice pre- and post-surgery with other patients. Some sites, like ObesityHelp<sup>78</sup> and Weightlosssurgery.com, cater to all bariatric patients and offer forums for gastric band patients; other sites like lapbandtalk.com and bandedliving.com focus solely on gastric band patients. YouTube has thousands of videos dedicated to weight loss surgery; one band patient – who goes under the moniker 'bandedwendy' - has uploaded more than 500 videos on YouTube – with more than 5000 subscribers - documenting her life with the LAP-BAND; she explains YouTube is a way to connect with others since “most support groups are geared toward gastric bypass” and share information at any time, from any distance (personal communication). These groups – in addition to in-person support groups offered by surgery centers and hospitals - not only provide instrumental information, in the form of navigating the insurance process, pre- and post-surgery nutrition, and surgeon selection, but also provide a forum for sharing success *and* failure. Patients' positive and negative experiences with the band spreads through these channels, driving and deferring patients toward or away from the gastric band, leading some to select one brand verses another, or to select another procedure altogether. Patient 'testimonials' are also a powerful marketing force used by surgery centers and hospitals in promoting the gastric band, and other bariatric procedures (Salant and Santry 2006; Murray 2009).

These forums and support groups, however, reveal band patients are not a homogenous group. Some members of the “bandster” community fiercely defend the band; in a comment board for a *Bloomberg BusinessWeek* article announcing Allergan

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<sup>78</sup> As of January 2013, over 600,000 people have become members on the ObesityHelp web site seeking help to find a solution to their weight loss problems. The web site has over 3,000,000 page-views a week.

was the subject of a federal subpoena following results of poor weight loss with the band, patients responded with fervent defense over the band (Flinn 2012):

I had Lap Band surgery on May 28, 2004 just short of 8 years ago and it SAVED MY LIFE. At 424 pounds and 55 years old, I was rapidly declining in health. Now, at 63 years old and 250 pounds, [my] arthritis, which does not disappear, all of my health issues are gone and I currently live my life as a normal person, free from the burdens of obesity. My only regret is that I didn't do it sooner.

All weight loss surgeries have potential risks, and statistically Lap Band is the safest of all currently available surgeries. It is a big undertaking and requires patient lighter I am in the best health of my adult life and I have the Lap Band (thanks Allergan) and my surgical team and support network and alot of hard work to thank for it. With the exception commitment as well as a surgeon's skill for success. (sandi2004) [sic]

I got my Lap-Band 18 months ago and have lost 130 lbs without any complication. This is an amazing tool that has aided my weight loss, I would have died without it and could never have done this on my own. I thank Allergan every day for saving my life. (ELP) [sic]

I had the LapBand surgery 13 Months ago - I am down 80 pounds and have no trouble eating healthy foods at all. I have my self-confidence back and am a competitive athlete - racing mountain bikes and running. I am achieving things I never thought possible.

Yes, sugary foods will slide down easier - but the lap band was never represented to me as an "easy fix". I knew from day one that it is a tool to be used in addition to healthy lifestyle. I am 20 pounds away from my goal and thankful every day that I chose to have the Allergan LapBand. It did save my life - I was so depressed and on the brink of suicide due to my food addiction and binging. The decision to have surgery was the decision to save my life. I feel great and I've got plans now to race 50 miles up mountains in Vermont! It is a tool – and yes I would say its about 60% band and 40% me. (Vanessa) [sic]

Not all band patients equally embrace the band – some are ‘forced’ to have it following doctors’ order to lose weight or as a short-term bridge to another surgery, like knee replacement (Throsby 2011). Accounts of ‘failure’ – poor weight loss or regain - with the band and mechanical problems and physical complications stemming from band surgery

also dominate many online discussion forums; some patients, like well-known bandster Maria – whose blog ‘Formally Fluffy’ chronicles the “hell” of living with a gastric band and who operates a Facebook group named “Failed lap-band and Realize band”, become outspoken advocates *against* the gastric band. In one post on Obesity Help she writes: “As far as me the Lap-Band has been a complete waste of time and money. I wouldn't recommend it to my worst enemy” (Obesity Help 2011). One prolific poster on Obesity Help uses the signature ticker ‘Anti Lap-band advocate!’ in posts, explaining the band “almost killed her’ and she had it removed three years after surgery:

Please don't say “it won't happen to me” because I used to say the same thing. When other lapbanders would come on here and bash the lapband I would get so mad and tell them off and ban them....but they were right....they were only trying to help me. ...With that said, please if you are considering the lapband please please please don't do it. It is not the safest and it's not as easy as removing it and life goes back as if it never happened. It causes damage. If you think that my story can't happen to you it can I am proof it does. I'm sure I will upset someone with my post but I don't care. I worked my band, I kicked ass with my band, ate what I was supposed to and it still FAILED guess the “band rules” don't work for everything. You can also argue that my case is rare....but if someone would of told me that this was a possibility then I wouldn't of gone through with it. Just be informed of ALL the risks not just the most common. (fairy\_kiszez) [sic]

Some bandsters advise others to consider a revision – or to not consider the band at all:

If you are years into having your band, the weight is not coming off, you are sliming and or puking, and the list goes on...please look into revision. I put off this revision for myself for 4 years...not including the 2 first years. I wish I would have done this sooner. Tomorrow I go for my revision. I wish I had not feared about "being cut up" back in 2007. This band did not work for me. And I am not going to spend the next 41 years in fat hell (thinlizzie12) (Obesity Help 2013). [sic]

Some band supporters charge these “band bashers” with inappropriately trying to sway potential patients away from the surgery or scaring those who were recently banded; Diana, a leader on a Facebook group for bariatric patients, explains:

I do have one person that's in the group that really knocks the band a lot and I had to actually pull her to the side and talk to her about it. You know, it's OK to have your opinion, but do not discourage anyone, you know, from getting their weight loss surgery, because some of the things that you said or say might make a person not have the surgery and to better their health altogether. I mean, you can voice your opinion but don't voice your opinion so much that you are trying to make someone change their mind about the surgery that they're having and the money that they're spending to have this surgery. I had a lady speak to me that was crying and saying, I don't know what surgery to get because this person told me this and that and it's fair that they did this to her. Each surgery is different for everybody – you get out of it what you put into it and just because I had the band and it was successful for me, it might not be successful for someone else, but I'm not going to tell you that I got the band and it didn't work for me so don't you get it, you know. That's not fair for that person. Because if I would have listened to a lot of people, I don't think I would have gotten the weight loss surgery – I did the research for myself and I said OK, this right here is going to be best for me (personal communication).

'Successful' band patients believe those who are critical of the band are responsible for their own failure; one co-leader of a band surgery group on Sparkpeople.com, explains how she gets "very upset" when people don't "follow certain rules" and blame the band when they gain weight or don't lose weight (Ilene, personal communication). The policing of fellow band patients reflects a broader anxiety many band patients feel about not only general public sentiment that they took the 'easy way out' by having surgery, but also their own need to assert themselves, rather than technology, as responsible for weight loss success. Patients' beliefs that their success or failure is "75 percent" their actions and "25 percent" the band guides their belief that failure is attributed to patients' actions:

I know a lady at the gym who had a band and she just did a revision because the band didn't work for her. But I think, like any other weight loss surgery, it won't work if you don't apply the concept. Because I think it's a concept – it's a mental concept. Because surely if I want to have a milkshake every day, I can go have one because I have a thing of frozen yogurt but if I have a Milkshake, that's 500 calories every single day that's going to slide

right through my band no matter how tight it is, then no, it's not going to work for me. I still have to make mental choices and if I gain five pounds, I have to say, 'hold up now.' I think...the band is more mental than anything else (Patience, band patient, personal communication).

Mirroring discourse from surgeons, medical practitioners, and biomedical firms, patients believe the band is just is “tool” and success – or failure is “all up to you” (Andrea, personal communication). This division between and among band patients reflects the polarizing nature of the gastric band, and mirrors broader tensions within the bariatric space concerning the ‘right’ cure for obesity.

#### **4.2.6 Bariatric Practitioners**

In addition to surgeons, band patients interface with a variety of healthcare practitioners – including nutritionists, nurses, physicians assistants, psychologists, and exercise physiologists – during the pre-and post-surgical process, often as part of insurance requirements or as part of their aftercare program. Although there is no organized professional group for these types of practitioners, many affiliate with the ASMBS or their own specialty, or attend professional development workshops centered on bariatric patient care. In working directly with patients both before and after surgery, this group is sometimes divided on whether the band is a viable solution to the obesity epidemic and the factors which determine ‘success’ and ‘failure’ among band patients. Violet, who has worked in bariatrics for 16 years, and has the gastric band herself, explains she’s been “pretty impressed with [the gastric band] as an appliance,” although she adds that “it’s designed to work provided you do what you’re supposed to.” She explains that the variability in outcomes is linked to patients’ commitment level – and that, despite what some of the biomedical firms believe, “the band doesn’t work for everybody”:

I don't think there is one perfect procedure for everybody...Theorists will probably tell you it doesn't matter, they can lose the same amount of weight with either one and that might be true, it could be. I think the one thing that separates [one patient] from [another] who is more successful is the commitment level. I talk to people every day, they've been educated on what to do, but still you've got to do it. Being busy is not an excuse. All those things that happen, that are life, are not going to change. So you have to make up your mind, make a commitment and do it. And I find that usually the success or no success lies in what they're committed to doing .... you can't get the band or you can't get bypass and think it's [snaps fingers] boom – my problems are solved. So I think commitment level and what people are actually willing to do determines the success rate I should say. I do believe that, having said all that, like I said before, maybe the band is not the ideal solution for you. And I know people don't like to say that the band doesn't work for everybody but it does not. At the end of the day, I don't care what you say, I don't care what the Johnson and Johnson reps say, it just doesn't work for everybody (personal communication).

This belief that band patients – and other bariatric patients - expect a quick fix to their obesity by having surgery was a common and problematic assumption made by many of the clinicians I spoke to; by simplifying 'success' as something purely linked to a patients' commitment to the weight loss journey, the nurse obscures the broader social and economic challenges which may affect how patients do post-surgery. Other clinicians mirrored this discourse concerning 'commitment' and patients' willingness to make lifestyle changes and adhere to the 'rules' of living with a gastric band:

With the band, I do try to get across to band patients that they really have to change their lifestyle if they want to lose weight with the band – the other two procedures they have a little bit more help. So yeah. And the band patients that do have that mindset of, 'oh it's going to solve all my problems', they don't do well, those are the ones who are seeking conversions or say the band failed. Really the band didn't fail, you failed the band – we don't say that, but yeah. There are sometimes mechanical issues with the band, but that's not the majority of the reasons people don't do well with the band (dietician, personal communication).

In this statement, while the dietician concedes to possible mechanical problems, the onus remains largely on the patient to achieve long-term success with the band. Many practitioners emphasize high rates of failure with *all* weight loss surgeries in an effort to have patients take responsibility for their actions post-surgery, sometimes drawing on celebrities' public failures with bariatric surgery and anecdotal evidence of patients they work directly with; Leslie, a nurse who directs the bariatric program at University Hospital tells a group of band patients at a support group "nothing is infallible if you abuse it" (personal communication).

While the bariatric community often defines 'success' and 'failure' based in quantitative terms – percent of Excess Weight Loss (EWL) and pounds lost – a psychologist and one of the co-authors of the suggestions for doing psychological evaluations for bariatric patients through the American Society for Metabolic and Bariatric Surgery, believes this is a "floating target" and there are other indicators of what makes a successful outcome: "success is not defined by weight loss or weight loss maintenance, so to speak, it's defined by the quality of life changes a person experiences and that cuts across different arenas in their life" (personal communication). He believes emphasis on *patient* compliance and non-compliance with the post-surgical process oversimplifies the complexity of factors which may cause individuals to lose and maintain their weight loss:

A major life stressor can derail a long needed medical procedure post-operatively, a knee replacement surgery can disrupt an exercise routine, that can result in some weight regain, so there are a lot of different factors – fear for some patients that have been significantly overweight their whole lives and they've used their weight to hide. People beginning to notice them can sometimes result in a crisis that then the patient goes back to their old strategies of self-care and regaining weight....[couching issue as one of compliance and non-compliance] is very much simplistic. ...we're spending too much time focusing on patient failure and not systemic failure in creatively coming up with ways

to meet patient needs. We operate off the paradigm that if something's wrong you've got to go in to see the doctor – a lot of these patients come long distances, they have multiple doctor visits, they have jobs that don't necessarily allow them to make those visit and we haven't adopted our medical model or our behavioral health care model in a way that would be more suited to patient needs...Some of the patient failure really lies within the system from which we operate (personal communication).

While his statement brings attention to the fractures in the health care system, this opinion was not shared by the majority of the clinicians I interviewed, and discourses of patient-led failure dominated discussions in support group meetings and information sessions, forming the foundation for many patients' own beliefs that they were solely responsible for failed *and* successful outcomes.

Although the psychologist has been involved with the bariatric community for 12 years, he's skeptical that bariatric surgery will continue in its present form, believing new, even more less invasive alternatives will develop: "I mean at some point really, these procedures, bariatric surgery may really looked on as not bariatric surgery but barbaric surgery. I'm very aware of that – 50, 100 years from now, can you believe what they did to people and what people put themselves through? And people embraced and supported it? I really think that and believe that" (personal communication).

#### **4.2.7 Physicians**

Major health organizations – including the American Heart Association, American Medical Association, and American Diabetes Association – have endorsed bariatric surgery for some clinically obese patients. But despite the ASMBS' attempts to draw more support for bariatric surgery as a treatment for the morbidly obese, resistance from the medical community remains steadfast. A 2011 study – funded by the Obesity Action Coalition and Ethicon – found that primary care physicians underestimate their patients' willingness to discuss their weight and underestimate their openness to treatment options like bariatric surgery. The study found that only one in 10 who meet the National

Institutes of Health guidelines for bariatric surgery have had their doctor recommend it (PR Newswire 2011). A survey (Balduf and Farrell 2008) of Primary Care Physicians showed that while 75% of physicians had referred a patient to a bariatric surgeon, less than 45% felt they could adequately address the medical complications of obesity surgery and 35% felt unprepared to provide good quality long-term medical care to operated patients. Still (2011) argues that there's a "disconnect" between primary care physicians (PCPs) and patients when it comes to discussing bariatric surgery, which has implications for their long-term health.

Some groups, like the American Society of Bariatric Physicians (ASBP) – a 1,565 member of the Specialty and Service Society of the American Medical Association – actively speak out *against* bariatric surgery, advocating for Pharmacologic Therapy for treating obesity (ASBP 2012). The professional society, composed of about 1,100 physicians who treat patients with obesity, were critical of the FDA for lowering the BMI requirement for the LAP-BAND, while simultaneously denying new obesity medications within the past six months, calling bariatric surgery a "drastic and expensive measure that carries higher morbidity and mortality risks than lifestyle interventions or medication." ASBP's belief was that patients would be encouraged to "skip" medical therapy once the requirements were lowered.

#### **4.2.8 Advocacy Groups**

Drawing off increased public health concerns about America's obesity epidemic, obesity advocacy groups have proliferated in recent years. The most vocal among them, the Obesity Action Coalition – co-founded by Ethicon Endo-Surgery, Inc. in 2005 - is a national 35,000 member-strong non-profit organization working to improve access to obesity surgery and combat stigma against obese persons through obesity education and advocacy. The OAC's official position is that "bariatric surgery is a safe and effective

treatment option for those affected by severe obesity” (OAC n.d. a). The OAC has made some notable successes including successfully fighting to save bariatric surgery benefits for state employees and/or Medicaid recipients in Virginia, Wisconsin and Tennessee, and has worked to improve bariatric surgery benefits through legislation and/or regulatory changes in New Hampshire, Indiana, Mississippi, Texas, Kansas, Georgia, Utah and many other states. The OAC also successfully fought to have Blue Cross Blue Shield of Tennessee remove an IQ test requirement for individuals seeking weight loss surgery (Obesity Action Coalition n.d. b). The group has been invited to the White House to address obesity, and recently launched a public national weight and health awareness campaign – *Your Weight Matters*, designed to educate Americans about the health risks involved with being overweight and encourage conversations between patients and physicians. The OAC provides information on several methods to address obesity and severe obesity, including behavior Modification and Physical Activity, commercial Weight-loss, physician-supervised weight-loss, and Bariatric Weight-loss Surgery (OAC n.d. c). OAC actively lobbies for access to obesity treatment – including the development of new pharmaceuticals and coverage for bariatric surgery (Oliver 2006; Buchwald 2007).

Founded in 1982, The Obesity Society (TOS) is a scientific society dedicated to the study of obesity (TOS n.d. a). TOS argues that “bariatric surgery clearly is the most effective treatment for persons with extreme obesity who have failed to lose weight using less intensive interventions” and promotes research in the field, publishing the journal *Obesity*. A coalition of the Obesity Action Coalition (OAC), the Obesity Society (TOS), and the American Society for Metabolic and Bariatric Surgery (ASMBS), called the Obesity Care Continuum (OCC) is a 125,000-member organization comprised of healthcare professionals and patient advocates formed in 2005; the group challenges weight bias and stigma and promotes access to, and coverage of, the continuum of care

surrounding the treatment of overweight and obesity – including new weight loss drugs (OAC 2012). These alliances advocate for *all* obesity treatments, not just bariatric surgery. A newer entry into the advocacy efforts is the Weight Loss Surgery Foundation of America (WLSFA), a non-profit organization founded in 2010 by a gastric bypass patient (WLSFA n.d.). The Foundation – which raises funds to pay for bariatric surgery, and plastic surgery for excess skin removal as a result of rapid weight loss, for those who can't afford it – also promotes obesity education and builds community support among bariatric patients, hosting an annual national 'Meet and Greet' for patients. Its founder explains the Foundation advocates for all forms of bariatric surgery and is "Switzerland" on which bariatric procedure is superior; its advocacy efforts center on changing the status of bariatric surgery from elective surgery status to a 'true treatment' for obesity (personal communication). WLSFA has enlisted singer Carrie Wilson – who publically lost and regained her weight with the gastric bypass in 1999 and converted to a gastric band in 2012 - to serve as its "National Ambassador of Hope" and will be the keynote speaker at its annual Meet & Greet in 2013 (WLSFA 2013). The depiction of bariatric surgery and specifically of the band as a *technology* of hope mirrors much of the discourse surrounding In Vitro Fertilization (IVF) as a technology that can restore hope to childless couples, despite evidence that most IVF treatments end in failure (Throsby 2004).

In addition to joining forces with OAC, Ethicon Endo has launched its own advocacy efforts. Ethicon's "IT'S TIME TO DRAW THE LINE™" Campaign – featuring weight loss surgery patients, including its most famous celebrity gastric band spokesperson, Jamie Dukes, former NFL lineman – attempts to counter myths that weight loss surgery is a "quick fix" (see Figure 4.2) (Ethicon n.d. b).



**Figure 4.2 Ethicon’s "IT'S TIME TO DRAW THE LINE™" Campaign Poster (Source: PortfolioPress n.d.)**

Ethicon’s efforts are intended to “change the perceptions and thinking that surround those that suffer from the disease of morbid obesity. Many in society believe that these individuals are undisciplined, or that weight-loss surgery is an easy out, when in reality it takes hard work and commitment to be successful” (Ethicon n.d. b). Ethicon has also launched its own awareness campaign, aimed at informing and educating the medical community “on the disease of obesity and the resolution of co-morbid conditions after surgery in order to increase referrals to bariatric surgery for appropriate patients”. Ethicon has sponsored several continuing education programs for referring physicians in partnership with Discovery Health, Optum/United Healthcare, and other educational organizations (Ethicon n.d. i). In 2010, Allergan launched a social media campaign on Facebook and Twitter urging people to petition Congress for legislation favoring weight-loss surgery options like the adjustable gastric band (Edwards 2010); the winner of the contest received a trip to D.C. to present their petition to Congress. Allergan’s public awareness and advocacy campaign, called C.H.O.I.C.E. - Choosing Health over Obesity Inspiring Change through Empowerment - was initiated “to change the pervasive

misperceptions about obesity in the United States and redefine what constitutes effective treatment beyond just prevention tools.” In a press release announcing the campaign’s launch Pyott, Allergan’s Chairman of the Board and Chief Executive Officer explained: “our goal is to help those individuals who are currently suffering from the disease and to lower the extraordinary cost of obesity on our healthcare system. We believe that this change of perception will only happen when we directly elevate the issue in the public domain and demand a focus on both prevention and treatment to ultimately help those who are obese regain their health and lives” (Allergan 2010a). Allergan’s role in advocacy efforts, however, should be viewed within the context of their efforts to grow market share, revealing how the biotechnology firm, as well as other interest groups, stand to benefit from improved acceptance of surgery and greater insurance coverage.

Other advocacy groups actively petition *against* bariatric surgery, including the National Association to Advance Fat Acceptance (NAAFA), the oldest non-profit civil rights organization dedicated to ending size discrimination (NAAFA n.d. a). Citing “lack of conclusive evidence that gastrointestinal surgery for weight loss increases longevity or improves overall health”, NAAFA’s official position opposes weight loss surgery under any circumstances (NAAFA n.d. b). The group instead advocates for laws that limit the weight loss surgery industry and for private, commercial and government payers to no longer pay for bariatric surgery. Similarly, the International Size Acceptance Association (ISAA), states it “cannot support the option of WLS, even as a very last resort” charging that patients are not adequately informed of the risks of bariatric surgery (ISSA 2002). ISSA also challenges claims of weight loss surgery effectiveness, drawing attention to high rates of patient regain following surgery. The Health at Every Size Movement (HAES) serves as a “powerful counter-discourse to that of the ‘obesity epidemic’” by embracing diverse body sizes and challenging the idea that health and wellness are linked to weight, BMI or weight loss (Boero 2012, p. 127). However, despite the efforts of

these anti-surgery groups, their messages are largely overshadowed by dominant scientific discourses that link fat to a myriad of health conditions – discourses that many band patients likewise embrace and articulate in their rationale for having surgery.

#### **4.2.9 Insurance Providers**

To public and private insurance providers, the band – and other bariatric surgeries – is constructed simultaneously as a costly risk and as a significant savings to overall healthcare costs associated with treating obesity-related medical conditions. As rates of obesity surgery increased, so did the costs to private and public insurers; a 2006 study (Davis et al. 2006) projected that obesity surgery costs would exceed \$2 billion annually (mean of \$29,107 per patient), with private insurers charged for more than 80% of the national total. The study estimated annual charges for bariatric surgery to Medicare and Medicaid would exceed \$100 million by 2002. Attempts to trim costs – coupled with concerns about the surgical risks and high mortality rates with gastric bypass - resulted in a number of providers cutting coverage of the surgery (Kazel 2004). ASMBS declared victory in 2006 when the Centers for Medicare and Medicaid Services extended coverage for bariatric surgery. In a 2006 *Los Angeles Times* article (Chong 2006), then director of coverage and analysis for the Centers for Medicare and Medicaid Services Dr. Steve Phurrough stated “We went through a long period of time where the surgeries were such that the risk was just too high,” adding that “We weren't going to make a national decision until the evidence had gotten better.” The CMS’ decision to cover bypass, gastric band and the duodenal switch<sup>79</sup> opened up the pathway to increasing coverage by private insurers, but coverage has been limited.

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<sup>79</sup> CMS expanded its coverage of the sleeve in 2012.

A growing number of insurance providers – including Blue Cross, Blue Shield, Aetna, and Cigna - now cover some bariatric procedures for morbidly obese patients meeting specific weight and health stipulations. In 2008, the federal Tricare program, which provides coverage for 9.2 million active and retired U.S. military personnel, as well as their families, said it would cover gastric banding (Rundle 2008). As of 2012, Aetna considers Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy, biliopancreatic diversion (BPD) with or without duodenal switch (DS), or laparoscopic adjustable silicone gastric banding (LASGB) “medically necessary” in adults over 18 years old who have been severe, documented obesity for two years with a BMI greater than 40 or a BMI greater than 35 with a co-morbidity, such as sleep apnea, coronary heart disease, hypertension (blood pressure greater than 140 mmHg systolic and/or 90 mmHg diastolic despite concurrent use of 3 anti-hypertensive agents of different classes), or Type 2 diabetes (Aetna 2012). As a condition of approval, like many other insurance providers, Aetna members must have attempted weight loss in the past without successful long-term weight reduction. Patients are required to participate in a physician-supervised nutrition and exercise program (including dietician consultation, low calorie diet, increased physical activity, and behavior modification), documented in the medical record at each visit. Alternatively, Aetna members may instead participate in a “multi-disciplinary surgical preparatory regimen” within 6 months prior to surgery –including dietician consultation and reduced calorie diet, participation in an exercise regime, and participation in a behavior modification program, “in order to improve surgical outcomes, reduce the potential for surgical complications, and establish the member's ability to comply with post-operative medical care and dietary restrictions.” Aetna members with a history of severe psychiatric disturbance (schizophrenia, borderline personality disorder, suicidal ideation, severe depression) or who are currently under the care of a psychologist/psychiatrist or who are on psychotropic medications, are also required to

get a pre-operative psychological clearance. Kaiser Permanente (2004) has similar criteria, but expands the list of co-morbidities to include Degenerative Joint Disease (DJD) of the hips or knees, severe GERD requiring surgical treatment, and polycystic ovarian syndrome, among others. Each year, about 2,400 surgeries, primarily gastric bypass, are performed nationally on Kaiser Permanente (KP) patients (Shafipour et al. 2009). Building off guidelines established by the National Heart Lung and Blood Institute (NHLBI), United Healthcare states bariatric surgery – specifically gastric bypass, Adjustable gastric banding (laparoscopic adjustable silicone gastric banding) , gastric sleeve procedure, vertical gastrectomy, vertical banded gastroplasty (gastric banding; gastric stapling), Biliopancreatic bypass (Scopinaro procedure), and biliopancreatic diversion with duodenal switch – are proven treatment for adults with severe obesity (United Healthcare 2012). However, United acknowledges that “most Certificates of Coverage and many Summary Plan Descriptions explicitly exclude benefit coverage for bariatric surgery.” No private or public insurance provider is currently providing coverage for the 'Mini-Gastric bypass', or gastric plication with or without a gastric band, or non-FDA approved medical devices for the treatment of obesity. Despite FDA approval to lower the BMI threshold for the LAP-BAND to 30 with a co-morbidity, no insurance provider has elected to cover the LAP-BAND for this patient class; Blue Cross Blue Shield has stated there is no evidence to support improved health following the gastric band in this patient class.

Several states mandate coverage for bariatric surgery – but with limitations; Mississippi requires the state employee health plan to provide coverage for medical weight management and bariatric surgery for 100 employees a year, while Arkansas' Act 855 provides coverage for gastric bypass and gastric banding for state employers and public school teachers (ASMBS 2011a). Some states, like South Carolina, previously covered bariatric surgery, but then reduced coverage to 100 state workers in 2011.

Georgia, Indiana, Maryland and Virginia laws recommend insurers offer coverage, or mandate that the insurer offer coverage for additional premiums, for bariatric surgery to treat morbid obesity. In Georgia, the state legislature cut bariatric surgery coverage from the budget in 2012, in an effort to save the state some \$3.5 million; lobbying efforts by the ASMBS helped restore coverage to state employees in 2013 1,577 employees had the surgery between 2009 and 2011 (Fielding 2012). In addition to its lobbying efforts to expand coverage for surgery, ASMBS also fights insurance companies on pre-surgical requirements mandated by many insurers, including compulsory medically-supervised weight loss prior to bariatric surgery. In a position letter to insurance directors, ASMBS (2011c) charges that documentation of prolonged preoperative diets is “inappropriate and counterproductive, given the complete absence of a reasonable level of medical evidence to support this practice.” Drawing on studies that suggest there’s no long-term benefit to patients in terms of weight loss and compliance, ASMBS argues the requirements leads to patients dropping their plans to have surgery and leads to poorer health and/or mortality for those who do not undergo it for insurance denial or other reasons: “Policies such as these that delay, impede, or otherwise interfere with life-saving and cost-effective treatment, which has been proved to be true for bariatric surgery to treat morbid obesity, are unacceptable without supporting evidence” (ASMBS 2011c). Even with insurance coverage, patients often pay deductibles or premiums, sometimes up to \$5,000 (Elliott 2012); this often doesn’t include the cost of pre-surgical, insurance-mandated doctor’s visits, pulmonary clearances and nutritional visits. Many patients opt for plastic surgery to remove excess skin, which is generally not covered by insurance.

Employer-selected exclusions for bariatric surgery force otherwise eligible patients to delay or cancel their plans to have surgery, according to the ASMBS. ASMBS estimates that 25% of patients are denied insurance coverage three times

before getting approval – during that time about 60% report their health worsened during this waiting period (ASMBS 2011a). Despite the growth of bariatric surgery, procedures have “plateaued” since 2008, partly as a result of the recession from December 2007 to June 2009, with left patients deferring or delaying bariatric surgery, which is considered an elective procedure (Elliot 2012). Insurance providers are also growing weary of covering revision surgeries – a growing trend among all bariatric patients – following unsuccessful weight loss outcomes or complications. The marketing director at Ethicon explains:

There’s a sort of misnomer that exists out there with insurance companies – if I have colon cancer, you all treat me, I’m healthy, I’m a cancer survivor, it’s all wonderful and balloons come out of the ceiling and everyone’s happy. Six years later, my cancer comes back and you treat me again – the insurance company doesn’t say to me [sir], you’ve had your chance. Obesity is a disease, and it is a disease that for some people may require lifelong treatment and I think as we continue to do more procedures, we also need to be able to understand that when these people have procedure A,B,C or D that we’re able to revise or what’s called bariatric revision procedures – how can we go to either revise that pouch for that bypass or sleeve, convert that band into another procedure, we’ve got to be able to treat that patient population as well (personal communication).

This depiction of obesity as a disease that requires continual care serves to discursively legitimize the role of bariatric surgery as a treatment, much in the same way chemotherapy is seen as a legitimate treatment for cancer. In constructing obesity as a *chronic* disease, the Ethicon representative positions the need for revisional surgery as a viable option when other surgeries have failed; while this approach works to absolve the patient from some responsibility in outcomes, it also reiterates the idea that patients *should* seek bariatric surgery for their obesity and that other non-surgical options are not adequate forms of treatment.

In support group meetings, some former band patients describe the “nightmare” of fighting insurance companies for revision to another bariatric procedure, even with documented medical problems stemming from the gastric band. Gloria describes how she “fought tooth and nail” with her insurance company for a revision to a bypass, after experiencing severe reflux – which she attributed to the gastric band - for two years. Erica explains - after a denial, she switched her insurance company, which had approved the revision to gastric bypass (personal communication).

The economic costs of obesity are used to justify the expense of bariatric surgery, which costs between \$11,500 and \$26,000. ASMBS claims that obesity accounts for nearly 21% of U.S. health care costs, with the 5% of morbidly obese Americans generating the highest costs. The CDC (2012) reports that the medical costs of obesity were \$147 billion in 2008; a study by the Society of Actuaries showed obesity cost the U.S. economy \$198 billion in 2009. These medical costs include direct costs related to preventive, diagnostic, and treatment services related to obesity, and indirect costs related to morbidity costs – defined as income lost from decreased productivity, restricted activity and absenteeism - and mortality costs, defined as future income lost by premature death (CDC 2012a).

On average, health care costs for morbidly obese patients were reduced by 29% within 5 years following bariatric surgery, due to the reduction or elimination of obesity-related conditions; estimates suggest that third-party payers will recover metabolic and bariatric surgery costs within 2-4 years following a patient’s procedure, as a result of the reduction in costs associated with treating obesity-related conditions (ASMBS 2012b). However, other studies challenge this notion, showing no reduction in health care costs for patients three years-post gastric bypass surgery. Another study (Finkelstein et al. 2011) suggests a cost savings to band patients, particularly those with diabetes; the study’s author disclosed received funding from Allergan. These contradictory findings –

much like the conflicting evidence surrounding the safety and effectiveness of the gastric band – are often not challenged by surgeons or patients. Instead of interrogating study designs or methodologies, they are used strategically by ASMBS and biotechnology firms to justify the need for surgery *and* insurance coverage for surgery.

Lack of insurance coverage – or denial from insurance providers – leads some to self-pay for surgeries; as less costly than the gastric bypass or sleeve gastrectomy, the band remains a viable option for those willing to deplete their savings or take out loans to pay for surgery, costing up to about \$14,000, further drawing a divide between those who are medically eligible for the procedure and those who are able to afford it<sup>80</sup>. Of the 22 band patients interviewed for this study, four (4) paid entirely out-of-pocket for the band surgery. The market for bariatric surgery overseas has seen an increase; it's estimated that 20,000 Americans went abroad for weight loss surgery last year (Alderman 2010). While surgery costs are often less abroad – with many sites offering the gastric band for around \$4,000-5,000 in Mexico, they are not regulated by the U.S.; generally, band patients have challenges finding providers who will do their adjustments once they return to the U.S. for liability reasons (bariatric nurse, personal

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<sup>80</sup> During the course of this research, one of the surgical centers observed offered a 'cash price' of \$9,995. Costs for the band, however, can range up to \$20,000, depending on the provider and associated cost of pre-surgical clearances from other medical practitioners, including cardiologists, nutrition visits, and psychological assessment. There are also post-surgical costs, including 'maintenance' of the gastric band, or the adjustments needed to increase or decrease the fluid in the band. 'Fills' range in cost; in this research, patients paid between \$200 and \$700. Due to complications, some patients also have to pay additional costs post-surgery; for example, if there is a leak, port replacement, or band repositioning, additional surgery will be necessary. Medical travel to Mexico for less-expensive band procedures was commonly discussed in support group meeting, information sessions and informal and in-depth interviews; although none of the patients interviewed or observed had gastric banding surgery outside of the United States, a number of patients and practitioners knew someone who had.

communication). Others warn of the dangers of going abroad: “you can get a great price in Mexico but who knows what you’re getting there. We had a patient who had a port - it created the illusion of surgery with no band and they didn’t know that until they got back” (bariatric patient coordinator, personal communication).

However, the “cash pay market has pretty much dried up” in the U.S. following the nation’s economic collapse, which has contributed to the declining number of gastric band surgeries (Ethicon Marketing Director, personal communication). In a call to investors, Allergan CEO Pyott likewise explained that “in the U.S., we believe that the cash pay portion of our business, which is extremely sensitive to the economy and unemployment, has now bottomed out” (Edwards 2010). However, while Pyott reported the company was “beginning to see growth in the reimburse segment of the market”, the “LAP-BAND cash pay business was disproportionately impacted, relative to the facial and breast aesthetics businesses” (ibid); in this way, while customers continue to spend cash on bodily ‘enhancements’ they were not willing to pay out-of-pocket for bariatric surgery, driving the company’s move to seek insurance reimbursement and to change the conversation and the requirements about eligibility for bariatric surgery.

#### **4.2.10 Weight Loss Surgery Community**

The weight loss surgery community is far from a homogenous group; composed of individuals with all types of bariatric procedures, including those surgeries which are no longer performed in the U.S., and varying surgical methods, including laparoscopy and open procedures, this group is simultaneously unified and divided. While patients collectively and continuously battle a stigma against obesity and public opinion that they “took the easy way out” by having bariatric surgery (Throsby 2008, 2009b), many becoming outspoken advocates for obesity surgery, they appear divided on *which* procedure is more effective, much as the medical community remains divided on the

efficacy of bariatric surgical procedures. As the founder of the advocacy group WLSFA relays, “I know people who hate the lap band, I know people who hate the bypass, I know people who think you need to get a duodenal switch, I know people who think that’s insane. For every procedure out there, there are critics and supporters and usually people support the choice they made” (personal communication).

In general support group meetings and in many online message boards, discord between patients is evident. Some attribute that to the greater weight loss often achieved post-gastric bypass surgery; Julie, a bypass patient and support group leader, explains it’s better to keep the groups separated: “it’s really not good to have them together because it frustrates the bands even more. At all the meetings they’re welcome but it does frustrate them” (personal communication). She continues that “if I had my druthers, it would be just the gastric roux-n-y bypass [that was offered as a surgical option] because the sleeve is so new and now the studies at the beginning when the sleeve came out, they said you could do NSAIDs and now a lot of doctors are staying away from them because their patients are getting ulcers so that worries me...We don’t know everything right now. And the band, I just don’t see the success.” Here, Julie, like other bypass patients within the bariatric community, legitimize medical claims concerning the efficacy of the ‘gold standard’ in bariatric surgery while also expressing concerns about the safety of the emerging sleeve gastrectomy and the ‘success’ of the gastric band.

Bariatric patients – accustomed to attacks on their decision to undergo surgery – actively defend their decision to have surgery – or keep their decision to have surgery a secret from their social networks (Throsby 2008, 2009b); the moralizing narrative that guides the obesity ‘epidemic’ plays out in individual patients who invoke discourse that relays their commitment to the body project and their long history of engaging in diets. In so doing, patients create hierarchies based on who is *more* committed to the body

project and which surgery is superior. In interviews with band patients, many convey the belief that gastric bypass patients were looking for a ‘quick fix’ to lose weight and solve their obesity-related health problems; they also draw on high-profile stories of celebrities, like Al Roker<sup>81</sup> and Carnie Wilson<sup>82</sup>, who regained their weight back following gastric bypass, as well as anecdotal evidence of friends or family who also regained their weight or experienced serious complications, including death. Bypass and sleeve patients often invoke similar discourses centered on ‘doing the work’ to lose and maintain their weight loss, although others warn that “all weight loss surgeries can fail” if patients don’t change their lifestyle. Leigh Ann, a gastric bypass patient and a nurse who works in the bariatric surgical wing at University Hospital sees band patients as ‘less committed’ to the body project:

Sometimes I see that people who chose the band are looking for an easier way out. I worry about some of them that come through here – they want to lose weight, but yet they don’t want to go to drastic extremes to do it; they think this is the lesser of the routes to go, the easier way. And sometimes I see that as a way for them to sometimes get around that if they want something to eat, they can eat it, it doesn’t have the side effects that the bypass has, you know. So I have seen some lots of successes and I have seen some that were not as successful on both sides I should say, not just the band. But with really, really large people who need to lose a lot of weight, they come in to get a band and I’m just kind of torn, I’m like they need a sleeve or a bypass (personal communication).

Leigh Ann reaffirms the belief that bypass is a more effective surgery, while also replicating the belief that it is the patient, not the procedure that fails. The contradictory

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<sup>81</sup> Roker had gastric bypass surgery in 2002 and initially lost a significant amount of weight; as a public figure, his subsequent weight regain was well-documented in the media; he has since lost the weight he gained and written a book *Never Goin’ Back* about his experiences with obesity (Taub-Dix 2013).

<sup>82</sup> Wilson had gastric bypass in 1999 and regained all of her weight; she converted to a gastric band in 2012 (Ward 2013).

claims mirror those of other entities in the bariatric surgical space with an interest in the success *and* the fail of the gastric band.

### **4.3 Summary and Conclusions**

Within the broader contested construction of obesity – simultaneously considered a health crisis of epidemic proportions by surgeons groups and biotechnology firms and a political ‘exaggeration’ by others, including sociology scholars and fat activists - lays the contested arena of bariatric surgery, an increasingly medically and socially accepted surgical treatment for the morbidly obese. Despite an improved record for all bariatric surgeries, stemming from the establishment of ASMBS and ACS accreditation programs, increased use of laparoscopy, and advancement in surgical techniques, public reports of high complication rates – as well as weight regain - from bariatric surgery continue to threaten growing acceptance of the surgery. In this contested space of bariatric surgery lies the gastric band – a salient actor which is simultaneously cast as essential in the fight against obesity and as a threat to acceptance of bariatric surgery at-large. In support of its cause to promote bariatric surgery – and other treatment options for the obese and morbidly obese – some groups, like the American Society Metabolic and Bariatric Surgery and obesity activism groups, although divergent in their loyalty, create temporary alliances to promote advocacy efforts – and to ensure insurance covers various treatment options for obese individuals. These alliances – coupled with extensive marketing efforts – have helped elevate the status of the gastric band as a viable treatment for obesity as they “promote the idea that obesity is a major epidemic that threatens our very survival” (Oliver 2006, p. 618-19). But the band’s sustainability as a remedy for America’s obesity epidemic is in jeopardy as new procedures emerge and concerns about the band’s safety and efficacy trickles into the public imagination.

While biomedical companies debate each other over *which* band has better weight loss results – each charging their design and aftercare program produce better long-term results - they must also speak to the broader bariatric community's views that the band is *less effective* than other bariatric surgeries, specifically the gastric bypass, both in terms of excess weight loss and resolution of obesity-related co-morbidities, including type 2 diabetes, high blood pressure, high cholesterol, and sleep apnea. But while surgeons and medical practitioners lament the poor outcomes following the band, relative to other procedures, often drawing on patient responsibility, pharmaceutical companies sometimes push responsibility back on the surgeons, charging that “off label” uses of the band and incorrect surgical technique, in addition to patient’s non-compliance, can affect poor outcomes (personal communication).

While the gastric band’s safety record is generally lauded, the band’s effectiveness and consistency in patient weight loss outcomes is simultaneously challenged and conceded by a variety of social actors, including bariatric surgeons, biomedical firms, and some band patients. These groups put forth multiple constructions of the gastric band – painting it as a lifesaver, safe, risky, dangerous, ineffective, and costly. These constructions shift and change over time, as new procedures emerge, as new clinical evidence is produced, and as some actors gain a louder, more powerful voice. Some of the actors treat the gastric band as a ‘black box’ and simply try to advance the broader goal of bringing attention to the role of bariatric surgery in solving the nation’s obesity epidemic. Others “seek to open the black box and point to the instabilities of this technology” (Clarke and Montini 1993, p. 68). Band patients who “failed” or had a revision are one of few actors who point to the mechanical issues wrong with the device; but other bandsters who achieved weight loss ‘success’ are hesitant to question the potential surgical or mechanical errors that may contribute to complications or poor weight loss outcomes, instead reaffirming the belief that *patient’s* lack of

compliance, rather than the technology itself is to blame. Although not organized in the traditional sense of advocacy groups, professional associations, or firms, these patient groups are increasingly crucial in helping draw both support and opposition for the gastric band and pointing to the instabilities in the technology. While all black boxes are “leaky” (Callon & Latour 1981), meaning that there will always be competing ideas and efforts centered on opening black boxes that have been closed within larger actor-networks, the voices of patients are often overshadowed by more dominant actors concerned with advancing the broader interests of the bariatric surgery movement, as well as their own economic interests.

Just as the social meanings of obesity are contingent and multiple, the technologies developed, produced and consumed to ‘treat’ obese bodies remain fluid, complex and increasingly unstable. As the gastric band shapes and is shaped by the social context, the identities of those who undergo gastric banding surgery are co-constituted alongside side this non-human actor. As science and technology scholars have noted, technologies afford opportunities to create new meanings, new identities and new worlds (MacKenzie and Wajcman 1999); technologies also shape and are shaped by gender, and masculinities and femininities become co-constituted simultaneously along with the production and consumption of technology (Wajcman 2009, 2004, 2000). Chapter 5 focuses on the construction of gendered obese bodies, and how gendered assumptions about both men and women become embedded in the gastric band, both materially and symbolically. While the band is presented as a gender-neutral technology, it both reflects and directs gendered ways of being and doing, with implications for both theory and practice.

## CHAPTER 5

### GENDERING THE GASTRIC BAND

As discussed in Chapter 4, the bariatric surgical space is a contested arena, with the band positioned simultaneously as both an effective *and* ineffective weight loss technology in the ‘war’ on obesity. In their struggle for power, control and legitimacy, multiple actors construct varying depictions of the band’s safety and efficacy; in so doing, discourses concerning the patient’s role in surgical outcomes – and specifically their lack of ‘compliance’ – become apparent, revealing the ways in which poor outcomes are often constructed as a result of patient’s *misuse* of the technology, rather than a deficit in the technology itself. In this space, the issue of gender is both glaringly present and conspicuously absent; while the gastric band is designed for use by both women and men, white, middle-class women disproportionately account for the majority of users, suggesting both an extension of gender and class-specific norms concerning appearance and weight (Wolf 1991; Bordo, 1993; Thompson, 1994; Bartky 2003; Braziel and LeBesco 2001; LeBesco, 2004; Rothblum and Solovay 2009; Johnston and Taylor 2008), as well as a reflection of the highly stratified nature of biomedicine (Clarke et al. 2003, 2010; Shim 2010; Kutner 2005; Ratcliff 2002). The growing use of technology in healthcare has particular material and social implications for women, even with technologies, like the band, that are ‘one-size-fits-all’.

Feminist science scholars argue that technology both shapes and is shaped by gender relations; gendered assumptions, relationships, and ideologies become embedded in scientific and technological artifacts which in turn reinforce and reproduce social inequality (Balsamo 1996; Wajcman 1991, 2004; Terry and Calvert 1997; Varney 2002; Fox, Johnson and Rosser 2006; Lederman and Bartsch 2001; Wyer et al. 2001).

Expanding this concept further, this chapter unpacks the ways in which the gastric band – although considered a gender-neutral medical implant – is gendered in its design, marketing, use and, most significantly, its perceived mis-use. I will argue that gendered assumptions about eating, caretaking and appearance are built into the band both symbolically and materially. These assumptions become embedded in the lifecycle of the band, from design and development to marketing and aftercare, with implications for patient care. Most actors, particularly band patients themselves, actively embrace and reproduce gender-based assumptions and ideologies, strategically using them to justify their need for and decision to have gastric banding surgery; however, this strategic negotiation reinforces essentialism, sometimes at the expense of patient care.

### **5.1 Design for Everyone? Universalism and the Contradictions of Usage**

*In the early 1980s Lubomyr Kuzmak was driven by a sense of purpose and passion to develop a better and safer gastric restriction procedure for the surgical treatment of severe obesity. He became a visionary pioneer who applied his inventive talent to design and patent an adjustable gastric band and a method to place the band by laparoscopic technique. He did initial investigational studies of his device and method. While the Food and Drug Administration demanded expanded studies in the U.S., Dr. Kuzmak taught bariatric surgeons at International Workshops at the University of Padua, under the sponsorship of Professor Mario Lise, Franco Favretti, Gianni Segato, and later Guy-Bernard Cadiere, and at the University of Liege, under the sponsorship of Mitiku Belachew and Claude DeSaive, soon advanced the implantation of the adjustable silicone gastric band by minimally invasive techniques. Professor Paul O'Brien of Monash University was an early participant in these workshops. He became a leader in the laparoscopic placement and teaching of this procedure in Australia. Dr. Lubomyr Kuzmak kept his commitment to bariatric surgery until ill health depleted his energy. His contributions will hold a significant place in the history of bariatric surgery of the twentieth century. His friends and colleagues will remember his warm personality and gentlemanly demeanor. He was an active member of the American Society for Bariatric Surgery. – Excerpt from Dr. Kuzmak's obituary, "Farewell to a Pioneer: Lubomyr Kuzmak", which appeared in Obesity Surgery (Oria and Doherty 2007).*

This tribute to one of the founding fathers of the gastric band reveals a history grounded in the contributions of a small group of male surgeons - led by Kuzmak –

whose “passion” for a safe surgical option for obesity led to the gastric band. It is an optimistic story of technological triumph and scientific progress that oversimplifies the complex reality of the surgical space and the experiences of those with a gastric band. It also points to the gendering of the bariatric space – revealing disjunctures between those who innovate and provide care and those who have the procedure, as those who can afford to have the procedure.

While obesity is often constructed in the media and in the minds of the public as an ‘epidemic’ affecting all Americans, the prevalence of obesity is highest among African American women, and among those of lower socio-economic status (Ogden et al. 2010). Caucasian women are, however, disproportionately represented among those who have bariatric surgery, with statistics showing they make up about 80 percent of surgery patients (Drew 2008). Clinical trials with both the LAP-BAND and the REALIZE band similarly enrolled predominantly women, although racial break-down was not accounted for in the trials; the initial pre-market approval trial<sup>83</sup> for the LAP-BAND 85% female while women accounted for 78.3% of enrolled subjects in the PMA trial for the REALIZE Band (Olvey 2012). In the 2007 FDA trial to study the band on a lower-BMI market – those with a Body Mass Index between 30 and 40 - women accounted for 90.6% of all subjects (Olvey 2012). These figures were mirrored in this research; of the hospitals and surgery centers I observed, representatives estimated that 70-80 percent of their patients were women. The figures mirror gendered consumption of weight loss products and services, with women accounting for 85% of all consumers of the \$20 billion diet industry (ABC News 2012). It is women’s ‘failure’ with these diets and products that draws them into

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<sup>83</sup> The trial for the LAP-BAND was approved in 1995; the trial for the REALIZE Band was approved by the FDA in 2003.

the bariatric surgical space after years of attempting to conform to the ideal feminine norm of slenderness.

The overrepresentation of women as consumers reflects not only the gendered nature of technological engagements of the body, like cosmetic surgery, but gender disparities in healthcare usage. Women are more likely to seek health care services than men; they now make up 60 percent of all visits to the doctor and spend two out of three health care dollars (Ratcliff 2002; Gautschy, 2011). Weight loss surgery brochures, advertisements and web sites reflect this trend, focusing disproportionately on *women* as patients/consumers (Salant and Santry 2006; Drew 2008a, 2008b; Murray 2009); in my review of the promotional print and online materials for the LAP-BAND and REALIZE Band, women are over-represented as patients, whereas men are always depicted as doctors or medical providers. Women's over-consumption of bariatric surgery relative to men is the product of intensive advertising campaigns targeted at female users, as discussed in Chapter 4. Women are targets for these advertisements partially because they represent a likely consumer from a healthcare usage standpoint – a steady stream of revenue for medical devices, weight loss products, and cosmetic procedures - and because of the *social* imperative for women to strive for an aesthetic of slenderness. The high costs of the surgery, however, sharpen the divide between those who are clinically eligible for the procedure and those who can afford the band.

Beyond the predominance of female *users*, the field of bariatric surgery itself is highly gendered, both in terms of the individuals who perform surgery<sup>84</sup> and those

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<sup>84</sup> While figures on the gender makeup of ASMBS members are not available, of the 47 surgeon members in the State of Georgia, only one is female. Some surgeons practice bariatrics, in addition to their primary specialty, such as general surgery or plastic surgery, and may opt to not join ASMBS.

responsible for the design and development of the band, beginning with the early 'pioneers' in gastric band surgery, like Dr. Kuzmak. Feminist scholars (Faulkner 2001; Cockburn 1983; Cockburn and Ormrod 1993) have brought attention to the ways in which women are excluded from the decision-making process when it comes to the design and development of new technologies, with material consequences for gender relations, particularly in medical practice. Others (Fausto-Sterling 2000, 2001; Longino 2001; Haraway 2001) have explored the ways in which scientific practice and knowledge creation and dissemination is informed by social/cultural beliefs about gender, race and class; in this way, science both reflects and reinforces dominant cultural ideologies and gendered norms, with implications for male *and* female bodies. Feminist theorists (Kessler 2001; Fausto-Sterling 2000, 2001; Martin 1987, 1994, 1996) argue that biological differences between men and women were used to support women's inferior position in society, particularly in their capacity and ability to 'do' science, thus justifying their exclusion from the power and authority to construct knowledge about their own bodies. Extending this to the bariatric surgical space, women's exclusion as providers and designers has direct ramifications on their experiences as patients – specifically on the perception of technological *mis*-use, discussed later in this chapter.

Despite the appearance of neutrality in some technologies, scholars have brought attention to the ways in which technology is “both a source and a consequence of gender relations” (Wajcman 2004, p. 107). The gendering of technologies is shaped not only in the design, but reconfigured throughout the lifecycle of the technology, at varying points of consumption and usage (Wajcman 2009). Similarly, “gender of the envisioned user influence the material design of the object” (van Oost 2003, p. 194). Gender can be implicitly or explicitly coded into the design process; even artifacts that are designed for 'everybody' may have an implicit gender bias toward “male-dominated

symbols and competencies” (van Oost 2003, p. 196). In this reading, no artifact is free of gender scripts – even those considered ‘for everyone’.

Representatives from the biotechnology firms, however, contend the gastric band itself *is* designed for all individuals, regardless of their sex. Ethicon’s band is “one-size-fits-all” (Ethicon n.d. g; R&D engineer, personal communication), while Allergan currently offers two sizes, its APS and APL for different BMI ranges. The AP Large (APL) is intended for the “largest anatomical situations” (Allergan 2013c). Gender was seen as *inconsequential* to design considerations for the band; instead, users are homogenized by their *obesity* rather than gender:

We do consider that [gender in the design process]. But I don’t know if it applies to the band, I can’t think of anything that the band would be gender-specific, that I would do differently in one band for a man verses woman or Caucasian verses African American that I would differently there. It may apply to other types of products that are designed – I don’t think it applies to the band. But we do consider those factors into the design, when we start a project when we’re trying to design. I’ll use an example, say I was trying to design the next generation of ports, I would then, I would want to learn how that port was used and who it was used on and I would want to understand who all my stakeholders are and then I would start to learn are there specific requirements that are associated with those groups....But, as part of, to answer your question, do we consider those aspects [of gender] in the design, absolutely we do, I just don’t know if they apply that much to the band (principal engineer, Ethicon R&D team, personal communication).

Instead, the engineer explains, “our band is targeted to a certain BMI range...our band is intended to be sized in a way, it fits all and it can be adjusted to fit all different levels but it wasn’t designed for adolescents.” While the engineer believes that the band is a universal technology – with the exception of the adolescent population - the simultaneous ‘erasing’ of gender from consideration in the design process coupled with persistence of gender differences in patients and those in positions of scientific authority,

complicates the notion of neutrality in not only the technological development, but in the marketing and use of the gastric band.

## **5.2 ‘Piggers’, ‘Cheaters’ & ‘Emotional Eaters’: The Construction of the ‘Right’ (and Wrong) Patient**

While designers reject the implication that gender factors into the design of the band, my fieldwork and in-depth interviews complicate this presumption of neutrality. Instead, surgeons and medical practitioners consider gender – and specifically gendered ways of eating and exercising, as well as the gendered division of labor within the household – as instrumental in affecting both the *decision-making context* and the *outcomes* following band surgery. In this section, I focus on how clinicians and surgeons reinforce social scripts concerning gender roles during the pre- and post-surgical process; female band patients, in turn, reinforce gender essentialism with implications for their care and treatment.

### **5.2.1 Gendering ‘Success’ and ‘Failure’**

Although most practitioners and surgeons agreed that there was “no one perfect operation” (Dr. C, surgeon) and that outcomes were dependent largely on the patient and their willingness to make a ‘commitment’ to post-surgical lifestyle changes (Rebecca, dietician), many health care professionals conveyed a belief that the patient’s gender was a large factor in who was *successful* with the gastric band. As surgeons and practitioners expressed throughout the course of in-depth interviews, the same qualities that make women candidates for bariatric surgery – as caretakers and ‘emotional eaters’ - are the same that make them ‘fail’ once they have the band. Dr. E, a female surgeon, explains that men are more successful on the band, due largely to their eating and

exercising habits - habits that women, who are socialized to be caretakers, have not learned growing up:

The band works, but it works best on patients actually who are men, who know how to exercise, because men eat differently than women, you know? Men eat large meals - meat and potatoes - and if you can limit how much they can eat in a sitting usually they'll do pretty well. And they usually have some kind of background in exercise or played high school football or basketball or track so they can go back to exercising again and they usually don't have the family responsibilities of feeding the kids, taking care of the family. Usually women, they have a full-time job, they eat last-minute meals, usually fast food, they don't exercise so it really doesn't work very well for them.

Here, Dr. E reinforces gendered patterns of caretaking and maintains that women's commitment to their families, coupled with the different ways they eat and exercise *because* of their gender, leads to their failure with the gastric band. Violet, a nurse practitioner, similarly states that men's style of eating and exercising, as well as women's psychological issues with food, makes men more *ideal* patients:

Men are volume eaters and that's all the band does, so it's perfect. Women have a lot of issues why they weigh more – the majority have some other things going on that contribute to weight. Men also tend to be more active – they'll go play a pick-up game of basketball with their friends – most women have to make an appointment to go exercise at a gym.

Violet, like Dr. E, seems to indicate that men are better equipped to be successful with the band because of the way they ate before surgery and their highly gendered patterns of exercising. Marketing materials legitimize these gendered 'truths' by emphasizing the way in which women must make time for themselves rather than attempt to be "Superwoman"; Allergan's pamphlet, "The Busy Woman's Plan for Fitting in Fitness" (2010c) emphasizes "how hard it can be to find the time and energy to work out" when you have children, and encourages female patients to carve out time first thing in the morning for exercise, and trade "more sedentary chores with your spouse for more

active ones,” emphasizing women’s role as family caretaker and reinforcing heteronormativity (p. 1, 2).

At the center of clinicians’ belief in highly gendered approaches to eating – and thus the *inability* to be ‘successful’ with the band – is the construction of women as ‘emotional eaters’, an idea that is reinforced throughout the clinician-patient encounter, support groups, and information sessions, by a variety of actors, including female patients themselves. Rebecca, a clinical bariatric dietician, explains that women, have a “psychological hunger” that men don’t have, which contributes to their failure with the device; this difference among men and women is pronounced immediately after surgery when patients are on an all-liquid diet. Women are “struggling” with their “psychological” need to eat and men, by contrast are “a lot more to the point like this is how it is, and this is what needs to be done, I’m not going to try to get around the rules so much,” she explains. Here, women are depicted as being held captive to their emotions while male patients use logic and rationalization post-surgery. Dr. D, a male band surgeon, says women are at a disadvantage relative to men when it comes to the band, since they have an “emotional attachment to food” that most men do not have. This “maternal instinct”, Dr. G explains, makes the process of learning to eat with the band more challenging for female patients:

There’s no perfect person for every procedure: understanding the difference between male and female stereotypes of eating is important – males are really big portion eaters, they like high carbs, high intensity, high fat foods, they eat more volumes so they can feel full, that’s the whole idea is to get full. Women tend to have a lot of emotional attachments to food – time of periods with chocolates and holidays. Every day from the day they’re conceived ‘til they leave the house, is all about food because it’s a maternal instinct. So to separate that is a little more challenging and it takes a lot longer to do that. The women do great once they understand the basic concepts about eating.

Although he acknowledges that there are gender-based “stereotypes” when it comes to eating habits, here, Dr. D explains that women can do well with the band, once they re-

*learn* how to eat; in so doing, however, they must reject their gendered “emotional attachments to food” and embrace gendered norms of food *restriction* and appetite *containment* in order to be *successful* with the band. These contradictory discourses are strengthened by dichotomous thinking about biological differences between men and women, which were also used throughout my fieldwork to make sense of gender differences in pace of and amount of weight loss post-surgery. As one nurse explains to a predominately female support group meeting for band patients, “men lose a lot more weight because of their metabolism,” reinforcing the ‘otherness’ of women. Some scholars have argued the construction of women’s bodies as biologically ‘different’ than men’s has made women more susceptible to medical social control (Merchant 1980; Daly 1990; Hubbard 2002; Lorber 1997; Theriot 1996, Weitz 2007; Martin 1996; Lorber 2006; Jaggar and Bordo 1989; Fausto-Sterling 2001; Ratcliff 2002; Foucault 1978; Oudshoorn 1999a). In this study, gender differences between men and women – psychologically, socially, and biologically – legitimized the *need* for surgery and the intervention on the part of surgeons and practitioners.

However, despite this dichotomous view of men’s and women’s eating habits, some female patients indicated their own pre-surgical patterns of eating mirrored those of men, countering the construction of the female ‘grazer’ who ate to soothe herself emotionally. Wendy describes herself as a “pigger” who liked to eat big meals; she explains she chose the band because it helped her cut down her portions: “I was never an emotional eater - I’m not someone who’s upset and eats 8 candy bars...I was a pigger...I had no portion control..that’s why I took the lap band also – the purpose with the lap band is to control portions and when I analyzed what my own struggle was with my weight, it was about the quantity of food that I ate not the type of food.” Wendy paints a counter construction of women who are overweight because of their emotional ‘attachment’ to food by aligning herself with those (male) patients who consumed large

volumes of food. The consequences of this discursive strategy, however, is that it reaffirms clinicians' belief that emotional eating, as opposed to technical malfunction or clinician error, is to blame for poor outcomes; further, as a self-described "band success story", Wendy's belief that her weight loss is attributed primarily to eating less food oversimplifies the experience of being banded and works to reaffirm patient-blaming among those who do not experience similar weight loss success.

### **5.2.2 Gender Essentialism and the Pathologization of the Female Emotional Eater**

As practitioners and surgeons argue, the gendered division of labor in the household - with women as caretakers who are responsible for the family – not only helps drive them toward bariatric surgery, but also affects women's ability to be successful with the band. While practitioners often emphasize that all band patients must change how they eat post-operatively, they stress that women in particular must also change the nature of their essentialist role as caretakers. This role, practitioners emphasize, prevents women from putting themselves first and, by proxy, not taking care of their bodies; in this way, motherhood and social caretaking is seen as *counterproductive* to body work. Dr. J, a psychologist, explains the challenges for women post-surgery: "Women have an expectation to serve everybody and they constantly feel guilty when have downtime – these are not just simple behavior changes, it's redefining roles to certain extent" (personal communication). While this is often presented as empowerment discourse – challenging women to 'take charge' of their bodies by rejecting the very roles that made them obese - women are still expected to pursue the feminine ideal of slenderness and commit to the body project.

During interviews, many band patients attributed being overweight to their focus on families at the expense of themselves. Michelle, a former model and dancer, explains that she got to her pre-surgery size of 310 pounds by doing "a lot of mom activities and

not eating and exercising and putting children first.” Similarly, Erica, who described herself “very athletic” in high school, said she began to gain weight while pregnant and became less active after giving birth; in the middle of a divorce, she moved with her 6-month across country, leaving little time to care for herself: “And then I was out in the middle of nowhere, I didn’t know anyone, my life was my work, I worked 24/7 almost, I was raising a baby on my own and I didn’t work out at all, I didn’t have time. I did try to go at lunch at the YMCA but I probably didn’t eat right.” In this way, women attempt to challenge societal beliefs that obesity is the result of laziness or lack of willpower, by invoking gendered norms of women’s role as mother and caretaker. They, in turn, embrace another norm concerning their appearance to demonstrate their commitment to ‘fixing’ their obese body.

In embracing essentialist identities as mothers, female patients also invoked gendered constructions of women as ‘emotional eaters’. The majority of the patients I spoke to and observed ‘confessed’ to their ‘emotional eating’ following divorce or loss of a partner, or as a way to cope with stress or another traumatic event; several patients I interviewed also described traumatic situations, such as abuse or witnessing the suicide of a partner, which led to their overeating. This admission is often used to strategically ‘explain’ how they became obese and to rationalize the decision to have surgery, as opposed to continue trying – and failing at – “every diet under the sun” (Danielle).

In support group meetings and in online chat rooms and message boards, emotional eating and the psychological struggle with food pre- and post-surgery dominate most discussions, often resembling the confessional space of Weight Watchers and Eaters Anonymous meetings many of the bariatric patients participated in prior to surgery (Boero 20120). In interviews, practitioners often discussed how patients must “search their heart and soul” to figure out what leads to their overeating (psychologist, personal communication) – the same type of conversations many of the

women I interviewed described having with their physicians for years before pursuing weight loss surgery; the overemphasis on the role of emotional eating, however, diminished the complexity of an individual's obesity and later served as an explanation for failed outcomes post-surgery. Andrea describes how she gained weight following an abusive relationship:

I never had an overweight problem until I turned, I really started packing on the weight, when I was about 26. Before that I was very small, I was like a size 3, I was a competitive swimmer all my life and then I got married at 25 then just was in a bad relationship and, umm, I would pick up weight , I'd pick up maybe 5 pounds of something and told be told, 'you're fat, you're fat.' And so I went through that for about 3 years and got a divorce then after that is when I used food to hide behind because I wasn't good enough, you know, I was fat, I was ugly, all those things.

Like Andrea, many patients I interviewed and observed described how they pursue therapy to overcome their emotional attachment to food; Christy describes how she was initially turned down for surgery *because* of her emotional eating:

.. I've been through a big emotional journey through this, it's been bigger than the physical part for me. I had, they do a psychological evaluation ...but he didn't recommend the surgery for me initially - he said that I was definitely an emotional eater, he was very concerned about my level of depression, even though I didn't think I was that depressed and once I sat back down with him and he was telling me his interpretation of the testing and all the things we had done, I could see it, I was open to it. I guess right at the beginning of 2010 we had had a family crisis happen and there was that and he said really at this point, you're not going to be able to focus on what you need to lose the weight. He suggested I see a psychiatrist because even though I was on an anti-depressant to see if there was something else, he also suggested weekly therapy with someone so and then to come back in 3-6 months and see where I was at. I was OK with that, I think I felt like because, of course my friends knew I was doing this whole process, I think in a way I felt a little bit embarrassed that I didn't pass [laughs] but I also knew I really wasn't at a point where I was ready for it. Even though I had started that process, I wasn't quite ready to be in the moment of having the surgery. I was really, really lucky and found an incredible therapist – she's had

experience with other patients with their weight loss journey so she's got a very good understanding – I actually still see her. So basically I started that. So that was in the spring of 2010, I did not have my surgery until January of this year [2011]. So even though they said I could come back – and I think they cleared me after 3 or 4 months, I just still wasn't there yet. Especially once I got into therapy and was really able to start delving the reasons why I was an emotional eater and what that really meant for me. And just kind of opening up to the ways I had been using food to comfort myself all these years so finally in January I was able to, I was ready.

For Christy, the initial denial to have surgery provided an opportunity to seek additional counseling and better prepare her for the 'weight loss journey'. Although Christy acknowledges and accepts that her 'emotional eating' and 'depression' prevented her from initially being approved to have the surgery, a psychologist explains there has been "considerable conflict" within the bariatric community concerning whether to require patients to complete a psychological evaluation prior to performing bariatric surgery – and whether to move patients forward should test indicate they won't be successful post-surgery. He says: "it's not about whether there's some kind of pathology underlying this population but it is much more how prepared is this person to handle the scope of potential changes, challenge, adjustments that invariably bariatric surgery patients experience....I've always believed that if someone's not ready, you don't move them forward from day on" (personal communication). While patients, depending on their insurance or bariatric program requirements, are usually required to have a psychological evaluation to be 'cleared' for surgery, many don't return for therapy after surgery, which can affect their ability to cope with some of the challenges of negotiating life post-surgery; some patients conceded to 'buying' their evaluations or ask for advice or coaching online or from other patients on how to pass the test and get clearance for surgery (personal communication). Efforts to skirt the system only harm patients in the long-term, Dr. J explains:

There's an increased risk that they are not going to have the kind of outcome they want to have because they're not being honest with themselves. And I have seen it happen and I have seen patients post-operatively come back and struggle and say 'I did not do everything that I know I needed to do, I did not tell you everything that I needed to tell you and because of that I am struggling and I have either not lost as much weight as I wanted to lose or I have regained weight'.

Although the ASMBS-affiliated psychologist explains the emphasis on psychological readiness is part of a "risk management approach" to patient selection rather than attempt to pathologize patients, Murray (2009) argues that "bariatric medicine operates from the dominant (problematic) notion that all 'obese' subjects are compulsive eaters or food addicts" which works to further stigmatize obese bodies (p. 162). Similarly, Boero (2012) argues that Weight Watchers is organized around a model of "normative pathology" which assumes that "women are more likely to have problems with food and eating than men and that the problem arises when women cannot control this pathological relationship with food in a way that prevents them from gaining weight" (p. 89). In interviews and support group meetings, band patients – many of whom described their encounters with commercial diet program pre-bariatric surgery - often talked about the importance of acknowledging the emotional component to why they became heavy and the emotional 'journey' unearthed in living in a banded body. Patients also invoked and reaffirmed the idea of 'addiction', equating over-eating to alcoholism, drug addiction, gambling, and other destructive forms of addictive behavior that involved ongoing recovery with no 'cure'; the topic of 'transfer addictions' is also discussed frequently in support group meetings. It is often presented as a way to warn patients of the possibility that because they cannot physically consume food in the same way post-operatively, they may transfer one addiction for another, becoming alcoholics or compulsive exercisers, for example, as a way to cope without food. In framing themselves as addicts, patients also see their obesity as an ongoing condition, one that is not 'cured'

even after surgery. Leslie, a bariatric nurse, tells patients at a support group meeting: "All emotional eaters regress to old behaviors and to the things that provide comfort; people return to their drug of choice for comfort and to escape." These words, like many of patients' accounts of their own 'failures' re-gaining their weight post-band surgery, serve to enforce the belief that surgery is medically necessary; the language of addiction is also used to strategically negotiate discourses that sees obese people as responsible for being overweight and for re-gaining weight post-surgery. Extending Boero's concept of 'normative pathology' to the bariatric surgical space, the normalization of female bariatric patients' emotional eating and addiction to food thus both *legitimizes* the need for surgery *and* serves as an *explanation* for failed surgical outcomes.

While many of the female patients I interviewed self-invoked discourses of women's emotional eating to justify their need for surgery, this focus on pathology is problematic in several ways; in addition to further stigmatizing obese bodies, the emphasis on emotional eating serves to further black box the technology itself, by oversimplifying band 'failure' as a simple matter of patients' pathological relationship with food. This oversimplification also diminishes the role of social and economic conditions in affecting food choice; Jackson, Knight, and Rafferty (2010) find that African American women often buffer themselves from the chronic stress of racism and the stress of supporting their entire family system through the consumption of high-calorie "comfort food." The authors also draw a connection between the availability of high-fat, high-calories foods, including the proliferation of fast-food outlets and convenience stores in these areas, in predominately African American communities and impoverished neighborhoods. In the bariatric space, these broader socio-economic issues are rarely addressed.

Further, this emphasis on the universalization of *women's* experiences as discounted for the diversity of women's relationship with food and exercise and

minimized *men's* own experiences with emotional eating. As Jamie describes, his own emotional eating, linked to “issues with my dad” led him toward weight gain; even post-surgery he struggles with emotional eating:

I think a lot of mine [hunger] before was emotional and I'm certainly dealing with it better. I still do this crazy thing where I go into the kitchen and open the refrigerator door and just kind of stare at it looking for something and through therapy – I mean I chose to do therapy for almost two years after my surgery just because I knew, I call it a little monster that was up there, that made me stay the way I was for so long. When I have episodes where I do that and go into the kitchen and just open a cabinet and stare in there knowing full well that there's nothing in there, nothing's suddenly going to appear that I can snack on. I just say to myself, ok what are you trying to avoid? If I'm feeling lonely tonight, or none of my friends are available to hang out with or I don't want to do the laundry or I don't want to do the kitchen ... I just say to myself, I don't have to clean the kitchen if I don't want to or it's OK to stay at home or get on Facebook.

Other male patients describe how – despite being the ‘ideal’ patient from a gender perspective – were able to “cheat” the band. Devon tells a support group he had a revision from band to bypass, warning other patients “you can beat it if you want”. He tells the group: “One day I looked in mirror bare naked and I was bigger than where I was when I started....I know I made a mistake with the band...I was trying to find ways to cheat. I knew every trick with the band.” However, among many practitioners, and even female patients themselves, women's ‘failure’ to lose and maintain their weight loss post-surgery is seen as *proof* of their emotional eating; emphasis on personal failure with the band both diminishes the technical issues with the band and skirts the ways in which a patient's – male or female – broader social environment, physical selves, and emotional state affects their food choices and behaviors and ability to exercise.

### 5.2.3 Doctor Knows Best?

Gendered assumptions about *how* – and *why* - men and women eat guides practitioners and surgeons' perceptions of who will succeed with the gastric band; their assumptions about women's *inability* to be successful enters into their interactions with patients, as they attempt to steer them away from bariatric surgery or towards another bariatric surgery option – namely the gastric bypass. A number of scholars (Ratcliff 2002; Weitz 2007; Lorber 1997; Guadagnoli and Ward 1998) have addressed how doctor-patient relationships are often guided by paternalistic value systems in which the patient is the passive receiver of treatment, rather than an active participant in their care. However, Pitts (2004) argues that the Internet has opened up the avenue to receiving health care information, 'leveling the playing field' between doctors and patients, and providing a space where women can share health information with each other. Despite the increasing availability of public health information via the Internet, medical expertise is often not challenged, meaning doctors still have tremendous influence concerning the medical "choices" their patients exercise. This influence is powerful and, despite, the appearance of detached objectivity, is often driven by surgeon's own interests. Feminist scholars (Kaw 2003; Gillespie 1996; Morgan 2003) have described the ways in which doctors have a vested interest in the medicalization of women's appearance; medical sociologists (Conrad 2007; Clarke et al. 2003) have likewise described the ways in which the 'engines' driving medicalization of diseases and other human conditions are not only doctors, but pharmaceutical companies, looking to profit from the diagnosis and treatment of disease. In the case of the band, the extensive marketing efforts put forth to sell the band – to patients and to surgeons – have had a significant impact on patients' decision-making process. Thus, women's ability to make an informed and unbiased choice is compromised within a context in which the power of medicine as an institution – coupled with extensive marketing efforts on the part of biotechnology firms - prevails.

Deborah describes how her surgeon tried to talk her toward electing another procedure, but she insisted on the band, after doing her own research online:

When I went in to talk to him, he tried to get me to do the roux-n-y and I said, 'no sir, I won't have that done, I want the lap band.' He said I think you'll do a lot better because he was considering my weight and what all the health issues I was having and I said 'no, if you can't do Lap Band then no, I'm not going to do it' and he said, 'OK if you want to do that'. So in 7 months he told me, you have totally made a complete liar out of me. He said you have shown me that you can do it. And to this day, he said you are my, he calls me his star patient, I am his star patient.

Although she defies her surgeon's expectations to be his "star patient", this anecdote suggests that surgeons' or clinicians' own preferences or biases may guide patients toward one procedure over another, if they elect surgery at all. A self-described "emotional eater", Katie explains that, while her surgeon was supportive of her decision to have the gastric band, the dietician<sup>85</sup> at her bariatric practice, tried to steer her toward another surgery because of her eating habits:

... in the beginning I saw one dietician in the office and I had just had my first appointment with the doctor and I was so excited after meeting him because I just got such a good vibe off of him and the surgery itself and then I go to the dietician and she's asking me what surgery was I going to have and I told her and she asked about my eating habits and I was very open and honest about what I ate and she told me, 'well, I don't think this surgery's going

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<sup>85</sup> Katie, like many of the patients I spoke to or who attended support groups and information sessions, was required to have nutritional consultations with a dietician as part of insurance stipulations for having surgery; these nutritional visits were intended to begin readying the patient for life post-surgery and to begin losing weight; nutritionist also guided the patient on the pre- and post-surgical diet, which differed depending on the bariatric procedure. These nutritional visits varied, depending on the insurance requirements and the requirements set forth by the practice itself; some practices gave dieticians autonomy to require additional visits and delay surgery if they were deemed to be ready to make lifestyle changes. Katie was required to see a nutritionist for 6 months prior to surgery, as required by her insurance carrier.

to work for you.' And that was kind of, I went from being really excited to being oh God, you know, and you know I guess she's looking at how my eating habits were but.....You know, I'm here to have fat girl surgery, I know I eat horrible, I know that or I wouldn't be here to have the surgery, I wouldn't have even come this far because I knew I ate bad, I knew what I did wrong or I would have been there. So that was kind of a bummer but you know, so there wasn't really that type of connection so I didn't see her anymore after that, I switched to the other dietician after that. That is a little bit of a bummer when somebody tells you, you know she said point blank, I don't think this is going to work for you, this is not the surgery for you. I already pretty much knew I didn't want to have bypass and you know it really wasn't her decision to make as to what surgery I'm going to have.

Here, other clinicians attempt to impart their views on patients' readiness for surgery; still, Katie describes how she lost nearly 100 pounds with the band – despite her initial dietician's belief that she would not be successful. In this way, Katie, like Deborah, sought to actively challenge medical opinion that they were not the 'ideal' patients for the gastric band. However, not all patients may be able to challenge their surgeon or clinician's recommendation concerning which surgery to have; Guadagnoli and Ward (1998) argues that doctors are more likely to adopt egalitarian interaction patterns with those they consider equals- white, nonelderly, male, middle and upper class (p. 353), and power differentials are particularly exacerbated by cultural differences with their patients. Although they point to improved medical outcomes when patients take a more active role in their health care treatment options, they acknowledge that the deeply held belief that doctors – not patients – should make health decisions remains strong. Women, because they are socially constructed as the 'emotional' sex – are often not taken seriously by their doctors (Ratcliff 2002; Lorber 1997). Weitz (2007) addresses how illness and fear can also affect patients' reluctance to challenge medical authority. But while these patients were still able to have the surgery they initially elected – and 'succeed' by medical, quantitative standards - beliefs about their *inability* to be

successful trickled into practitioner encounters after surgery, and the belief in women's emotional eating was seen throughout the course of my fieldwork as the *primary* reason why patients 'failed' with the band. These interactions are significant because they demonstrate how gendered assumptions have material consequences for potential and existing patients, not only affecting their ability to have surgery, but also their aftercare.

Interestingly, despite surgeon and practitioners' anecdotal evidence of who is more 'successful' with the gastric band, limited research (Snyder 2010) has attempted to predict which patients will have poor weight loss after gastric banding surgery; Nguyen, et al. (2009) find that *males* have poorer weight loss than women, while DeMaria et al. (2001) find that African Americans had lower weight loss compared to Caucasian patients. Snyder et al. (2009) find that BMI is a better predictor of weight loss outcomes, finding those who have a BMI of greater than 46 have higher 'failure'<sup>86</sup> rates. Some practitioners believe that age and health prior to surgery affects outcomes since some patients with more debilitating conditions may not be able to exercise (personal communication), supporting limited research linking younger patients to better outcomes post-band and gastric bypass surgery (Snyder et al. 2009). The search for the "ideal patient" remains part of Ethicon's efforts to enhance to the outcomes of the gastric band, explains a clinical scientist at the biotechnology firm:

.. with the gastric band, outcomes are very much variable ...a lot of it depends on what kind of patient gets the band so can we identify that patient, the ideal patient for gastric banding and send those patients toward gastric banding and really send others towards gastric bypass or sleeve gastrectomy, for example. A lot of our efforts are focused on that, trying to understand the clinical parameters that affect outcomes from gastric banding...there's a

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<sup>86</sup> Success was defined as more than 50% excess weight loss (EWL) and failure as less than 30% EWL

very typical patient, a patient with a BMI of 35 to 45, female and kind of in the 30 to 50 age group is the ideal patient for a gastric band and that's been well-published in literature. What we've tried to add on to that is understanding what kind of behavior patterns predict. As you know, the gastric band is dependent a lot on the kind of eating behaviors that you have after the band is put in place because you could theoretically eat right through the band, just drink milkshakes all day and you wouldn't get anywhere. So we're trying to understand what kind of behaviors would predict maladaptive eating behaviors after the band is put in place and understanding if there are measures, we think we have some good understanding of what kind of parameters predict those kinds of behaviors – what we're trying to develop is really a tool that will really make that a quantitative assessment.

Here, the scientist reaffirms there are indicators for the 'ideal patient' but positions outcomes as contingent on quantifying and predicting the *behavior* of patients, reaffirming discourse surrounding patients' role in sabotaging outcomes.

### **5.3 “I Wanted to be Around to See my Kids Grow Up”: Gender Norms, Idealized Motherhood and Breaking the Cycle of Obesity**

*In scrubs, Dr. C enters a crowded room in the east wing of University Hospital, where potential bariatric patients – some with spouses, friends or children – sit in long, tables, in a hushed silence after watching a 20 minute video on the different types of bariatric surgeries and the toll obesity takes on the human body, including increased risk for cancer, infertility, and heart disease. Dr. C, head of surgery at the hospital, enthusiastically asks the group some provocative questions: “Are you ready to get healthy? To fit on an airplane seat? To be able to buckle your seatbelt? To get down on the ground with your kids?” The crowd responds with alertness as Dr. C asks: “How many of you have been on diet and lost weight?” [hands up] Did you gain more weight? [hands up] It's not about the number when step on scale, it's not about the size of your clothes, it's about getting healthy. If I can fix your aching back, resolve our diabetes without losing any weight, it's a success – it just so happens that have to lose weight to make that happen.”*

While surgeons and practitioners believe that gendered ways of eating and caretaking make women *less successful* patients, they use women's essentialist identities as mothers to *sell* them bariatric surgery. These information sessions, like the

one described at University Hospital, much like targeting marketing campaigns, emphasize the health-related consequences of obesity and shortened lifespan – often relaying dramatic imagery and statistics showing increased rates of cancer, stroke, degenerative arthritis, and depression as a result of patients’ weight. Patients are then told the “risk of dying early greatly outweighs any risks with surgery” during a video at the hospital session; simultaneously, surgery is positioned as an opportunity to become healthy specifically for the sake of their children and grandchildren. In a session at Obesity Solutions, potential patients view rolling video of testimonials from band patients who explain their motivation for having surgery as wanting to be healthy, as one patient testifies, ‘I wanted to be around to see my kids grow up’. At the same session, the center’s bariatric advocate tells patients the consequences of their obesity: “this is a quality of life issue – it affects everything, you get to the top of the steps and need to take a break, you’re too young to have to be like that, we want you to get to a healthy weight where you can play with your kids, we want you to be around for the kids.” In a support group meeting, Dr. I, a psychologist reaffirms patients desire to “want to be healthy for their kids”, telling the group, “it really is a present you give your family.” In a different support group meeting for band patients, a 21-year-old pre-surgery patient explains her rationale for choosing the band: “my biggest thing is I have two step-kids that I need to be there for.” For Amber, the importance of her role as a stepparent becomes part of her decision to have the gastric band.

During in-depth interviews, band patients often reaffirmed how their desire to be healthy for their family served as a motivating factor in having gastric banding surgery, reinforcing the idea that obesity has made them *unhealthy*. Leena describes how her weight affected her ability to conceive; while she was, after a series of miscarriages, able to have a child before surgery, she’s determined to stay healthy for her son’s sake: “I’ve decided I have to do something to prolong and better my health and so that I can be

around to spend quality time with him.” Lauren describes how, while she didn’t have any health problems prior to surgery, she decided to have the band because she was “very concerned about being around to take care of my 2-year-old and wanting to be nimble and limber enough to get around and play with her.” Deborah describes how her relationship with her grandchildren has improved post-surgery, now that she has the energy to do the activities they enjoy: “I think they enjoy me better now because I can do more things with them like we’ll go to Six Flags and I can get on the roller coaster – when I was heavy some of them I could ride, some of them I couldn’t ride and I would get out of breathe...but [after surgery] I just have so much energy, so so much energy.”

But if obesity surgery will help women be *better, healthier* mothers and grandmothers, many of the patients I spoke to and observed internalized the belief that their obesity has made them *bad* mothers. They believed this not only because they are unable to physically do things with their children, but also because their children were as ashamed of their size as they were. For some of the patients I interviewed, having surgery – while a ‘scary’ proposition for their families who had concerns about the physical risks of anesthesia and the surgery – is seen as a way to connect with their children and re-invent themselves as *better* social mothers. Believing that her obesity made her children “embarrassed” of her, Christy tearfully explains that surgery has allowed her to feel more closely connected to her children:

I was the PTA mom, I was always taking them everywhere they needed to go, always doing all those things, but like the intimate part of one-on-one that was harder for me with them. ... I feel more connected and I don’t feel so afraid anymore and I don’t feel as embarrassed. I used to feel really embarrassed – even though I did lots of things I was thinking about were they embarrassed by me. So there were definitely times that I would chose not to do things with them or choose not to do things because I was afraid I wouldn’t be able to sit into a seat or those kinds of things. I guess that’s kind of where that feeling more intimate has come from in the sense I do more things with them.

As she began to lose weight, Christy believed the intimacy in her relationship with her children has strengthened. Danielle likewise described how she was afraid her weight was an embarrassment to her children:

.. I knew that as my kids were getting older that I didn't want to embarrass them, you know, and I knew kids are cruel and my son already had a [piece of his] skull removed when he was little and I knew he could possibly get made fun of the way his head is scarred and I didn't want anything added on that. Someone could make fun of him because I knew some of it was 'oh your mom is so fat' I knew when I was in high school they had those your momma's so fat jokes and I didn't want that to happen.

Here, Danielle, like a number of the patients I interviewed, conveys internalized shame about her body, acknowledging the social stigma of being an overweight woman. Though Danielle described how her poor health prompted her to have surgery, her focus on the body as a source of public shame reveals the ways in which health-centered discourses overlap with social mandates concerning appearance, with both colluding to drive many female patients into the operating room. This same social and personal shame about being overweight also translated to patients' anxiety about their children also being obese; having surgery was seen as one way to break the cycle of obesity in the family and prevent their children – specifically their daughters - from following in their footsteps:

Nobody wants to be overweight, I tell you it's just miserable. And I struggle with my daughter – she's very much the same shape as I am, that kind of square shape, so I try to teach her about exercise and balance not necessarily you need to be skinny, you just need to have a balanced life and she's getting it. But my mother struggled her whole life so this was sort of in me, kind of ran in the family at least on one side (Samantha).

For Samantha, the 'misery' of living as a obese person transformed into fear that her daughter would also know that reality; she believed her role was to not force thinness as a measure of worth to her daughter, but to emphasize "balance" in her life as a way to

prevent her from 'inheriting' her obesity. Katie similarly expresses concern about her daughter: "my son and my daughter are built completely different – one will probably have to struggle like I did and the other won't." This supports previous feminist theories that argue women's anxieties over their own bodies transfer to their daughters. In this way, women who have their own experiences with weight gain may become "watchful" and "preoccupied" with their own daughter's bodies (Orbach 1986, p. 47).

Underlying these patients' accounts is a sense of shame related to their obesity; as mothers, many of the women I interviewed believed their role was to prevent their children from experiencing the stigma of obesity and the social embarrassment because of their mother's obese body, reinforcing there is something wrong and abnormal about not just their own bodies, but the bodies of all others who are overweight. Katie describes one of the moments that led her to have weight loss surgery – and the accompanying apprehension of going down the same path as her own mother, a gastric bypass patient, who struggled with her weight and with depression most of her life:

I can't remember how old my daughter was at that time and she's a momma's girl and she made the comment one day that I want to be big and fat just like you one day momma. And that just broke my heart and I knew at that point I had to do something... I was 26 when I went to my first visit with Dr. J and I was sleeping a lot and the depression still a little bit. I knew at that point in time, she was 4 and a half, I had to do something if I wanted to live. I mean my mom had always been so overweight and I saw myself going into the same pattern....

To have a daughter that is "big and fat" is a heart-breaking prospect for Katie, demonstrating the power and pervasiveness of social stigmas about the obese and the additional burden faced by women to conform to ideals of slenderness. Like Katie, in support group and in-depth interviews, many band patients described the need to break the cycle of obesity in their own family and described the harsh social penalties of living as an obese person in the U.S. One pre-surgical patient tells a support group: "I watched

my mom gain weight and the toll it's taken on her. She's now in a nursing home - it's led to poor care and increase in her depression. She fell and it took 4 big firemen to lift her, and it was so ugly to watch, the lack of dignity. I don't want my children to go through that." Here, the solution to having better care is to lose weight, a reflection on how individuals internalize the need to change their own bodies via technology and surgical intervention to avoid obesity-related discrimination, rather than view it as a social/cultural problem. Although Patience, a band patient, doesn't intend to have children, she explains that, as a nurse, she described seeing firsthand the discrimination faced against obese patients at the hospital where she works: "I didn't want to be like the patients that I take care of - all the patients in our [ICU] unit were like obese, they were over 300 pounds and it's like awful to be a patient that's overweight in the hospital and they can't fit in the machines, and you can really see how people discriminate with their care, you know, because you can't really do anything with them, because they won't allow that and people don't want to break their back taking care of you." Again, losing weight is considered *the* answer to weight discrimination, rather than confront the larger system which allows weight-based discrimination occur and remain unchallenged.

In internalizing the gendered role of nurturer and caretaker in the post-weight loss surgery context, many of the female patients I spoke to also described the need to ensure their own families' health and were determined to prevent them from going down the same path towards obesity:

I know for him more than anything else his dad is on the heavy side also and I was and I'm getting there to take it off so I know he has it on both ends, so I watch a lot of times what I give him just to avoid the what do you call it, children's obesity, that phase in American where we're all watching children grow up and have that issue of being overweight and all that stuff so I try to give him a lot more fruits and vegetables and cut out the starches (Leena).

While Leena sees her role is to intervene in her son's genetic predisposition to obesity, interestingly, a number of patients I interviewed described how their mothers' efforts to

control their bodies resulted in weight *gain*. Justine talks about how her mom's "obsession" with her body has affected her relationship with food and with male partners:

I've struggled with weight pretty much my entire life...When I was younger, every Saturday or Sunday morning would be like the scale would be waiting in the kitchen – my mom was very weight and health-obsessed to the point that I was on Weight Watchers when I was like 12 years old...I hope I don't do this to my children. It was really nutty, she would write it down, every Saturday...I would be in the bathroom like doing crunches, little 12-year-old me on the floor hoping I would drop two pounds in the 5 minutes that I was in the bathroom to the point I had to walk in the kitchen and get on the scale. It was crazy, it was craziness.

Family-centered weight and bodily obsession became the foundation for many patients' entry into a feminized role in engaging in diets and other forms of bodily restriction. The *lack* of a mother figure to monitor their eating habits was also mentioned by patients, mirroring mother-blaming discourse that attributes women – and specifically their decision to work outside the home – as responsible for childhood obesity (Boero 2009); this mother-blaming discourse, Boero argues, is a reflection of social anxieties concerning women's changing roles in society and the changing racial and ethnic population. Patience describes how her mother, who was a single mom who worked full-time and went to school full-time, would not be around to "police" her and her sister or prepare their meals; she also often use food to comfort her emotionally:

.. we kind of ate whatever we could fix, my sister and I we would just whatever it was. So there was no one home kind of police what we ate. And I think I learned to emotionally eat early because my father wasn't there and there were some emotional things there with him. And every time something would happen, you know, it was food. You feel bad? Let's go get some ice cream or let's go get some cake, let momma do this for you, I know your dad didn't show up today but let's go out to eat. So you know you learn those things as a kid. I just ate whatever we wanted, whatever we could cook at home, French fries, peanut butter and jelly, whatever we could make ourselves, most of time it's processed food and that's what we ate.

Just as a mother's role – whether their absence or their interference – is constructed as having negative repercussions for their children, many patients, practitioners and surgeons relayed that women's post-surgical eating and exercise habits can result on overall positive changes to the family dynamic; during interviews and clinical observations, patients, practitioners and surgeons state that embracing healthier lifestyle choices results in benefits beyond the individuals, extending to the entire family. Bariatric surgeon Dr. E says that when women do well “the families also lose weight because the kids are eating better food, because the mom shops for better food, if the mom's going for a walk, the kids go with her, so the whole family is involved.” Katie, a band patient, describes how she was “raised on fast food only” and, while her kids still eat fast food on occasion, she explains she's “more conscious of what I'm feeding my kids now – I tell them no when they want an extra snack, I'm like you don't need that.” Nancy, a bariatric nurse, talks about a “superstar” patient, a college freshman whose family members are all obese: “I think she's going to be a super star...if she can pull this off, she's going to change her whole family because they are some large people and they're all made alike like.” Here, Nancy reinforces the way in which the family dynamic can change as a result of one individual's decision to have bariatric surgery. Practitioners and surgeons also saw patterns emerge where couples would have the surgery, often with the woman having it first (Allison, exercise physiologist), representing “a product of gendered body and health paradigms” where women are more likely to seek medical care (Shapiro, 2010, p. 148). Women are also more likely to go to support group meetings post-surgery, “groups that our society views as largely the domain of women” (Shapiro 2010. p.148); Violet explains: “men don't like to go to support groups – they don't like to share their feelings.” Others point to racial differences in preferences to have surgery; Dr. E explains that “men, especially African American men, I've found are just not, they're scared, they're scared of surgery, of the hospital of doctors, so they don't come in often.

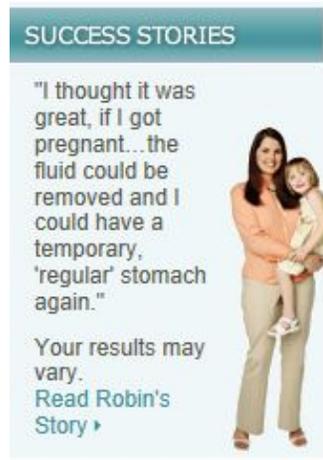
And if there's a husband and wife team, usually it's the wife that will go first." Here, the surgeon reaffirms not only the gendered nature of who seeks medical care, but also the role racism has played in medical treatment and research on men of color, with important implications for care (Clarke 2005).

### **5.3.1 Becoming Mothers**

As medical practitioners – and patients themselves – articulate, weight loss surgery becomes a means not just to become *better, healthier* mothers but to *become mothers*. In all of the information sessions I attended, issues of pregnancy and infertility became central to discussions surrounding bariatric surgery. At an information session for Obesity Solutions, a number of potential patients raised questions about whether they can still have children after the band, and whether the band will need to be removed once they conceive. "We've had a lot of band babies – we suggest you beef up the birth control", responds Dr. H, emphasizing the way in which infertility issues can be resolved with the band and the ease with which patients can have a healthy pregnancy post-surgery. The link between infertility and obesity in women is frequently discussed in information sessions; surgeons and healthcare practitioners tell patients who are having trouble conceiving that losing weight following surgery can allow them to carry a healthy child to term, explaining the causality simply as "[obese] women have a horrible time with menstruation and getting pregnant. Fat makes estrogen; many start losing weight and feel like 18 years old again, have to be careful because become more fertile after surgery" (Dr. F, bariatric surgeon). While the band is not indicated for women who are pregnant or planning to become pregnant, Allergan's marketing efforts emphasize that "becoming pregnant may become easier as you lose weight. Your menstrual cycle may become more regular". Doctors and surgeons, however, advise women to wait at least one year after surgery to try to get pregnant (O'Brien 2007). Research suggests obesity

is linked to polycystic ovarian syndrome and irregular menstrual cycles; obesity is also shown to increase risk of miscarriage and reduced response to assistive reproductive technologies (Zain 2008; Tan 2012). The link between men's obesity and infertility is never discussed in the meetings; however research suggests male obesity – which often results in lower sperm count and erectile dysfunction - is also linked to infertility among couples (Pasquali, 2007). This omission reinforces the idea that women's reproductive organs are solely responsible for failure to conceive, further pathologizing women's obese bodies, and women's bodies in general, since women are often blamed for infertility issues.

If losing weight via bariatric surgery, however, becomes the means by which obese women can finally conceive, for those women who are considering getting pregnant, the band is often constructed as a *safer* alternative to gastric bypass surgery – one that won't interfere with being able to carry a child to full-term, and one constructed as the *more responsible* choice for mothers-to-be. On its website, a LAP-BAND "success story" – holding a small child explains "I thought it was great, if I got pregnant...the fluid could be removed and I could have a temporary, 'regular' stomach again" (See Figure 5.1).



**Figure 5.1: Allergan 'Success Story' (Allergan n.d. c<sup>87</sup>)**

Allergan advertisements position the band's adjustability as 'ideal' for carrying a healthy child – and for losing weight post-childbirth: "If you need to eat more while you are pregnant, the LAP-BAND<sup>®</sup> System can be loosened. After pregnancy, it may be made tighter again, allowing you to continue on your weight loss journey." In the guidebook for LAP-BAND patients, written by Dr. Paul O'Brien (2007), one of the world's leading surgeons in gastric banding, states: "We can remove fluid if the weight gain is not ideal and allow a greater food intake, enough for the pregnant mother and the growing baby. Other bariatric procedures do not allow this margin of nutrition safety" (p. 36), in reference to the malabsorptive procedures, such as gastric bypass, which may lead to nutritional deficiencies among patients, with implications for pregnancy. Wendy, a band patient, describes how her concerns with the ability to carry a healthy child were part of her decision to elect the gastric band:

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<sup>87</sup> This site is no longer active; Allergan unveiled an entirely new website in March 2013 focusing on selling the band's benefits relative to the sleeve gastrectomy. This image was a screen shot captured in January 2013.

I haven't had any children – I know now you can have children and they can be healthy with gastric bypass but I also know so much about the malabsorptive portion and the stapling and all that – I like the idea the band was removable, and not only was it removable but that I could remove the saline if pregnant and eat as much as I needed to eat and then when I'm done having a kid I could get it back up, put more saline in there.

Wendy's account, like the marketing materials, reinforces the idea that all women want to *become* mothers; the band is then positioned as providing the opportunity for women to have a safe pregnancy and return to their body work via an adjustment *after* delivering a child.

#### **5.4 Health, Appearance and Avoiding the 'Sick' Look**

Feminist theorists (Jaggar and Bordo 1989; Bordo 1993; Brumberg 1997; Wolf 1992) argue that because women are held to a higher cultural scrutiny concerning weight and appearance, there is additional pressure to engage in disciplinary practices of the body. Kathryn Pauly Morgan (2003) argues that women who do not participate in bodily enhancements “are already becoming stigmatized as ‘unliberated,’ ‘not caring for their appearance...as ‘refusing to be all that they could be’ or as ‘granola heads’” (p.175). Kwan (2009) explores this idea more closely, describing how discourses about ‘health’ become employed in individual's justification for losing weight. Dworkin and Wachs (2009) build on Robert Crawford's concept of ‘healthism’ in which capitalist culture is infused with notions of ‘health’ and health promotion that reveal assumptions about normality, well-being, and morality; thus, the individual, not structural conditions, are to blame for unhealthy bodies. Under this schema, maintaining a healthy body is required for good citizenship. They argue: “since health and fitness discourses are perceived as operating within the realm of science, or as being unquestionably ‘health’, such discourses are frequently overlooked as a site in which to critically examine how

ideologies of masculinity, femininity, gender and the body are constructed within such spheres” (p.22).

Within the context of bariatric surgery, Murray (2009) argues that surgery “offers the promise of bestowing ‘health’ and normative appearance, both perceived to be lacking in the obese subject” (p. 153). Murray (2009) argues the use of before and after photographs in marketing materials for bariatric surgery documents the “supposed shift from a devalued, pathological ‘fat’ body to a newly normative (gendered) one...the joy recounted by patients is described as an effect of appearing in the world differently, or more specifically, of appearing as normatively feminine or masculine rather than desexualized and unattractive” (p. 165). Similarly, Boero (2012) argues weight loss surgery reinforces normative heterosexuality and femininity through three intersecting processes – relearning heterosexuality, consuming femininity through the purchase of products and services, and becoming ‘human’ by being noticed by others whereas before they were rendered invisible in their obese bodies (p. 164).

Other scholars emphasize the role of the media and advertising as perpetuating these constructions of normative femininity. Media reporting of the obesity epidemic (Saguy and Almeling 2008; Boero 2012), coupled with advertisements and patient testimonials in practice brochures and online, emphasize the transformed appearance of weight loss surgery patients (Salant and Santry 2006), drives the imperative toward surgery as a means of correcting one’s health and physical appearance. Drew’s (2008) analysis of weight loss surgery brochures, advertisements and web sites, similarly demonstrates how dominant social scripts about gender are disseminated in media messages, shaping whether and how individuals uses weight loss technologies; these messages inspire women to change their bodies and reinforce ideologies and gender scripts concerning women’s appearance.

These appearance mandates, in turn, affect the *design* of the band; this is shown specifically in the re-design of the port from a volcano or dome shape to a ‘low-profile’ port to “minimize its appearance under the skin, even as you lose weight” (Ethicon n.d. h). Ethicon advertises its port as “the lowest profile of any injection port” on the market at 11.6 mm; Allergan followed suit with the design changes and now offers three different ports – the Access Port I— Standard Profile (14.7 mm), the RAPIDPORT EZ (11.6 mm), and the Access Port II – Low Profile (11.9 mm) (Allergan 2013c). In a pre-operative session for band patients<sup>88</sup>, a woman asks the bariatric surgery center administrator whether she’ll be able to see the port once she reaches her goal weight; Elena responds “they are low profile ports now; with the high profile ones, we had complaints that you can see it with a bathing suit on.” Dr. C explains that patients didn’t like the “older port” because it would “stick out”; the newer, low-profile ports, he insinuates are a *response* to patient preferences. The shift in surgical techniques – from multiple laparoscopic incisions to three or single-incision techniques – also represents a response to and a demand for less scarring. Katie, a band patient, describes how her surgeon was able to her perform her band surgery – and operate on a hernia – through a single incision; while he was “so proud” he was able to reduce the scarring, she explains while she was “very pleased” with it, she explains that it wasn’t of critical importance to her: “I’ve had two kids, I’m never going to be in a bikini.” But for others, the issue of surgical scarring *is* of importance and perpetuates self-hatred: “I hate it. It’s the one thing I see in the mirror when I look at myself – it’s all I see.” Designers make gendered assumptions about the

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<sup>88</sup> This session was the final pre-operative appointment for patients who had been approved for band surgery and had already scheduled their surgery date. This was a group appointment and also included a nutrition session where the surgical center’s dietician walked patients through the pre- and post-operative diet; the information session was moderated by the center’s administrator.

users, assumptions that can be designed into the artifact (Cockburn and Ormrod 1993). The mutual shaping of gender and technology is evident in the case of the gastric band; features designed into artifacts tend to reflect and reinforce gender stereotypes which in turn play into design choices. These design modifications both respond to and shape patients' concerns about their appearance post-surgery; they also reaffirm practitioners' beliefs that patients –specifically female patients – are largely motivated by the promise of improved appearance rather than improved health.

#### **5.4.1 Challenging Appearance Norms**

In the information sessions, I attended, practitioners and band marketers – and the bariatric community at-large – emphasized the *health* benefits associated with weight loss and bariatric surgery, including the reversal of type 2 diabetes, hypertension and sleep apnea, adding that appearance changes were simply a “bonus” to surgery. Although representatives from the biomedical firms argue that the gastric should “never even be considered as a cosmetic option” (Product Developer, Ethicon), many surgeons and practitioners – despite their attempts to focus on health-related outcomes - relayed their belief that women's concern with their appearance drives them to have bariatric surgery. Dr. E, a surgeon, explains that “women are more focused on the cosmetic aspect of being obese and wanting to be thin.” Similarly, Violet, a nurse practitioner, says that while the majority of patients at her practice have been women, the center has steadily seen more men in the past few years; she said that women are more likely to have the surgery “because of the way women feel about their body...women always concerned about their weight, even if they weigh 75 pounds. A big man, unless he's 500 pounds, is OK.” Here, Violet reinforces gender stereotypes concerning women's emphasis on their appearance but also reaffirms the idea that men are less concerned with how they look. Dr. I, a psychologist, explains:

...there's a multitude of reasons why people want to have surgery - some are overt, some are covert. The overt reasons are people have significant co-morbidities, they're becoming diabetic, they have high blood pressure, they have sleep apnea and for a significant number of patients, losing weight will take care of those conditions. I'm not sure with lap-band but with gastric bypass diabetes is almost cured instantly, not for everybody but for a good number of patients, they leave the hospital without the need for the medications. So that's something that's very attractive, for the health issues. More so for women than men there's the issue of wanting to look better. There's a small percentage of men who how they look, picking out clothes, or what women may think of them in terms of partners but that's small percentage as opposed to with women there's a much higher percentage. It's really interesting when you ask, there's a question on of the [psychological] test that says something like my weight and shape have been the most important, somewhat important, and I ask them why that is for them and the modal reason is because I don't look good in clothes and I can't find clothes, they don't make nice clothes for big women.

While the psychologist recognizes the ways in which health issues drive the desire to have surgery, he emphasizes that women are *more* concerned with how they look and what they can wear than men; in reinforcing these gender scripts concerning women's 'vanity', practitioners position women as insincere about their motives while simultaneously reinforcing that women's concern for their appearance is *natural* and *should* drive them toward surgery. But in the context of the prevailing social and cultural norms concerning appearance – overlaid with patients' direct experiences facing discrimination because of their weight and technological enthusiasm in bodily transformation vis-à-vis cosmetic surgery – there is no way for some to escape this appearance mandate.

Female patients, however, sometimes overtly challenge this assumption that appearance is the primary motivator for electing surgery, focusing instead on their poor health, mirroring limit work in this area (Drew 2008a). Danielle explains how she was driven to the surgery after her doctor gave her a wake-up call about her heart condition: "he put his hands on my knees and he looked me dead in the face and said 'I give you

five years' and I said 'what?'..., it scared me, I cried, he literally scared me to death and he said you've got to get this weight off." Similarly, Elizabeth, a 44-year-old band patient, explains her poor health, coupled with a family history of lung and heart problems led her to the band: "I got diagnosed with high blood pressure five years ago, about 6 weeks before I first started coming here in September I got high cholesterol, that's strike one and strike 2, strike 3 is diabetes or heart disease – my mother died of COPD<sup>89</sup>, my father died of a heart attack, it's not if, it's when so I needed to get the weight off." Elizabeth, like Danielle, reinforces medicalization discourses concerning her higher *risk* of disease as a result of her weight (Conrad 2007). While some patients recognize the physical benefits of surgery, they dismiss the idea that appearance enhancement drove their motives or that they had poor self-esteem prior to surgery. Patricia explains that "I happy with who I was in my body before surgery - the only thing that is different is to be able to go in a store and not have to go to Omar the tentmaker." As Patricia emphasizes, it is in the capitalist space where women feel the otherness of their obesity, a reinforcement that they are not 'normal' and must shop in 'plus size' stores for clothes that are "unflattering" and draw attention to their weight. Shopping in a 'normal' store is viewed as a sign they have succeeded with the surgery and have achieved a normative aesthetic appearance. Beyond clothes, the post-bariatric space creates new markets for products catering to the "new bodily forms created through weight loss surgery" ranging from nutritional supplements, such as vitamins and protein shakes, medic alert bracelets, and body shapers (Boero 2012, p. 111). Shopping is considered a normatively

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<sup>89</sup> COPD is chronic obstructive pulmonary disease, a progressive disease that makes it hard to breathe.

feminine space and women are encouraged to reclaim their femininity through the purchase of products.

While appearance may be *part* of the motivation to have the gastric band, many of the band patients in this study selected the gastric band to obtain a very specific, sometimes culturally acceptable type of appearance. For many female band patients, the band – as opposed to other weight loss surgeries - represented an opportunity to still mirror culturally-appropriate standards of beauty, standards which emphasized ‘curves’ as opposed to thinness. Research supports the idea that African American women, as a whole, tend to have a higher self-esteem than white women, regardless of their weight (Lovejoy, 2001). However, this too works to universalize women’s experiences within this group, and ignores that there are standards of beauty within the sub-culture that women aspire to attain. The gradual weight loss, averaging ½ -2 pounds a week, associated with the band appeals to some women of varying ethnicities who did not want to look “sick” but still wished to lose weight. In a support group meeting, Sandra, an African American female, explains why she’s planning to have the gastric band as opposed to other options: “I don’t want to lose too much weight – that’s why I’m getting the band. My friend went from having butt that was its own chair by itself but she was really beautiful.” For Sandra, her friend was beautiful *before* surgery; this view complicates many practitioners’ belief that patients simply want to be thin, by offering an alternative concept of female beauty that challenges the idea that obese bodies are not attractive. Similarly, before an information session for potential band patients, a Latina woman tells the group: “I don’t want to be too small - my boyfriend doesn’t want me to be too little, have meat on my bones”. At a pre-operative nutritional consultation, a 35-year-old African American female tells Allison she selected the band because she want to “keep my curves”: “In my culture, I don’t want to be too skinny: I want to keep my curves, I want to be like a 10. With the band, I can monitor myself.” Another patient,

Amber, a 30-something Caucasian woman, tells Allison she's decided to have the band surgery after wavering between that and bypass. "I call them AA meetings, these fat people meetings, I've been to 2 meetings, when I was still thinking about bypass verses the band. With bypass, they lose weight so fast, they lose so quickly and they have skin issues.... they don't look healthy and they age so quickly." Another pre-band patient explains she chose the band because she did not want to "look like an English Bulldog."

The rapid weight loss associated with the gastric bypass tends to mean loss of chest size and saggy skin – the antithesis of what many of the women I interviewed wanted to look like. Deb describes how one of her former co-workers changed physically following gastric bypass surgery: "Frank looks like he has cancer he has lost so much weight. He's kept it off which is good, with the gastric bypass but he just, you know, Frank, you need about 10 pounds around your face, some people just look sick they lost so much weight." What emerges in these conversations is not only a desire to change one's appearance but to do so in a way that *still* meets normative constructions of attractiveness and feminine beauty within their cultural groups; in passing judgment against those who 'lost *too much*' weight, and those who transgressed the boundaries between what is considered healthy and sick, these patients reinforce narrow standards for themselves and other bariatric patients.

#### **5.4.2 Plastics, Sausage Casings, and the Myth of Excess Skin**

*Nearly 60 women and men – both pre- and post-operative bariatric patients – fill every seat at the U-shaped conference table, spilling out along the perimeter of the large meeting room of the urban county hospital. The support group leader skips the regular introductions and hands the reins over to the evening's guest speaker, Dr. L, a local plastic surgeon specializing in 'body contouring' for weight loss surgery patients who have lost a massive amount of weight. He tells the group they need to reach and maintain a stable weight for at least a year before they consider plastic surgery, and leads them through some of the necessary medical screening they'll need before surgery and nutritional considerations –including the consumption of extra protein – to make sure the body is able to heal post-plastic surgery. He shows them an image of*

*patient, with a roll of skin fat - or pannus - folding over her genitals, what he terms an 'apron pannus'. "Plastic surgery is about taking control of your body – it's time to let yourself out of this jail of your old body." Image after image of male and female patients appear on the large projection screen, as the plastic surgeon shows evidence of his work, "after" images of patients who had a panniculectomy, meaning removal of the pannus, tummy tucks (abdominoplasty), buttocks enhancement, breast lifts, arm lift surgery (brachioplasty), and lower body lifts (belt lipectomies), all post-weight loss surgery. "One patient lost 150 pounds on the band – you don't hear about that often - but I took 25 pounds of weight from her thighs," as he moves through the images. With the group captive and engaged, he moves on to more graphic images, of patients covered in bandages, bruising, with dried blood clots, and bag drains. He tells them: "if you don't want to see it, you shouldn't have the surgery," as he explains the risks, including scarring, the expense, and the length it takes to heal post-plastic surgery. Within seconds Dr. L shifts the tone again to one of hopefulness: "Weight loss improves health – body contouring can restore your image and self-esteem."*

Like the presentation described above, during my fieldwork, plastic surgeons were often featured as guest speakers at support group meetings – a captive audience of bariatric patients with a desire to get rid of 'excess' skin as a result of rapid or significant weight loss following bariatric surgery. While post-band bodies are often constructed as *healthier* and *more elastic* relative to gastric bypass patients, because of the slower pace of weight loss, practitioners still encouraged band patients to consider plastic surgery – or 'plastics' as many patients call it - to repair their "self-esteem". Dr. B, a plastic surgeon by training who later picked up a bariatric specialty, tells a group of pre- and post-operative patients to consider "total body contouring" once they've lost all their excess weight and maintained the loss for at least a year. After surgery, "people feel well, but one of the things they didn't think through once get patients healthy – is that they are more depressed because of excess skin. You've got your health back and don't feel good about selves – we recognize how you feel and look are linked," explains the surgeon. Dr. I, a psychologist, encourages people to "start a plastic surgery support fund" before they have surgery to prevent them from "wind[ing] up with poor body image." Here, the psychologist demonstrates the contradictions of bariatric surgery: while patients are continually told that overweight people have "terrible self-esteem"

(Leslie, nurse) and that bariatric surgery will help repair their negative self-image, they are also warned that their post-surgical bodies will *also* result in poor self-esteem. Here, technological transformation post-band surgery is necessary to repair one's sense of self.

Of the patients I interviewed, one woman had plastic surgery (abdominoplasty, or tummy tuck) and another had scheduled her surgery date for a tummy tuck at the time of the interview; four (4) were seriously considering the surgery and one had petitioned but had been denied by her insurance company to cover her plastic surgery. Andrea, a band patient explains that after a year of staying at her goal weight, she's planning to have plastic surgery: "I'm going in to be cut and sucked; I have bat wings that are going to be taken off; I do have some loose skin – some things are not going to tone [with exercise]". Throsby (2012b) argues that, for patients, "the issue of loose skin was inseparable from the experience of surgery...the skin is evidence of former fatness, meaning that excess weight – and the moral failure that it stereotypically signifies – can never be fully eliminated" (p. 11). Her study revealed that some patients opt to stop losing weight or regain weight to "limit the problem of loose skin", while others engaged in crash dieting to qualify for skin removal surgery; in my research, some patients discussed strategies for getting their insurance company to pay for 'plastics' including causing and then photographing skin rashes to justify the need for surgery to remove excess skin. Others purchased shape minimizers or other products to help women "suck it in"- contraptions some patients refer to as 'sausage casings'. In support group meetings, salespeople provided demonstrations on their minimizing products and patients talked openly about their struggles to negotiate their 'new' bodies with extra folds of skin. Jeanie tells a group of veterans – those three years-post bariatric surgery – that "I still don't feel comfortable with clothes - it's roll after roll. I love short skirts but I need to wear my sausage casing to

feel sexy. I don't feel good in clothes." While she would like to have plastic surgery, like others I interviewed, the surgery is too cost prohibitive.

Interestingly, before surgery, surgeons and practitioners sell the gradual weight loss associated with the gastric band – emphasizing that skin will 'bounce back' faster, compared to gastric bypass patients who lose weight quicker. Dr. B explains that because band surgery results in "slower weight loss, more skin bounces back, when [bariatric patients] lose weight rapidly, skin doesn't have time to rebound." Other surgeons call this a "myth", saying skin elasticity has to do with multiple factors, including age, genetics, and whether patients were exercising throughout their weight loss (Dr. C, personal communication). These sometimes contradictory discourses serve to both draw patients into the gastric banding surgical space and later into the plastic surgery space; here, the use of 'plastics' is constructed as a continuation into their bodily transformation process, a normalized extension of bariatric surgery. The technological transformation of the body via the gastric band parlays into the reconstructive potential promised by cosmetic surgery encouraging band patients to continue to engage with technology in efforts to shape their body into a *more* culturally acceptable form. Selling the need for plastic surgery in spaces where bariatric patients meet, like support group meetings, normalizes the use of plastics and reinforces the idea that individuals *should* be ashamed of both their pre- and post-banded bodies. As cosmetic surgery becomes more normalized in and outside the bariatric space, a further divide will be created between those who "choose" to participate in the construction of beauty and those who refuse participation, or cannot afford to participate. Kathryn Pauly Morgan (2003) argues: "Women who refuse to submit to the knives and needles, to the anesthetics and the bandages, will come to be seen as deviant in one way or another. Women who refuse to use these technologies are already becoming stigmatized as 'unliberated,' 'not caring for their appearance..as 'refusing to be all that they could be'" (p. 175).

## 5.5 Summary and Conclusions

Although constructed by designers and developers as a gender-neutral obesity device intended for both men and women, the gastric band reflects not only the stratified nature of biomedicine, but the ways in which gender relations are both embodied in and reinforced by technology. I challenge presumed neutrality of the device by focusing on how gender enters into and is expressed in the very marketing, design and use of the technologies women encounter. In this chapter, I argued that the gastric band reflects social constructions of femininity and masculinity, just as gender shapes technology. Gendered constructions of men's and women's exercise and eating habits - and specifically women's emotional attachments to food - are embedded in the pre- and post-surgical space; practitioners and even patients themselves reinforce normative cultural values concerning weight, appearance and idealized motherhood which have implications for patient care and for design decisions. The exclusion of women from the design and decision-making space serves to further legitimize beliefs concerning women's mis-use of the gastric band and their appearance-driven motivations behind electing the procedure.

Constructions of *appropriate* and *inappropriate* femininity inform the bariatric surgical space as clinicians and patients invoke gender scripts of emotional eating and socialized roles as caretakers to *justify* the need for and the decision to have surgery. In interviews and in-support group meetings, women were conscious of their own role in giving their children (or future children) the "right" foods or providing a healthy example. They often discussed their efforts to teach their daughters how to eat "normally" and expressed fear that their daughters would be heavy. In this way, women re-produced gender ideologies that the mother is the parent responsible for ensuring the good health of the family. Some of the band patients I interviewed also perpetuated the idea that their key role was to prepare their children for life in the social world - preventing obesity

and the stigma associated with being overweight. This focus on the family dynamic actually reinforces gender scripts, emphasizing the idea that women *should* be primary caretakers. The construction of women as the conduit for their family's health reinforces cultural beliefs about women's role in household – and in society.

Gendered ways of being and doing affect not only the *need* for surgery, but the *perception* of patients' misuse of the technology; throughout the interviews and fieldwork, practitioners and surgeons often attributed patients' emotional eating to their inability to be successful with the band. These beliefs, coupled with paternalistic assumptions about knowing what is best for the (female) patient, entered into patient-practitioner encounters, with implications for both access to surgery and for treatment post-surgery. These simplistic, binary construction of success and failure, committed and non-committed, emotional eaters and 'volume eaters' do not cleanly translate to patients' experiences; the oversimplification of the patient experience negated the complexities of living with the gastric band, positioning women's failure as *proof* of their emotional eating, rather than as evidence of a mechanical failure or as a reflection of the complexities of obesity.

Stereotypical gender roles also inform who *seeks* care and treatment in the first place; men, enacting hegemonic notions of masculinity and 'toughness', may not even consider going to a doctor, even if they have obesity-related health problems; for minority men, the history of racism in medicine may also compound the unwillingness to seek medical care. The ways technologies and treatments are used and accessed are largely informed by one's social position, particularly one's class status; one's social position, in turn, affects one's power and ability to seek treatment, refuse or accept care and access new technologies. The collusion of these factors mediates health care for all individuals in important and often troubling ways. Recognizing the ways in which all of

these factors and social identities work together reveals an even more stratified health care system which has consequences for both men and women.

Although varying social actors believe improved health should be the primary driver to have gastric band surgery, they also believe women are drawn into the surgical space because of their interest in an improved appearance, a belief that is sometimes challenged by female patients, supporting limited research in this area (Drew 2008a). While doctors may recommend the surgery because of concern about their patients' health, it is the stigma of obesity that drives many into the operating room; for women, the cultural mandate – and accompanying social penalties for being overweight – are far harsher, driving a disproportionate number to have bariatric surgery. In this social environment, there is no choice but to engage in the use of technology to 'fix' their bodies.

A feminist critique of gastric banding positions it within an existing set of disciplinary tactics intended to adhere to normative standards of femininity and a 'cult of slenderness.' Rather than viewing gastric banding as solely a reflection of an actual medical need, I problematize the medical model and consider the popularity of the procedure as an extension of a culture which legitimizes plastic surgery and promotes "fantasies of rearrangement and self-transformation" (Bordo 1993b, p.247), while at the same time operating under discourses of health. Gastric banding, in this reading, provides an opportunity to use *technology* to 'fix' and to normalize, to re-inscribe femininity to a body which has transgressed the normative (slender) framework. Interestingly, patients described varying standards of female beauty and the ways in which the band – as opposed to the bypass – helping one achieve a *healthier-looking* appearance. The band allows some users to maintain a very specific, sometimes culturally 'appropriate' femininity, which has been previously unaddressed in research in this area.

The emphasis on using technology via 'plastics' to transform the post-band surgery body reinforces appearance norms and the ongoing body work needed to 'repair' one's self-image post-operatively. This emphasis on woman's self-esteem as linked to weight is problematic because it reinforces the idea that overweight people *should* feel ashamed of their bodies – and reemphasizes the way in which even banded bodies are flawed and in need of (technological) correction. In this way, there is no choice but to engage with technologies to 'fix' their bodies.

While feminist science scholars (Balsamo 1996; Cockburn 1999; Wajcman 2004) have argued that technology may reinforce gender patterns and serve patriarchal interests, a number of feminist approaches to technology have likewise complicated the notation of passivity to explore how women have taken an active role in appropriating technology for ends that are sometimes at odds with designers' and scientists' intention (Oudshoorn and Pinch 2003; Kline 2003). Kline (2003) argues that resistance and non-use of technologies occurs in situations where the technology contradicts gender relations, value systems and identities. Oudshoorn argues that technological development "requires the mutual adjustment of technology and gender identities" (p.210). While notions of masculinity and femininity are often reinforced by technologies, Oudshoorn (2003), borrowing from Judith Butler's (1990) conception of gender performance, argues technologies themselves sometimes have the capability to "destabilize cultural narratives on gender" (p. 227). Gender scripts themselves are not stable; they are "constantly re-entrenched, contested, transformed, and challenged" as individuals "continuously navigate the complex terrain of conformity and resistance, of hegemonic scripts, and of assertions of new ways of being in the world" (Shapiro p. 179). Bijker and Pinch (1998) present technological development as something that involves "constant negotiation and renegotiation among and between groups shaping the technology" (p.13)., This social shaping approach challenges technological

determinism by acknowledging that technologies – including the gastric band - are subject to considerable interpretive flexibility in both use and design. However, there is acknowledgement that those opportunities are limited, and not all individuals will have the same capability to use or mis-use technology in the same way, nor disrupt long-standing gender narratives (Oudshoorn and Pinch 2003). Klein and Kleinman (2002) further argue that one's ability to resist technologies is particularly challenging within structural constraints. Wajcman (2009) similarly argues that while gender is embedded in technoscience, the relationship is not immutably fixed; however, the capacity of women users to produce new, advantageous readings of artifacts is dependent on their broader economic and social circumstances. Although I have argued that the band reflects and reinforces gender scripts, the band also leaves open opportunity to create new identities; for many of the patients I interviewed and observed, the band allowed them to re-define themselves as healthy individuals, as athletes, and 'good' mothers. These identities, while personally empowering at the individual level, do little to challenge the belief that these women's bodies are flawed, nor to disrupt the idea that women are responsible for the well-being of their family and that all women want to be mothers. Balsamo (2002, 1996) argues that certain biotechnologies are shaped by the operation of gender interests which serve to reinforce traditional gendered patterns of power and authority. As Balsamo argues, "when seemingly stable boundaries are displaced by technological innovation (human/artificial, life/death, nature/culture), other boundaries are more vigilantly guarded." (p.9). As I have argued throughout this chapter, the band, as a disciplinary weight loss technology, does more to reinforce gender roles than to undermine them. It reaffirms appearance norms, scripts concerning motherhood, and normative constructs of heterosexuality, serving to further pathologize obese bodies; it also places undo pressure on women to conform to standards of 'appropriate'

femininity while simultaneously casting them as responsible for 'failed' surgical outcomes for enacting the very gender scripts that 'made' them obese.

In the next chapter, I explore the decision-making context propelling individuals toward the gastric band and away from other options in the bariatric surgical space. Although driven to the band in part because of its construction as a less invasive and removable technology, once they have surgery, patients' physical and psychological selves become reconfigured in the wake of being 'banded'. These biomedically enhanced identities, much like the social meanings of the gastric band, are shifting, multiple and wrought with contradictions and ambiguities.

**CHAPTER 6**  
**BANDED FOR LIFE?**  
**NEGOTIATING PERMANENCY AND REVERSIBILITY**  
**AMONG GASTRIC BANDING PATIENTS**

For many potential and existing patients – long accustomed to the ‘diet rollercoaster’ (Leena) and failed attempts to “try everything” from Weight Watchers and Jenny Craig to doctor-prescribed weight loss drugs and hypnosis to lose weight (Andrea) – bariatric surgery remains the “last resort” to shed the stigma of obesity, resolve their obesity-related health issues and keep weight off in the long-term, mirroring limited findings in this area (Boero 2010; Throsby 2012; Throsby 2009a; Throsby 2009b; Throsby 2008; Murray 2009). Growing use of biomedical technologies in healthcare and technological enthusiasm in bodily transformation (Weitz 1998; Clarke et al. 2003, 2010), combined with extensive marketing by bariatric surgeons (Salant and Santry 2006; Oliver 2006; Rundle 2008), media coverage celebrity weight loss surgery ‘success’ stories (Boero 2010), readily available Internet health information, and increased insurance coverage (Oliver 2006), have helped elevate the position of bariatric surgery and contributed to its tremendous growth in the past decade. But the decision to elect the gastric band *above other bariatric surgical options* is likewise the result of numerous complex social, historical and economic forces – social stigma of obesity, costs, personal experiences, family pressures, direct-to-consumer marketing, lobbying efforts on the part of surgeons’ groups and biomedical firms, and increasing use of technology in healthcare settings, among others. These forces work in concert to direct patients toward – yet simultaneously away – from other bariatric options.

This chapter focuses on the decision-making context driving patients to elect gastric banding over other bariatric options, and the ways in which patients re-define

their identities vis-à-vis biomedical technology. My findings suggest that the depiction of the band as a safer, less invasive and – most significantly - *removable* technology drives its use, directing some patients away from other options – specifically, the anatomically changing gastric bypass – portrayed as unnatural and extreme, but simultaneously more effective, as measured by Excess Weight Loss. Band patients' familiarity and comfort with technology also pushes them toward the gastric band, a technology which is constructed as an extension of other life-saving medical devices; once 'banded', patients create new 'technoidentities' – identities that are unstable, contingent, and multiple, empowering for some and disempowering for others. I will argue that, as a new sense of embodiment is created in the presence of biomedical technology, it represents an ambiguity with technology and its role in mediating the (obese) bodily experience. While the band's reversibility represents *freedom* over technology and *control* over their bodies, it also reflects patients' struggle for both autonomy *and* desire for technological assistance in managing their weight.

### **6.1 Death, Extremity and Re-defining the Natural**

*In a small conference room in a hotel south of Atlanta, with silver framed banquet chairs lined neatly in clean rows, a small group of potential gastric banding patients – mostly women - chat among themselves as they wait for the presentation to begin. In the corner, a large free-standing banner of a current patient – a young African American female with an enticing smile - reminds prospective patients 'Your Weight is Over – Let us show you how we've helped others lose weight for life' while a projection screen rolls through pictorial testimonials of current patients declaring that gastric band surgery was 'the best decision I've made'. Dr. H, a well-dressed African American physician, the medical director of Obesity Solutions, a center specializing minimally invasive gastric banding surgery and aftercare, addresses the group with a striking statement: "What we are offering works 100 percent of the time. Obesity is a disease - it's not a lifestyle choice and it needs an effective solution." He begins his PowerPoint presentation, leading them through their surgical options, as the slideshow presents graphic images of real and animated bariatric surgeries. "Gastric bypass, well, you get it and you eat around it – you've seen that with Al Roker and Carnie Wilson. People lose weight because they have dumping syndrome – that's explosive diarrhea," he explains." And*

*then there's the vertical sleeve – that is a medical disaster. There have been a lot of reported leaks and if you don't stick with the program, it doesn't work. Then there's the lap band – this is an adjustable, outpatient procedure. This is a permanent solution. This is good technology and anyone can get it, it works in every situation.” In a slide comparing the gastric band to the gastric bypass, he tells the group “There's a 300 percent higher death rate in bypass. With the band, you go in the morning and you're out by lunch. Gastric bypass has rapid weight loss, but that's because it's a major surgery and you can't eat. It's also extremely difficult to reverse.”*

In this information session for potential gastric band patients, depictions of the gastric bypass and the sleeve as extreme, dangerous and irreversible are meant to persuade patients to elect the gastric band above other surgical and non-surgical options. To sell the band, the physician at this surgical center draws on the sometimes rocky history of gastric bypass and the uncertainty of the sleeve gastrectomy as a new surgical option to strike fear among potential patients. Juxtaposed against the anatomically changing gastric bypass – which involves rerouting the intestines - and the sleeve gastrectomy –which involves removing a large portion of the stomach - the gastric band is constructed by a variety of actors as a *safer, less invasive* technology, helping drive its use. It is also described by the physician as a “good technology” and one that “works in every situation”, drawing a counter construction to that painted by many surgeons who question the effectiveness of the band while invoking discourses that *technology* is *qua* solution the obesity epidemic.

A diverse arena of actors – from surgeons to biomedical firms - perpetuates these claims, minimizing the complications related to the gastric band and selling the band as “less invasive” (principle engineer, Ethicon). In information sessions for potential bariatric patients, emphasis is often placed on the band's safety record and it's shorter recovery period, while advertisements for the LAP-BAND and REALIZE band highlight the band's low mortality rate, lower rate of operative complications, and low malnutrition risk, positioning the band as not only safer, but as leading to slower, sustained, and *healthier* weight loss. Although some band surgeons concede the gastric bypass has

had great success in terms of amount of weight loss, they focus on its “disadvantages”, including “stomach cutting, plus you have a miserable person who has diarrhea”, referring to ‘dumping syndrome’<sup>90</sup> associated with the bypass (Dr. D, band surgeon). As my fieldwork and interviews revealed, these competing constructions of both the band and the bypass, combined with individuals’ negative personal experiences and the influences of others – often family members who didn’t want them to have bypass – work in concert to deem the gastric band as the only *viable* surgical solution for weight loss among band patients.

The early years of gastric bypass, which saw higher death rates and serious complications, resonates with many bariatric patients, pushing them toward the gastric band. In patient interviews and throughout my fieldwork, patients often described their fear of the “death rate” (Diana) associated with bypass, sometimes drawing on personal experiences in which a friend or family member passed away from the surgery (Katie). Band patients also perceived gastric bypass to be “major surgery” (Ilene) and described the sleeve as analogous to “a horror movie” (Mercedes). Brenda, a bariatric nurse at a band-only surgical practice, explains how the “bad history” of bypass haunts patients, despite improvements to the techniques which reduced complications; however, she cautions that complications can arise – even with the band – if patients select a surgeon who isn’t seasoned in performing laparoscopic procedures:

[with] gastric bypass, you do have a higher risk of people dying and that’s real for them and the only reason that’s such a big issue is because in the beginning when they were starting out with it, so

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<sup>90</sup> Dumping syndrome is a condition that may occur when food is rapidly passed (dumped) from stomach to upper intestine. Symptoms may include cramps, nausea, speeding or slowing of the heart, etc. It often occurs when gastric bypass patients consume sugar and/or fat.

many people did die until the physicians learned to perfect their techniques so they've already got that bad history behind them. A lot of times, people don't do enough homework and they go and get the gastric bypass with someone who's just starting to do it and unfortunately the rate of failure if going to be higher and we tell people the same thing with the band – you need a surgeon that knows how to do laparoscopic procedures and if just started learning them then he's a new physician at it no matter how you look at it.

Many surgeons and practitioners, however, challenge claims about the dangers of bypass; while the bypass has a higher mortality rate than other procedures – 0.1% compared to 0.02% with the gastric band – most of the surgeons and practitioners in this study minimized the dangers of the surgery. Instead, they often focused on improvements to surgical techniques which have reduced the risks associated with bypass. Many surgeons and practitioners also emphasized the benefits of the gastric bypass, referring to it as the “gold standard” in bariatric surgery with the greatest success rate, in terms of excess weight loss and resolution of type 2 diabetes and other obesity-related conditions. While all the procedures – which are now performed laparoscopically – are seen as safe, the construction of the band as both innocuous and less invasive persist with patients, explains Dr. C, a bariatric surgeon at University Hospital: “At the very least, the band has gotten people who are afraid of the other options in the door; whether it's the least invasive or not, it gets them in the door. There are different perceptions – they're all done laparoscopically, but a lot of patients for whatever reason are more comfortable with it.”

Patients' “comfort” with the gastric band is reinforced in a variety of ways; many surgeons, practitioners, surgical center administrators, and biomedical firms emphasize the simplicity of gastric banding surgery relative to other operations in order to ‘sell’ the surgery to potential patients. As the physician from the Obesity Solutions information session said to a group of individuals considering the gastric band, “you can return to

work in one week or less” whereas gastric bypass was a “major surgery.” This focus on the quicker recovery period with the gastric band often appealed to patients who were eager to return to work and their normal routine quickly after surgery; this emphasis on *productive* post-surgery bodies was set as contrast to obese bodies, which were often constructed – particularly in pre-surgical information sessions - as costly, in terms of care, inefficient, and *unproductive*, in terms of contributions to one makes to their family and workplace. Feminist fat activist Samantha Murray (2009) argues that while bariatric surgery is often presented as ‘minor’ surgery, the emphasis on the limited scarring following laparoscopic surgery is also intended to preserve and enhance the post-bariatric body, enforcing hegemonic beauty standards. While gastric banding still required general anesthesia, it usually involved one to three small incisions and was completed in about half an hour, with most patients able to go home that day, unlike gastric bypass or sleeve procedures which took up to two hours in the operating room, had longer recovery times and required longer hospital stays (1-2 nights). For a number of the patients in this study, the relative ease of the procedure affected their decision to elect the band over other options. The Product Developer for the United States market for Ethicon, explains that the band – unlike other bariatric procedures - is also often simpler for patients to understand; the “intuitive” nature of how the band operates makes it’s a more viable option for patients who view other options are more invasive:

The band is something that I can market directly to the patient, they get it, they understand it, hell, it looks easy to them, it looks simple, it looks like this is a simple way for me to lose weight. People don’t want to hear about gastric sleeve or gastric bypass or LGCP<sup>91</sup>, what the hell is that? That’s not tangible to them and it

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<sup>91</sup> Acronym for Laparoscopic Gastric Plication; in this procedure, the stomach is inverted, reducing the capacity to hold food without removing the stomach. Some variations of the procedure involve placing a band on top of the stomach to increase restriction and result

seems invasive. So the band resonates with the patient population because it's intuitive. I can talk to you about it in layman's terms and it makes sense. If I am to explain a gastric bypass procedure to you, you'd be like I don't get it. And you're going to do all that to me? Most people don't want to know.

While the relative ease of the gastric band surgery helped drive their decision, many patients also believed they didn't need to go to such 'extreme' lengths to have another bariatric procedure because they didn't consider themselves as *obese* as gastric bypass patients – despite qualifying as 'obese' under existing Body Mass Index (BMI) thresholds. Peaches, a 61-year-old African American gastric band patient, who hoped to lose 60 or 70 pounds with the band, explains: "I just didn't think that I needed to go to that extreme to try to lose any weight. I wasn't obese so I don't have to do that." Similarly, Katie, who has several family members who had the gastric bypass, including her mother and brother, didn't perceive herself as large enough to have the gastric bypass:

I just feel like they'll do the bypass on anybody that will have it. I feel like they do it on people that really aren't big enough. I mean 260 pounds, yes, I was overweight, but ...when I was in my orientation for my surgery I was the biggest person there and I was the only one having lap band...it kind of just seems like those people weren't big enough for the bypass because when I think of someone that needs to have the bypass, I think of someone in my mom's case that weighs almost 400 pounds and that's why I thought I'll go with the lap band.

Leena, like Katie, feels that "you have to be 300 plus or it has to be like a medical emergency to have the bypass", adding that "my situation wasn't that severe". Although

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in more weight loss. At one of the surgery sites I observed during the course of my research, one of the bariatric surgeons was leading a clinical trial on LGP and LGP plus the gastric band but discontinued the study following patient complications and one patient's death.

she calls herself “fat” and “disgusting”, band patient Ilene likewise said she believes “people that are 130 pounds overweight and under should stay with the lap band and higher than that should go with the bypass.” While their weight and obesity-related health problems drew them into the bariatric surgery space, their perception that they were not large or sick enough to warrant a more ‘extreme’ - and invasive – surgery led them to the gastric band. In this way, band patients sometimes both challenged and conceded to the *social* and the *medical* construction of their bodies as obese.

Rather than elect an anatomically-changing procedure, the desire to keep one’s body as intact as possible is echoed throughout the patient interviews; Justine ultimately opted to have the gastric band because she “didn’t want to do anything that would physically alter my body” while Erica explains she was “scared of all that rerouting and everything.” Lauren, a band patient explains her decision-making process:

.. I was like appalled and totally frightened by the sleeve and the bypass. I knew it was called gastric bypass but I never really knew why – it was just one of those words you throw around and you never really know what it stems from or what it means, so when I saw what they do to your insides, I was like ‘oh my god, that is so not natural.’ To me, the band it’s less anatomy changing, you know, it’s kind of like almost siphoning off an area of the body. In my mind, I kind of think about it like almost a corset but all around my stomach. But the idea of re-routing things that only God or Mother Nature has put in place is a little bit too much for me to swallow. I’ve come to terms with the fact that, yes, I’m done some things that is a little bit unnatural but if I can’t achieve my goals with this, then that’s OK with me, then I’ll just be where I am.

In this statement, Lauren reflects the tension between the ‘unnaturalness’ of having one’s intestines re-routed with the unnaturalness of implanting a silicone ‘corset’ into her body; for her, like other band patients I interviewed, implanting a device is, in some ways, the less ‘extreme’ solution to obesity.

But the appeal of the gastric band is linked not just to its perceived naturalness in comparison to other surgical options, but also to its construction as a *reversible*

technology – one that can be removed if there's a medical problem, or if the patient decides they no longer want the gastric band. Leena explains how she prefers a “foreign object” to “cutting my organs”, reflecting concerns about possible medical complications post-surgery if she elected another bariatric procedure: “I can deal with that being removed if something goes wrong verses you've pretty much cut my stomach to nothing and if it doesn't work, then what?” Erica too was concerned about future potential problems if she elected another procedure, initially electing the band because “worst case scenario, if it's not working out, they can take it out”; interestingly, at the time of the interview, Erica was approved by her insurance company to have a revision to a gastric bypass after regaining all the weight she lost with the gastric band. Peaches likewise states the band's removability was a “plus”: “That's the good thing about that, that you know you can have it removed, it's removable. That's a plus, in the back of your mind, you can think like that.” Similarly, for Samantha, gastric bypass was not an option<sup>92</sup>: “bypass surgery never sat well with me, the whole cutting and pasting and re-plumbing your system just didn't feel right to me, it was a little too scary, a little too invasive, a little too you can't go back.” She explains that “one of the things I liked about the lap band the most, like I said, we weren't changing my body structure really, we weren't re-plumbing anything, we weren't cutting anything it was adjustable, it was removable, that's the part I liked the most.” Although she had friends who lost weight successfully from gastric bypass, Elizabeth likewise explains she chose the gastric band because she was “really against the cutting stuff out.” To her, the band – which she termed a ‘stylish accessory’ – was a better, more natural option: “we were designed in a particular way for a particular reason and I was really against having stuff removed so having just a stylish accessory

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<sup>92</sup> At the time of her surgery, in 2009, the gastric sleeve was not available.

added seemed like a better way to go for me.” This ‘accessory’ – a domesticated term for a medical device - could also be removed, offering a way out, she said: “it’s completely reversible. I mean if you really want to pay the \$3 or \$4 grand to have it removed, it can be done in 15 minutes, so there was a way out.” However, patients’ desire to “go back” to their pre-band bodies and have a “way out” from the procedure is a misnomer, explains a representative from Ethicon:

It’s not truly reversible, it’s removable, [but] it’s not really reversible. I’ve been in plenty of cases where the band is removed or converted to another procedure – the stomach is not the same after the band is on it. There’s a lot of scar tissue, it’s just different. You can’t totally restore a perfect anatomy prior to the band being in there. So it’s removable, not exactly reversible, you’re not just going to undo it and make everything the way it was.

The myth of reversibility – reaffirmed in information sessions and promotional materials for the band - however, persists among patients who believe the band will not alter their anatomy.

## **6.2 The Foreign and the Familiar: Banded Bodies and Technoidentities**

While the band is not ‘natural’ in the sense of its materiality, it is constructed as *more* natural, relative to other bariatric procedures. In redefining what is ‘natural’, gastric band patients redefine their own bodies in the presence of biomedical technology – this existence is technologically based, a reflection of the move toward biomedicalization in which new identities and new selves are created and enacted vis-à-vis technology (Clarke et al. 2003, 2010; Boero 2010). While people negotiate the meanings of technoscientific identities in heterogeneous ways, technoscience can help individuals attain a previously unavailable but highly desirable social identity (Clarke et al. 2003, p. 182). Individuals can also perform new identities – such as what it means to be healthy – that become incorporated into one’s self-identity. These new technologically-centered practices and engagements with technology not only transform broader social, economic

and political relationships but our own relationship with our bodies, now 'cyborgs' in which man and machine are conjoined (Haraway 1994, p. 161).

But while many band patients embrace their new biomedically-enhanced identities, other bariatric patients continually challenge the "foreignness" of the band, expressing concern about having a medical implant. At a support group meeting, Julia, a potential bariatric patient, explains "I'm leaning toward the sleeve - the lap band freaks me out to have some foreign object in body". Another potential patient explains she was considering the sleeve because she didn't "want something inside me for 30-40 years" (Meredith). Like band patients who perceived the gastric bypass to be 'extreme', a potential sleeve patient explains that "the bypass was too much" – but the band was not an option: "I was just uncomfortable with the idea of the band being in there...I didn't like idea of it being in there and that you have to go to the doctor all the time and all those fills and needles. I went with the sleeve because I felt like it was in between and I wasn't going to the extreme" (Melanie).

Although the band is often constructed as "foreign" by both practitioners and other bariatric surgery patients, band patients' own familiarity with other medical technologies enhances their level of comfort with the obesity device; the increasing use of technology in other medical encounters (Weitz 2007) – coupled with historical medical intrusion in care of women's bodies - normalizes the use of the gastric band in the 'war' on obesity. Today, nearly one in five Americans has a medical device implanted in their body, ranging from knee replacement and dental implants to cochlear implants for hearing loss and breast implants (Medical News Today 2012; Shatin, Bright & Astor 2006). The market for medical bionics - such as heart valves and bionic arms – is expected to reach \$17.82 billion by 2017 (Market and Market 2012).

Mercedes, a band patient, describes how her brother – who tried to dissuade her from the surgery – was most concerned about her having a port implanted:

I thought about it to the point of something being inside me and I'm like will it get infected, or you know because that was my brother's biggest thing, you're having a port in you. But my mom had a port in her when she had cancer, she had a port that was put in the for the chemo so I knew what a port was but I was just like oh, well you know they can always remove it if need it be, the way I was thinking.

For Mercedes, her own awareness of surgical implants, coupled with the band's removability, eased any concerns he may have had about the surgery. Other patients' personal experience with medical implants also drives their belief in the efficacy of the device. Deb, a band patient, explains: "It's not brand new, if this had been the first year in existence I probably would have thought differently. I think of it like an appliance - they've got the bugs worked out by now and I guess because I have the screws and the plates in my leg – it's like plastic and surgical stuff or titanium." Here, Deb conveys a comfort with technology, but makes a distinction between technologies which are 'proven' and those which are new-to-market, relaying that not all technologies are viewed as safe. However, Deb equates the band to an 'appliance', considering it a domesticated commodity used in the fight against obesity. Similarly, Kristie, a self-described "bionic woman" in her 40s, who, in addition to a gastric band, has an IUD and a pacemaker, describes her comfort with technology and how she considers all of her "parts" an essential aspect of her embodied experience:

I have all of these parts in me, but it's part of what makes me who I am. I mean the thing about a foreign object in your body, I've had an IUD for 10 years and that's a foreign object in your body; I didn't get the pacemaker first, they put it in after, but omigod that thing is probably going to save my life one day. They put fake knees, fake hips, fake elbows in – I mean, that's just technology. I can see where older people would be afraid, but to me, it's just technology.

Kristie sees 'technology' as a part of life, an increasingly common and accepted among her generation; this belief lessens the 'foreignness' of the device and helps patients rationalize the use of biomedical technology to lose weight. For Kristie and other band patients, the gastric band – like other biomedical technologies – is *life-saving*. While the band initially "creeped" her out, Samantha eventually embraced her new identity: "it creeped me out a little bit at first, I'll be honest, to have something implanted inside me, it was kind of weird, it took a while for me to get over the fact that I have something inside me but eventually it's like, oh I don't even think about it anymore, it just becomes part of you and it's no big deal."

Although the band is implanted and hidden from view – save for awkward encounters at the airport security screening when the band becomes 'visible' under X-ray (Deborah) – the access port, sutured on the inside of the abdomen, becomes noticeable by touch and sight as patients lose weight, raising to the surface of the skin as fat around the midsection disappears. Negotiating one's body once the implant becomes more noticeable is initially a challenge for some patients, who later learn to embrace that piece as part of their identity:

I feel my port, I can feel it when I lay down and I'll sit and play with it because it's cool, it's something really cool inside you like that. But I can't feel it at all. I think some people worry they can feel but I never. But the funny thing is that even when I had the surgery I never thought about it as having something stuck around me like that, I mean I really haven't ... I've just thought I have the band and it's helping me, I've never thought of it as something that's gross inside of me, I've never thought of it as you know, it's very similar to someone who's had pins or screws put in, it's a part of my life now and it's going to help and it can't be anything but positive. (Danielle)

Danielle demonstrates her comfort with technology and equates the band to other life-saving or life-enhancing medical technologies. Wendy describes how, while the visibility of her port made her feel "like a robot," she has learned to accept it and will not have it

replaced with a 'low-profile' port<sup>93</sup> , embracing her new body with the gastric band. As she explains:

The lap band gave me freedom. I'm in the best physical health of my life – I've always been very successful professionally and personally really, the only thing missing in my world was self-love for my body and being able to go shop for what I wanted to wear – and I got all that and I'm an athlete – I never thought that would come from having the lap band – I thought I'd lose a 100 pounds and that's it.

Similarly Patience – who ran her first marathon after losing 153 pounds on the band – describes being “blown away” by what she is capable of doing and accomplishing with her 'new' body, which has changed her life socially and psychologically: “it's like a totally different world that you didn't know about, if you've been heavy all your life.” In support groups and in-depth interviews, other bandsters describe the benefits of living without certain medications and the simple benefits of being able to bend down and tie their shoe laces, ride the rides at Disneyland, fit in a single seat on an airplane, or having the energy to spend the night dancing. In this way, the band is both life-saving and life enhancing; these new “technobodies” made possible by the gastric band are “healthy, enhanced, and fully functional” in a way not previously possible without technological intervention (Balsamo 1996, p. 5). It is the control over and transformation of one's body in which “new selves and identities (mother, father, walker, beautiful, sexually potent person) become possible” (Clarke et al. 2003, p. 182).

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<sup>93</sup> Allergan's first generation of LAP-BAND was what's termed 'high profile', meaning they are volcano shaped and more easily surface to the skin following weight loss; the third generation of bands are flatter and more 'low profile'. REALIZE was first-to-market with the low profile port.

### **6.2.1 Typifying the Banded Experience: Enthusiasm, Ambivalence, and Banded Resentment**

Boero (2012) argues that the weight loss surgery community is grounded in three shared experiences among its members – having the embodied experience as an overweight person; desiring to have or having had bariatric surgery; and “learning how to live in a new, externally normal body that is at the same time facilitated by a distinctly abnormal intestinal structure” (p. 103). Like other weight loss surgery patients, being banded links one into a community bound by collective experiences that are both similar and dramatically different than other weight loss surgery patients. In negotiating their new banded bodies, individuals join distinct communities online and in-person; on YouTube, thousands of videos feature banded individuals offering advice and documenting their weight loss journey, and other online social media tools like Facebook, Obesity Help, Sparkpeople.com, Lapbandtalk.com, RealizeMySuccess.com, and other forums and chat groups connect banded individuals from across the globe. Others join the broader weight loss surgery community, attending conferences, ‘meet ups’ and even organized cruises for weight loss patients.

To be “banded” not only alters one’s physical state, but creates a new identity as an individual whose social and psychological self becomes re-configured by having undergone gastric banding surgery. The majority of band patients enter into the bariatric space with enthusiasm and with a belief the band will change their lives for the better - whether that means having surgery will rid them of health ailments and accompanying medications, result in weight loss, restore their self-esteem, or enhance their social lives. But how the band shapes one’s sense of self post-surgery is complex and changing; some fully embrace the banded experience while others express indifference or outward hostility to the state of being banded. I group these different banded identities into three states of being: *banded enthusiasm*; *banded ambivalence*, and *banded resentment*.

Individuals can shift between and among these states of being – starting out as enthusiastic about the gastric band but later deciding they no longer wish to abide by the rules of banded living, while others experience complications and have their band removed, dis-engaging psychically and/or psychologically from the banded identity. Because the experience of having weight loss surgery is often conceptualized as a ‘journey’ I see movement in and out of these categories as part of the experience of being banded.

Those who express *banded enthusiasm* are those who self-define themselves as ‘bandsters’; these are individuals whose identity is fully engrossed in being banded, who consider themselves entirely committed to what I term the *banded body project*. They are what Drew (2008a) terms the ‘ideal patient’ from the perspective of the medical community and invoke the language of “commitment” to assert their dedication to the weight loss journey. They are often also completely immersed within and identify with the weight loss surgery/band community either in-person or online via chat rooms or the YouTube community. ‘Bandsters’ describe full engagement in the band lifestyle as ‘being on the bandwagon’ – meaning they describe themselves as adhering to the post-surgical band diet, making the necessary lifestyle choices, and embracing the community element of their experience by sharing advice, supporting other bandsters in their journey, and engaging in activities organized by the weight loss surgery community. Many, although not all of these individuals, would consider themselves as ‘success stories’; however, their enthusiasm for the band is not just tied to their weight loss, but to their belief that the band has positively changed their life. While bound physically by the gastric band, restricting their eating and their anatomy, these new banded bodies represent an opportunity for some band patients to reinvent themselves as healthy, thinner – albeit normative – individuals (Throsby 2008). These individuals are empowered by technology but see themselves as active agents in the weight loss

journey. They also sometimes express contempt for those individuals who have the band but do not share their passion for it nor follow the rules of banded living. Some patients, like Justine, even name their bands, humanizing their implants and describing it as a “friend” charged with helping them “fight” the war on obesity: “Steve is like the guy that’s helping me fight the bad fat cells,” explains Justine, speaking of her gastric band.

*Banded ambivalence* refers to individuals who are not fully engaged in the banded body project; they do not completely identify with the band community and do not consider the band to be a core part of their identity. They may not follow the prescribed eating and exercise regimen – wishing to resume their pre-surgery eating habits - and may no longer be returning to their surgeon’s office for adjustments, sometimes actively petitioning to have all or some of the fluid inside their band removed. In this way, they live with the band – allowing it to be present but dormant – but are no longer actively working to lose weight or are comfortable in their present state. They may no longer wish to be fully engaged in the band lifestyle but are not seeking to have the band removed. Many are disengaged – permanently or temporarily - from the weight loss surgery community and other support networks and may re-gain the weight they initially lost. This state of ambivalence is often preceded by enthusiasm which waned over time; it can also return to enthusiasm for ‘getting back on the bandwagon’.

Banded individuals who fall into the schema of *banded resentment* are often filled with hostility if not contempt towards the band and the band lifestyle, often as a result of complications with the device. They outwardly reject the banded lifestyle and often considered themselves as disempowered as a result of the surgery. Many express regret at having the surgery and no longer wish to have the device; sometimes they are unable to remove it because of costs or may opt for another bariatric procedure. Sometimes, they actively and publically – via online forums or in-person support groups like described in Chapter 4 - discourage others from having band surgery. Their

identities are still defined by having had band surgery but they wish to shed this embodiment.

These identities are complex and shifting, sometimes mirroring patients' prior engagement with dieting, in which they described initial enthusiasm and success followed by ambivalence, frustration, disengagement and 'giving up', only to resume another similar cycle. But what makes these banded identities significantly different is the engagement with technology and the resultant alteration of embodied self. Going beyond binaries of being banded or not, these sites reveal the complexity of living in a body psychically, psychologically and socially altered in the presence of an obesity device.

### **6.2.1 For Better and Worse: Negotiating Life Post-Surgery**

While Murray (2009) states that, in advertisements for weight loss surgery, "what is emphasized to patients is the minor intervention at the time of surgery, rather than the major (and ongoing) physiological, behavioral, social and psychic impacts on living one's lived 'banded' embodiment post-operatively" (p. 158), the patients and practitioners I spoke to relayed during interviews and to each other during support groups the complex reality of living with a gastric band, regardless of the banded state they identified with. Support groups often centered around changing relationships post-surgery – including the challenges of social outings and food-centered family get-togethers, negative and sometimes sabotaging friends and family, jealous co-workers, and encountering individuals who continually charge they 'took the easy way out' by having surgery; band patients and practitioners also talked frequently about 'transfer addictions', or replacing their food 'addictions' with other outlets, including compulsive exercising, drinking, drugs, or sex. As patients fled the stigma of obesity by losing weight, they did not always readily gain re-entry into their social networks and often struggled adjusting to their 'new'

more socially normative life; patients also learn that “losing weight doesn’t solve all of your problems” and pre-existing or new problems (re)emerge soon after surgery. One patient explains: “You have to work on your mind for the other underlying issues – if you don’t deal with them, it’s easy to go back [to your pre-surgery weight]” (Melinda). In an information session for potential bariatric patients, Jackie, an insurance coordinator at University Hospital, warns attendees that life post-weight loss surgery is not easy:

Social eating is going to be a challenge; you’re going to learn to eat completely differently; You’re not the beer buddy anymore, you’re not going to be pounding them down, you’re going to be eating smaller portions and sometimes people can be judgmental, spouses get jealous, there’s a lot of jealousy when one is smaller than another. One of our patients, who was a chef, his passion was cooking and serving food – his life is in the kitchen; he came to see me and he’s now afraid to go into the kitchen – imagine your passion for something being gone. We want you to be physically and psychologically ready for surgery.

Jackie relays how identity shifts occur not just with their physical bodies, but also psychologically and socially. She also presumes that all potential bariatric patients have a problematic relationship with food (and alcohol) and that is was this troubled relationship which caused their obesity. Similarly, Dr. I., a psychologist who conducts pre-surgical assessments for bariatric patients and co-leads a support group at Obesity Solutions, explains that patients’ relationships change when they are no longer the ‘fat friend’ – there’s also a high divorce rate among bariatric patients. “I’ve had women tell me I didn’t think could do any better so I married him and you know what, now I can do better or now you know what I don’t have to put up with his garbage and I have options,” explains Dr. I. He adds that some “women get promiscuous afterwards because they start getting attention they haven’t had before”. The psychologists’ problematic assumptions about women’s behavior pre- and post-surgery reveals the ways in which clinicians not only doubt the commitment level of band patients, but the ways in which

they believe women's emotions, urgings, and desire for male attention drives their actions in the pre- and post-bariatric space, with troubling implications in the care setting.

As patients relayed during interviews and in support group meetings, their relationship with food also changed as they begin to adapt to the new 'rules' of living with a gastric band, counting, measuring, chewing until food is emulsified, eating slowly, and focusing all their attention on eating. Kristie explains the "pleasure" is taken out of eating; to cope, she began fanatically exercising:

One of the things that Lap-Band does is it takes away the pleasure of eating, it really takes away the pleasure of eating. It becomes almost a chore to eat because you have to have protein, you have to have this, you've got to do that, you've got to chew up, you can't eat and drink. There's so many rules that it takes away food as a pleasure center and luckily I supplemented my food addiction with an addiction to exercise, which was good – bad, but good.

Similarly, while Ilene explains her life has improved since she's had the gastric band, she's found she "more irritable" since she can no longer rely on food, her "friend":

I'm very irritable – I think that when somebody takes your friend away, and your friend was food for such a long time you get irritable because if you're upset and you would go to the refrigerator and eat cookies – that's a classic example, cookies or cake or candy and that was your, it satisfied you, I don't have that anymore, I don't have that.

Because the band changed their relationship with food - and by proxy their social selves - band patients often considered themselves *different* from non-banded people. Wendy explains:

You're going to have to realize that you are a bit of a freak in some ways, that when you sit down to eat and everybody eats four servings when you're out to eat at a restaurant and you're only able to have half of one, that's mentally and physically challenging either way whether you do it or don't do it- whether you're going to end up in the bathroom puking or you're going to

be overstuffed with food, you will be really sad because you don't feel normal you know and you miss food. So there's a whole mental game that goes into it and a lot of people aren't strong enough mentally for weight loss surgery.

In describing and seeing herself as a “freak”, Wendy reveals the ways in which one's social identity becomes dramatically altered post-surgery. For many bariatric patients, this becomes most apparent in social outings, where food and eating is central; it is band patients' limitations on the quantity and type of food they can eat that exacerbates the dissimilarities between ‘normal’ and ‘banded’ people and reinforces the otherness of living in a banded body. Samantha, a band patient, explains: “you kind of panic if someone's having a party or a social occasion or a family reunion, it's all centered around food.” For her, eating socially was among the great challenges in negotiating life post-surgery, primarily because of the negativity of those in her friendship circle:

In the beginning, I would say the hardest part was eating out socially – I would meet friends for lunch and especially friends that were trying to diet - or they say they were but they weren't [laughs] - and I would either just have a bowl of soup or frankly I wouldn't even be hungry and they would get kind of pissy, like ‘that's all you're having?’ I'm full on this or I would say I just really can't eat anything, maybe something I had for breakfast was still sticking a little bit – I knew not to eat on top of that. I finally had to set them straight and say, ‘I just want to hang out with you, I came here to sit here and spend time with you, don't be mad at me because I'm not eating, be happy I want to be with you and hang out and sit here and just listen to you.’

Samantha indicates that while her friends engaged (or were attempting to engage) in the disciplinary practices of dieting, her *technological* engagement with the body project was a source of conflict within her social circle. While they were all affected by the social mandates to improve their appearance, it was the specific limitations she experienced as a distinct result of surgery that caused tension among her female friends; because of her physical inability to eat, she transgressed the social imperative to eat and, perhaps most significantly, disrupted a shared feminine experience of dieting and struggling with

willpower by showing – at least on the surface – that it was ‘easy’ to *not* eat. Support groups meetings often centered around the challenges in negotiating relationships in a ‘new’ thinner body and the lack of supportive networks; Leslie, a bariatric nurse, explains to patients at a support group meeting: “I had girl who was crying right before surgery because her husband was eating caramel bugles in front of her and taunting her - to me, it was abuse. You have to have good support – this is about you, for you – if you don’t have a supportive environment, you will struggle.” A psychologist likewise adds that those who have the best long-term outcomes post-surgery have attached themselves to some type of community or support group; by contrast, “having an unsupportive environment, having saboteurs around that may not even be consciously sabotaging them but clearly are eating in ways that influence the patients’ eating habits over time” can cause many patients to not lose weight or to regain weight over time. In pointing to impact of broader social networks on patients’ outcomes, the clinicians draw attention to the complexity of living life post-surgery, by complicating the belief that ‘success’ is simply a matter of eating less and following the ‘rules’ of living with a gastric band.

While many patients acknowledged the challenges they faced in social interactions, overall, band patients described how their overall quality of life has improved following surgery. Andrea explains how, after losing nearly 100 pounds on the band has improved her self-esteem and her social life, stating she’s “a lot more comfortable with myself, I’m a lot happier.” When she was heavier, she was more socially isolated – and more ‘invisible’ to others; she reflects on the way in which, while she experiences less weight-based discrimination, it’s a ‘disheartening’ realization to experience the world in a thinner body:

I am stepping out on the limb a little bit more and people are noticing me where before – it’s a Catch 22 – I could get on the elevator being a lot heavier back then and I’d speak to somebody or say ‘hi’ and they’d say ‘hey, how are you today’, and I’d say

'good' and carry on their way, whereas now they'll stop and have a conversation with me. And that is society and that is just what is disheartening at some point because I'm still the same person, I'm just thinner now.

Although Andrea and the majority of the band patients I interviewed described an improved overall quality of life and considered themselves 'success stories', these new identities and 'new' bodies are not necessarily 'healthy' nor 'happy'. Feminist scholar Samantha Murray (2009) describes her own band surgery-related complications – including gallstones and subsequent gallbladder removal<sup>94</sup>, reflux, esophageal spasms and vitamin deficiency; despite living in a visually healthy looking body, Murray confesses to a “hidden dis-abled embodiment” (p. 158), disrupting the idea that 'thinness' equates to health and that aesthetically attractive bodies are healthy. Similarly, in her study of gastric band patients, Throsby (2011), borrowing anthropologist Cassandra White's notion of 'uncertain cure', contends that obesity surgery does not resolve all health problems usually understood as triggered by “excess weight”, even when patients achieve 'successful' weight loss outcomes. In support groups, patients often relay their problems living with the gastric band – PBing<sup>95</sup>, food intolerances, band slips requiring surgery, persistent and extreme reflux, port pain, and weight regain. In an interview, Erica, who had recently been approved to have a revision to gastric bypass, described her band-related complications:

I actually had my dentist write a note because with the lap band you actually have a lot of acid reflux and I had a lot of acid reflux and of course with my esophagus being dilated you know probably didn't help. And two when you have these, when you eat too quickly it will come back up and it burns, it's acid, and he

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<sup>94</sup> Rapid weight loss can sometimes lead to the formation of gallstones. Two of the patients I interviewed had their gallbladders removed following gastric banding surgery.

<sup>95</sup> PB is a term for 'productive burping'; it is usually described as a 'sliming' or regurgitating a slimy saliva and food mix after eating.

noticed it was affecting my teeth. He said it's almost like when you see people with bulimia, they have so much acid and stuff, it was starting to affect my teeth and that's the last thing I wanted to do was to bother my teeth too. It thought I'm having more problems from this ..I even told my husband when I first had the lap band, this is almost like having forced bulimia. I said, you know, now I know – and I never had any eating disorders like that but I've heard of people have gone to counseling and told them they had bulimia and they won't let them have the surgery and I know why now because if you had it, this would make it so much easier for you to just get back into that because if you ate too quickly it's just going to come right back up...

The complexity of living life in a banded body is revealed in this statement, just as linkages between the disordered eating as a result of surgery are made apparent. These experiences reveal the ways in which banded bodies are made *unhealthy* as a result of the surgery, contradictory to discourses that draw patients into the bariatric surgical space with the promise of *improved* health. Some of these band patients, like Erica, seek to have the band removed as a result of their complications, while others consider the positive outcomes to overshadow any negatives associated with living with the gastric band. Kristie, who was diagnosed with high blood pressure and pre-diabetes before surgery, explains how her life has improved post-surgery:

I'm willing – I don't want to say suffering because it's not suffering – but the hacking up, the productive burping, that's not a deal breaker for me, that's just part of it. Some people, they do that or they hear about it and they get freaked out about it – it's just part of it. I mean they warned me this would happen, I read about it online, I knew it would happen, I had no clue it would be so uncomfortable sometimes. I was willing to give up the food as a pleasure center and find other things...I knew how I wanted my life to be and it's so funny because I feel like, why would anyone want a life any other way? But it's hard to get here, but once you get here, the rewards are just un-flippin' believable...

Here, Kristie negotiates the risks and benefits of living with a gastric band; despite what some may view as 'deal breakers', her 'new' banded body has afforded her an overall better quality of life. Dr. I, a psychologist, reaffirms that patients' desire to be thin often

surpasses any concern they have about the surgery or any potential complication; being driven to a point of desperation, patients are often willing to sacrifice almost anything to lose weight. At a support group meeting at Obesity Solutions, where the conversation revolves around the post-surgical changes patients must make, Dr. I tells the group: “studies shows people who are obese say they’d give up a limb or give up having children to not be obese.” During the same meeting, Karen, a pre-surgical band patient one week away from her surgery, reaffirms the psychologist’s statement: “I would give up anything to be thin. I look at it like it’s my prison release date. I feel like I’m trapped in prison and I can’t wait to come out. I will never go back, I will never go back.” Again, surgery is seen as the solution, the key to unlock the “prison” door of obesity, rather than consider the alternative – remaining obese – or challenging the social environment that condemns individuals for being overweight.

### **6.3 ‘My Band and My Bones’: Permanency, Commitment and the Fear of Removal**

*In the booth of a suburban coffee house, Deb is in near tears, as she awaits a call from her surgeon’s office - the call that will tell her if she will need to have her band removed. Although she didn’t have any symptoms – save for ‘gurgling’ at night – an upper GI revealed her esophagus was three inches wide – wide enough where the band itself was no longer visible on an X-ray image. The surgeon removed all the fluid in the band, in order for the swelling to go down; after a few months, a second GI showed the esophagus had returned to its initial size but motility, meaning the ability to swallow and move food through the band, was still an issue. A mega-esophagus, where the esophagus expands to form its own pouch and food just ‘sits’ on top without moving through the esophagus into the stomach, is a complication of the band, although there’s no known cause. With no fluid in the band, Deb has regained 25 of the 95 pounds she lost. “I’m now waiting for Dr. H to read the report because he’s been out of town so he’ll call me today or tomorrow,” she says, with her hand clenched on her cell phone. “We need to figure what’s going on. If this is going to become an issue, I’m going to have the band taken out. I want to keep my band. I will fight tooth and nail to keep it.”*

Despite the complications she has experienced, Deb reveals not only her physical and emotional attachment to her band, but also her anxiety about what life

might be like without it. Her efforts to save her band speak to her fear of returning to an obese body, of having to live *without* the device. Ironically, while the gastric band's *removability* drives many patients toward selecting the gastric band over other bariatric surgical options, patients – like Deb - express a resistance to actually having it removed, embracing the band as a core part of their new, non-obese lived experience. Grace, a bariatric advocate at Obesity Solutions, explains that most of the patients at the center cannot imagine life without their bands, and vow to keep their band for life – and beyond: “a lot of my patients say it’s going to be my band and my bones in the coffin.” Fear of having the band removed – and specifically fear that they would regain their weight without the device – drives part of the desire to keep the band. Jamie explains that he’s “not ever going to take mine out”; his band, he says his band is a “reminder” of his former, heavier self – without it, he fears he’ll return to his binge eating past.

For many patients I interviewed and observed, a personal experience with having fluid taken out of a band – and the subsequent return of hunger, cravings and weight gain – created a sense that they lost control, reaffirming their desire to keep the band for life. At a band support group meeting at University Hospital, Amy tells the group she’s recently had all the fluid removed from the band, explaining she was having burning and tingling feeling in her back – a rare side effect of the band – later leading to stomach spasms. She confesses she’s become “obsessed” with her monitoring her weight, fearful that the one pound she’s already gained will lead to more. When by the nurse leading the support group asks if the surgeon has told her that the band is something that her body can’t tolerate, Amy responds sharply: “I refuse to believe that – that’s the worst news I can imagine. I don’t want to have that conversation.” She explains that, despite the complications and pain, those weeks where she couldn’t eat “have been the best I’ve had with the band” in terms of rapid weight loss; she adds that because she “still has 25-30 pounds to go” and paid out-of-pocket for her surgery, she is determined to stick it out:

“I can’t take this band out, I can’t afford that – so this has to work.” While she has not had any complications, in an interview, Samantha relays her fears about potentially living without a band one day, and the need to learn to control her eating without the band:

People ask me a lot of times am I going to have it removed after I lost the weight and having that experience of having the band loosened and having that compulsion and those cravings and that hunger came back scared the heck out of me because I couldn’t control it. It’s almost like you went right to being how you were, I thought no, as long as this thing works, I’m going to keep it in. In the meantime, I will try to work on my own brain and my own psyche with the knowing that someday this thing might stop working, someday it might need to be removed for one reason or another. My goal is to get myself to the point where if you did not have this anymore, you could handle life on your own, you could handle food on your own. Because that is a possibility – this thing hasn’t been out that long, we don’t know if 20 years from now it will just up and not really work anymore so I have to work every day getting to that point you need to work on this yourself, you cannot rely on this little piece of plastic forever. And that’s what sort of makes me continuously give this serious thought so because if you don’t, you might be screwed one day. I don’t want to be 65 and start putting on 100 pounds.

Samantha’s anxiety about the unknowns of the band’s longevity – and the fear of returning to her heavier “food addicted” self - are mimicked in support groups where patients often describe themselves as “sugar addicts” and “carb addicts” who rely on the band to tackle their addictions in a way they could not do on their own, even on diets and prescription drugs. When questioned by potential band patients at a support group meeting at Obesity Solutions if she’s planning to keep her band even when she reaches goal weight, Andrea responds: “Why would I have it removed? I would be a fat pig. This is my lifetime partner – together we have to figure it out.” Wendy, a band patient, says she has two friends that had “medical complications with the band” and had theirs removed at “no fault of their own.” She explains that most bandsters who have lost

weight with the band - herself included – would never choose to have it taken out otherwise, primarily because formally obese people are never “cured”:

You're taking on this for the rest of your life. Yes, the lap band's removable, yes, you can deflate the entire band if you want, you can have surgery and remove it from your body – I don't know anybody who's had the band who's been successful that would ever want to take it out, because it is forever, we're not cured. So many people say, now that you've lost all this weight you look great, why don't you take that band out? Are you kidding? No - you'd have to tell me it's medically necessary for me to live before I take that thing out. This is not like something you do for a minute - it's something you do forever.

Wendy, like other band patients, appropriates the language of illness to justify both her decision to have and to keep her band “forever”; in continuing to define herself and her body as obese and diseased, she reflects the way in which many band patients consider ‘being banded’ as an ongoing, continual process. But this belief in the ongoing nature of band surgery often contradicts pre-surgical discourses that emphasize the band's removability, discourses that serve to draw patients, fearful of more ‘extreme’ options, into the bariatric surgical space. Once banded, however, patients' apprehension about whether they can succeed (lose weight and maintain their weight loss) without the band surfaces, and the ‘out’ afforded by the band's removability becomes replaced by fear and a desire for permanency, despite the lack of evidence that suggests the band can indeed stay in an individual's body ‘for life’.

### **6.3.1 The Continuum of Commitment: The Patient and the Band's Role in Success (and Failure)**

But despite patients' admission of dependency on the band, the majority of patients – as well as surgeons, practitioners, and biomedical firm representatives – emphasize that the band is just a “tool” and that patients have to “do all the work” to lose weight and keep it off. The Principal Engineer of the R&D team at Ethicon Endo,

explains: “75 percent of [weight loss] is patient compliance” and 25 percent is “the actual performance of the band doing the work”. Similarly, Violet, a bariatric nurse practitioner – and a band patient herself - adds: “I think that you do have to make a commitment and want to change the behavior. Because at the end of the day, there’s no magic to it – you have a tool that’s going to help you but it’s not going to make your decisions for you. You have a tool that works, you need to work your tool.”

Despite being told by surgeons that obesity is a complex disease often out of their individual control, in information sessions and clinical encounters, patients are continually told – and reaffirm among themselves in support groups, online, and in-depth interviews – that they must “do the work” to lose and maintain the weight loss. This emphasis on patient responsibility obscures much of the complexity of the social and structural factors which causes obesity – and minimizes those factors which influence individuals’ ability to be successful with the surgery in the short- and long-term. While surgical skills and technological efficacy of the procedure are often credited with *successful* weight loss and reversal of diabetes-related diseases, patients are implicated in – and often implicate themselves in – less-than-successful outcomes, a finding that supports limited work in this area (Boero 2010; Throsby 2008, 2009a, 2009b; Salant and Santry 2006). In information sessions, surgeons and medical professionals emphasize the required commitment on the part of the patient; one video presentation played at University Hospital repeatedly stressed that patients ask themselves, “What commitment are you willing to make?” Surgeons likewise reiterated the idea that surgical efficacy could be undermined by patient sabotage; at an information session, a bariatric surgeon told a group of potential patients: “I can do a technically perfect operation, but you won’t lose any weight unless you hold up your end of the deal.” In reaffirming the technological and scientific superiority of the procedure, the surgeon positions patients as responsible for failed outcomes. In support group meetings and in one-on-one interactions with

practitioners, patients likewise framed their inability to lose weight as “my fault”; they also faulted themselves when they experienced a complication, such as regurgitation. In contrast, when they experienced success in the form of weight loss, they viewed themselves as primarily responsible, but also credited the band itself or their surgeon – sometimes referring to their surgeon as an “angel” (Deborah, band patient) – to meeting their weight loss goals. A preliminary review of medical literature (Colles et al. 2008 Kalarchian et al. 2002; de Zwaan et al. 2009; Kruseman et al. 2010) too faults patients, rather than the technology for ‘occasional failures’ (WIN 2009); medical studies (Alger-Mayer, Rosati & Malone 2009; Bocchieri et al. 2006; Burgmer et al. 2005; Chen et al. 2009; Colles, Dixon & O’Brien 2008; Fujioka et al. 2008; Guerdjikova, Kotwal and McElroy 2005; Kalarchian et al. 2002) of surgical outcomes and patient behaviors reveals a disjuncture between intended and actual use, suggesting patients engage in ‘maladaptive’ eating habits post-surgery, including bingeing, grazing, consuming high-calorie liquid foods, vomiting, and laxative and diuretic abuse.

At a general support group meeting at University Hospital for bariatric patients, Leslie, a nurse and leader of the support group, expresses her frustration with patients who are “not ready”, telling a group of band patients:

There are people who come here and said they had a piece of cake. I have people come here and ask if they can lick a potato chip. That tells me you’re not ready. That annoys me. Someone came in here wanting to blend a Big Mac. We’re giving you a second chance – don’t screw it up. This is not an easy journey – this is hard. ..These surgeries don’t keep you from eating all day. It’s a tool – if you don’t use it, it’s just going to get rusty.

In this meeting, practitioners begin to frame the idea of commitment – drawing a clear distinction between those ‘committed’ to the weight loss journey and those that fail to embrace the band lifestyle; patients similarly categorize themselves under this rubric, which I term the ‘continuum of commitment’, whereby patients, practitioners and

surgeons attempt to ascribe a patient's commitment level based on their choice of weight loss surgery. Medical practitioners sometimes considered those who opted to have the gastric band to be *less committed* than those who had gastric bypass or the gastric sleeve. One surgeon explained that the band – because it is largely an outpatient procedure that doesn't result in an alteration of the stomach or intestines – appeals to patients who aren't as committed to losing weight or improving their health *relative to other patients*. He said: "The band [because it isn't as serious an operation] is not as much commitment, it's not as scary, so it invites people in who aren't committed; lot of success if built in your attitude going in." A nurse who works with bariatric patients – herself a gastric bypass patient – talks about the individuals who opted gastric banding, describing them as looking for "an easier way out". She explains why she worries about band patients: "they want to lose weight, but they don't want to do anything drastic, and they think [the band] is a lesser, easier way, that they could get around it and eat what they want." In this way, practitioners seemed to construct a hierarchy based on which procedure patients had; on a continuum of commitment, gastric bypass patients – because they were having a more anatomically changing procedure - were seen as the most 'serious' about improving their health, while gastric banding patients were depicted as far less genuine about their motives. Sleeve patients were somewhere in the middle – not as serious as bypass patients, but still willing to have their anatomy altered, demonstrating a 'greater' level of commitment than band patients to the body project. Patients were able to move across this continuum if they demonstrated or failed to demonstrate their willingness to 'do the work' post-surgery.

This construction of gastric banding patients as non-committed stood in stark contrast to patients themselves, who described themselves as *more* committed to the weight loss 'journey' than their bariatric surgery counterparts. Ilene describe how weight loss surgery is "in the mind" and requires a conscious, mental effort to lose weight: "I

think the thing is in the stomach but it's in the mind. Here I have spent all this money and I went through the surgery and have all these scars and I'm eating a lot of food and I'm smart enough to go and exercise – and I think that's the key, go to exercise and not eat like I used to because if I eat like I used to I'm going to get sick. Gastric bypass, I'm going to lose it anyway.” Wendy states: “All the weight loss surgeries are different – they're going to require a different effort and each one is not made to fit everybody. The lap-band is for someone who is willing to work, they're not afraid of physical work, the exercise portion and they're willing to make changes to their diet.” Angela, like Wendy, adds: “this is not the lazy man's surgery...this surgery is only for people who are going to do the work, it's kind of like you still have to diet, you still have to exercise, it's different from where you have bypass and the weight kind of falls off of you and you're unable to eat the things that are going to be bad for your body.” Diana, a band patient, explains that “a lot of people are not mentally ready” for life post-surgery; rather than assume that the weight is “going to fall off”, bandsters have “got to be dedicated to the good, the bad and the ugly things, the ups and downs, you've got to be dedicated to it all – everything that this surgery comes with, you have to be dedicated to it so that you can be successful.” As evidence of this commitment, in conveying banded enthusiasm, patients often described the ways in which they sometimes dramatically altered changed their lifestyle and eating habits in order to lose weight. In support groups meetings, band patients recounted how they re-learned how to eat and strictly followed new food ‘rules’ post-surgery, such as not eating and drinking at the same time, chewing one's food until it was almost liquid form before swallowing, avoiding carbonated beverages, adding extra protein to meals to ensure their nutritional needs were met.

This commitment to the ‘rules’ of living with the band and the mental component of being banded, reflects not only the complexity of living in a banded body, but speaks to the broader social belief that they ‘took the easy way out’ by having surgery. In

positioning themselves as committed to following the weight loss surgery food and exercise 'rules', patients hoped to usurp some of the negative responses they received from family, friends and colleagues post-surgery; many patients stated they told few people they were having surgery to avoid "haters" (Shawna, band patient). While some described having a supportive social network, the majority, although often accustomed to weight-based discrimination, also experienced criticism about their decision to have surgery, mirroring other work on weight loss surgery (Throsby 2008); Justine described an incident with a co-worker:

I've got a lot of friends that are supportive, I've got some that are on the idea that this is cheating, why did I do this, I should have just done it myself. But I try to ignore all the comments like that. I had someone at work say you should have just gotten off your fat ass and gone to the gym. I hate that word, I hate the word fat – I say fluffy or squishy, I can't get into the whole fat this and she said that to me and I was like, 'what the hell, I don't understand'. Because she was eating a piece of cake and I said 'oh that looks good but I can't have it' and she said 'well, I could never have weight loss surgery because of all the can't-haves, and I'm like I can have it it's just counterproductive to what I'm doing. And then she called me fat.

Justine, like many of the band patients I interviewed and observed, describe the difficulty of not just managing the day-to-day aspects of having band surgery, but the disparagement they often deal with as a result of having surgery. It is in this space that many band patients reaffirm their commitment to the body project and the challenges it often entails; in reasserting their belief that the band is just a "tool" and that they must do the work in order to be 'successful', band patients hold themselves accountable for *both* successful and 'failed' outcomes, such as weight re-gain. Andrea, a band patient, explains: "I'm a firm believer in that it's a tool, you have to make a lifestyle change about how you eat, of course, and you have to make a decision of how you want to change things about you." Similarly, Kristie believes that she's been successful with the band

due to her “self-control”: “I feel like I’m the exception to the rule for some reason. I meet so many people that aren’t successful and the lap band...they’re easy to cheat and you’ve got to be pretty motivated and have a bit of self-control to begin with and a lot of people don’t take that into consideration” when they chose to have gastric banding surgery. Although the clinical setting encourages patients to ‘take control’ over their obesity vis-a-vis bariatric surgery, practitioners convey the concept of ‘willpower’ is often counterproductive; Leslie, a bariatric nurse, tells patients at a band support group meeting: “If you rely on willpower, it’s going to make you fail.” Dr. I, the psychologist warns patients to not “use willpower” but instead to develop coping techniques to deal with stressful situations and “resist temptation”: “research is clear that if you use willpower you will likely do it more – if you stop smoking cold, you will smoke more. You need behavioral coping techniques – the more of those you have, the more likely you’ll resist temptation.”

Not all band patients are equally committed to the bandster lifestyle, nor follow the food and exercise ‘rules’ associated with living as a banded individual; I call this state of being *banded ambivalence*. Some patients do not keep up with the recommended aftercare, meaning they do not return to their practitioner for adjustments or monitoring, sometimes due to the expense, distance from a practitioner, or because they, like Kristie, are comfortable with their current weight. Others may opt to return to their ‘normal’ ways of eating, to be *physically* banded but not embracing the banded experience. Brenda, a bariatric nurse at Southside, shares an anecdote about a husband-wife patient team who were trying to “manipulate” both her and the surgeon at her practice into removing all the fluid in their bands.

First they told him about all her health problems and that was the reason to get the fluid out of her band and then the husband came in saying he was trying to manipulate us into doing an adjustment, he was like at my old practice, the nurse would meet me at the

parking lot of a grocery store and give me one. I said, 'what? That won't be happening here. I won't be meeting you at a grocery store to do an adjustment'. And then he finally came in and told Dr. G, I just want you to take the fluid out because I want to be able to eat a steak so at that point he finally took all of the fluid out of both their bands and he hasn't seen them since. It was like why did they get a band? All they wanted was a physician to see them long enough to get the fluid out. So once you get a manipulator, you get one boy. Unfortunately those two are married to each other.

Brenda relays that some patients can still live with the band but choose to not live as a banded individual; in this way, one can have the technology but not allow it to 'work' and instead have it remain dormant and idle. Band patients themselves move in and out of this continuum, sometimes actively rejecting the banded lifestyle and *de*-committing from the banded body project. They may keep the band because there's no medical necessary reason to remove it – and thus justify the expense - but they are no longer engaged in the banded lifestyle, often wanting to return their pre-banded habits. They may also no longer be able to live with the side effects that are a direct result of the band, such as regurgitation and reflux, but are not able to have their band surgically removed, often for financial reasons.

### **6.3.2 Losing the Band, Losing Control**

Despite an acknowledgement of the lifestyle and behavioral changes they need to make post-surgery, patients struggle to negotiate what life would be like without a band. Although Patience – who conveys her enthusiasm for the band - hasn't had a fill in over a year, relying on 'discipline' and an aggressive workout regime, she explains she has no interest in ever removing her band: "I like to think I'd be successful without it, but I think I'd rather have it there for safe keeping ... it's like your support, it's like mentally you get like I have my band to keep me from getting fat again." In this way, the band, implanted but dormant, remains both a reminder of her heavier self and a safety net

should she need it. While Patience relays her desire to exert control over the device – rather than rely solely on the band as a weight loss tool – her uncertainty of what life may be like without a band relays anxiety of returning to her former obese self.

The idea that patients will regain weight *without* the band is likewise mimicked by practitioners, surgeons and biomedical firms – emphasizing that, without it, patients would revert to their old ways of eating. Often these notions of failure are linked to gendered constructs of patients' attempt to subvert the technology through maladaptive eating, which is often framed as strictly a female “problem” of emotional eating (Boero 2010). A bariatric surgeon tells patients that while successful weight loss outcomes with the gastric band are largely due to lifestyle and behavioral changes, “folks who have the band learn quickly if they didn't have it, they'd put weight back on right away. Even folks who lost weight, 5-6 years down road, if they take saline out, they gain weight; if they took [the band] out, they'd blow right back up.” Advertisements for the LAP-BAND explain the band is a “long-term implant” but warns “after the removal, though, you may return to your original weight, or even gain more.” Brenda, a bariatric nurse, recounts how a female band patient who had her band removed due to a prolapse gained all the weight she lost on the band while waiting to have another surgically implanted. Without the band – which is “unforgiving” and prevents patients from overeating - patients return to their unhealthy eating habits, she explains:

You feel that tightness there, it's unforgiving – so once you start eating, that's your reminder that God, I've got something stopping me here. Where if that band is out, you're back to the old stomach, you got a big hole now, you can eat as much as you want to eat. I had...a lady that had to have her band removed – she goes, ' Oh my God, oh my God, I'm gaining weight'. Well, what did you eat? Well yesterday I had a hot dog – well, why'd you eat the hot dog? Well it was so good and today I had three hot dogs. Well, why the heck did you have three hot dogs if you should have stopped at one? But they realize they can have all that old junk again and they get crazy and I think mentally they tell themselves,

it's just for a short while so I can enjoy having this band out. And they have to go through all that extra work once you get the band in.

In this statement, weight gain is constructed not only a 'failure' but a reaffirmation that the band is necessary for weight loss. Because the band is presented as an individual solution to obesity and simply a 'tool' to lose weight, patients hold themselves responsible if they do not lose weight – or 'enough' weight - or regain the pounds they lost; they also often hold themselves responsible for some complications, considering it "my fault" if there's an issue with the band (Andrea, band patient).

These fears of weight regain provokes anxiety among patients as they struggle for control over – yet simultaneously embrace – technology in efforts to lose weight and regain their health. However, complications such as erosion, band slippage, infection, or anatomical rejection of the band force some patients to have theirs removed; other physical complications, such as reflux, or esophageal dilation, like Deb, force patients – often reluctantly - to have their removed. Others have theirs converted to another procedure, due to a band malfunction or 'unsuccessful' weight loss outcomes (Erica). At a support group for band patients, Nancy, who lost 185 pounds on the band over three years, tells the group she recently had a revision to a gastric sleeve following a band slip – her second slip within a year. After an upper GI revealed that the band had slipped halfway down her stomach her surgeon told her it "has to come out". Despite the complications, Nancy tells the group that she would "do it again" and still identifies with the banded community, choosing to attend the band support groups, rather than 'general' groups for all bariatric patients. Others, however, are eager to have their bands removed – and eradicate any association with the gastric band - actively petitioning their insurance provider for a revision (Erica) or recounting their negative experiences with the band on online forums and message boards.

However, despite a desire on the part of some patients to take their 'band and bones' into their coffin, there is acknowledgement that the longevity of the band is unknown, both in terms of the material's sustainability and the long-term weight loss outcomes. The relative infancy of the gastric band, compared to the bypass, and the variation in the generations of design of the LAP-BAND and REALIZE band, there's limited long-term data on the safety and efficacy of the device, explains the medical director at Allergan. A sales representative from Ethicon, states the "feasibility and the longevity of the bands" is "not totally well-known." He states: "What's going to happen to the band in 50 years in somebody who's 18 and gets it? We don't know." The uncertainty of long-term outcomes raises some questions – even among band patients themselves – about the longevity of the device. However, patients' comfort with technology and faith in science – overlaid with their rejection of other surgical options - often obscures the lack of scientific evidence about the band's viability in the long-term. Andrea explains that she isn't bothered by the possibility that the band may "deteriorate": "that does not bother me whatsoever or scare me....cutting my intestines and rerouting all of that scared the poo out of me."

#### **6.4 Summary and Conclusions**

While bariatric surgery is painted as a 'permanent' solution to the problem of obesity, the idea that the gastric band can be removed appeals to patients who are fearful of the 'extreme' nature and irreversibility associated with other bariatric procedures, namely the gastric bypass. But as a contested and unstable technology, the band's efficacy and 'foreignness' is continually both challenged and reaffirmed by a diverse arena of actors. As the band takes on manifold meanings and identities – simultaneously existing as both a human-like 'friend' and a non-human 'foreign object' – it, in turn, re-constructs the identities of both users and non-users.

The act of being banded becomes not just a physical process but a psychological shift in the way one constructs their identity vis-à-vis a biomedical technology. For some, to be 'banded' is to embrace the human-technology interface as co-constitutive, to have an embodied experience that is marked by not only a changed physical self, but also a new pschical and psychological self. Like Donna Haraway's (1991) postmodern cyborg, a hybrid of machine and human which offers possibilities for both power and resistance, many banding patients embrace the band as a core aspect of their being; they attempt to strategically use science and technology to gain power – power over their bodies, health, and their social well-being. Ray Kurzweil's optimistic portrayal of technological singularity, in which there is no distinction between human and machine, sees a "world that is still human but that transcends our biological roots" (2005, p. 9). Singularity, he argues, will allow humans to "gain power over out fates" (p. 9). The new biomedicalized subjectivities and collectivities created in an era of biomedicalization allow some band patients – desperate to flee an obese body – to transform their bodies in a way not previously possible through 'traditional' diet and exercise. In this framework, individuals have the capacity to create new identities; these "technoscientific identities" can be potentially empowering for some individuals, although disempowering for others (Clarke et al. 2003, 2010; Casper and Morrison 2010; Riska 2010; Mamo 2010; Boero 2010). For some individuals, the gastric band allowed them to create new thinner, healthier and more socially acceptable bodies (Throsby 2008). For many of the band patients I interviewed and observed, gastric banding surgery allowed them the opportunity to reclaim their bodies from disease, medications, low self-esteem, and weight-based discrimination; while they can live without a band in the physical sense, they *begin to live* once they have been implanted with the gastric band. Bodies themselves – "made and remade through science and technology" become "technological artifacts", just as patients' former 'fat' selves become antiquities (Wajcman

2000, p. 457-8). But bodies which were once thin and then became obese later in life – whether as a result of trauma or depression – also become re-born as a result of the band, a tool that allows some patients nostalgic for their former selves to be unearthed after surgery. Discourses of re-birth drive these narratives of bariatric surgery, as well as bodily transformations in other contexts – from cosmetic surgery to gender reassignment (Throsby 2008). But while some are personally empowered by the band, not all patients equally embrace the band, nor experience improved lives physically or psychologically as a result of the surgery; in this way, patients convey the complexities of living as a bandster, and as an individual who has been transformed – although not ‘enhanced’- via biomedical technology, revealing the ‘unintended consequences’ of obesity surgery.

While the weight loss ‘journey’ is often conceptualized as a “singular movement”, it is about “a way of being in the world that is multiple, contingent and ambiguous (Murray 2009, p. 165). In this way, to have gastric banding surgery reveals a complex negotiation which goes beyond a dichotomous existence of ‘being banded’ or not having a band to reveal ambiguities and liminal space among those living with the obesity device. This new banded identity is shifting, multiple and wrought with contradictions and complexities (Throsby 2012b). I presented a schema that classifies patients based on their commitment to what I term the banded body project to demonstrate the complexities of negotiating life in a banded body. The act of ‘being banded’ is not simply a matter of being implanted with the device, but rather reflects the psychological shift in how one approaches the weight loss ‘journey’; patients and practitioners often make binary distinctions are made between those who are ‘committed’ to the process and those who are not, between those who “follow the rules” and those who do not heed doctor–recommended post-surgical lifestyle changes, and between those who are ‘successful’ and for those that ‘fail’. One can physically have the band and not ‘work’ the band, meaning they resist making changes; one can also have the implant and

intentionally not follow-up for adjustments, relying on their own 'willpower' to lose and maintain their weight. In this way, some patients live with the band in the physical sense although their mental self remains unchanged. These moments of resistance demonstrate patients' efforts to control outcomes, sometimes defying medical advice, just as other patients defy medical construction of their bodies as 'obese'.

While identity construction and re-construction is possible in this age of technoscience, new identities, although multiple rather than singular, are still within the normative medical framework that sees bodies as inherently flawed or in need of correcting. In this framework too, health becomes constructed as a moral obligation and responsibility, meaning because technologies are available, individuals should and must utilize them to both prevent and heal ill, obese bodies. In other words, because scientific breakthroughs have made it possible to live longer, differently or 'better', individuals and society must utilize them to their full advantage. To this end, individuals are expected to more carefully monitor their own behaviors and self-surveillance/medical surveillance becomes central to identity development. But as Conrad (2007) argues, overstating the role of science and technology underscores the influence of both consumers and the market in driving the medicalization of certain conditions. In this framework, one cannot separate technological developments from the individuals who demand their creation; in this way, patients can and are active parties in medicalization, rather than passive recipients of technology.

Perhaps most significantly, the act of being banded reveals the complicated and sometimes tense relationship individuals have with technology. While patients' familiarity with technology in other medical encounter enhances their comfort with the obesity device, they are drawn to its removability, considering it as "an out", yet expressing fear of living *without* their "lifelong" partner. Band patients' simultaneous reliance on the band to help them achieve their weight loss goals and their belief that they did "all the

work” to lose weight and keep it off reflects apprehension about the use of technology to achieve weight loss goals at the expense of *human* control. As human actors embrace a technological actor, they simultaneously reject the notion that the band was *solely* responsible for their weight loss, choosing to position themselves as agents in the ‘war’ against obesity. Patients’ role in making lifestyle changes is supported by other human actors, including surgeons and bariatric practitioners; the consequence of these sometimes conflicting messages is the oversimplification of patients’ commitment and compliance to the body project and a lack of efforts to de-stabilize the technology as potentially flawed or ineffective. This tension and struggle for control and autonomy between band patients and the gastric band continues throughout the aftercare process, the focus of Chapter 7.

## CHAPTER 7

### THE 'SCIENCE' OF FILLS: MAINTENANCE, STANDARDIZATION, AND PATIENT CONTROL

In Chapter 6, I explored the way in which patients negotiate life in a banded body, revealing tensions and anxieties as humans use – yet attempt to control – technology in their quest to lose weight, shed the stigma of obesity, and improve their health and overall quality of life. New technologically-based identities, both empowering and disempowering, emerge in this space, reflecting the complexities and contradictions of obesity surgery. Just as new technoidentities are created in the face of being banded, biomedicalization also engenders *customization* of human bodies. In this way, “human bodies are no longer expected to adhere to a single universal norm; rather, a multiplicity of norms is increasingly deemed medically expected and acceptable” (Clarke et al. 2003, p. 181). The aftercare component of gastric banding surgery represents an opportunity for patients – as they adjust their band – to control not only how much weight they lose (or gain) but the pace of which they lose it. In attempts to create a healthier, more socially acceptable body, this adjustability of the gastric band is often positioned as its greatest asset. But it is this highly customized experience that contributes to the band’s ‘poor’ Excess Weight Loss (EWL) outcomes compared to other bariatric procedures; it is this resultant variability in patient outcomes that remains the greatest threat to the longevity of the gastric band as a viable obesity technology in the U.S.

As a disciplinary technology, the gastric band remains dependent on the cooperation of its user *and* clinical oversight. In this chapter, I focus on the aftercare process associated with the gastric band, and the ways in which adjustments or ‘fills’ are often constructed as *qua* solution to taming the seemingly disorderly appetites of the obese. In this post-surgical space, the multiple, sometimes conflicting discourses and

processes surrounding the management of band patients are revealed. Although the band – much like the weight loss journey - is often presented as something customizable and specific to each individual, I will argue that the need to *standardize* the adjustment process is an attempt to control patients and tame the ‘uncontainable’ obese body; this push toward standardization and efforts to add ‘science’ to the adjustment process is driven partly by clinicians’ perception that band patients are ‘noncompliant’ with the band diet. But despite efforts on the part of surgeons, practitioners and the biomedical firms – and for patients to themselves - to contain patients’ bodies and their uncontrollable hunger, some patients express resistance, sometimes vying for control over the device and sometimes held captive to the band’s idiosyncrasies. It is in this aftercare space where the band’s safety and efficacy is held in question and the instability of the device itself – and its clinical mediators - is revealed, demonstrating the tension between human and nonhuman actors as each jockey for control over outcomes.

### **7.1 Maintenance, Hunger and the Search for the Elusive ‘Green Zone’**

*Angela is visibly nervous as Violet, a bariatric nurse practitioner at Obesity Solutions, draws a Huber needle, a one and a half-inch hollow instrument with a long, beveled tip, designed to be used with implanted ports, from a cabinet in the small examination room, decorated modestly with a large framed before-and-after picture of an American-American female patient who lost 90 pounds with a gastric band. Violet feels around for the port, under the skin on the left side of Angela’s stomach, just a couple of inches from her belly button. She places Lidocaine gel on the skin to numb the injection site and brings the needle closer as Angela winces. “I don’t like needles,” Angela says, as she lays down on her back, stretched out with her hands above her head, her shirt tucked into her bra, letting out a loud ‘Oww!’; within seconds, the ‘fill’ is done and .2 CC have been added to Angela’s band. “Yay me!” she exclaims with enthusiasm, “Alright green zone, here I come!” As she gets up, Violet reminds her to stay on liquids for the rest of the day and tomorrow, and sends her to waiting room to sip on water, encouraging her to make another appointment in 6 weeks. If the patient has difficulty getting down the water, they will have trouble staying hydrated and fed, Violet tells me. After a fill, patients go ‘back to basics’, and must return to their post-surgery diet of protein shakes, advancing to mushies and, eventually, returning to solid foods after a few days. If the band is too tight, or if Angela advances too quickly to solid foods on her diet, she’ll be back to the office complaining of vomiting and will need to have the fluid removed. “Adjustments look easier to do than it really is,” Violet tells me, “It’s about getting it right.”*

Unlike other bariatric procedures, gastric banding surgery requires patients to continually return to their surgeon or bariatric medical provider for adjustments, like the ones I observed during my fieldwork. When the band is placed surgically, the ‘balloon’ that wraps around the top portion of the stomach is empty and free of saline. About 4-6 weeks after surgery, patients return to their surgeon or practitioner for their first ‘fill’ or ‘adjustment’ – the process of adding (or removing) a small amount of saline to create or lessen restriction; the adjustment is done via the port, a bio-compatible plastic and silicone device, similar to a chemotherapy port, that is sutured or hooked onto the inside of the patient’s abdominal skin about two inches below the rib cage (O’Brien 2007; Ethicon n.d. h). This ‘high maintenance’ component associated with aftercare of the gastric band is what often sells and defers potential patients from choosing the gastric band – some don’t want to be bothered with the upkeep and monthly doctors’ appointments post-surgery, while others like the appeal of having a ‘jump start’ to their weight loss via an adjustment and the ability to control the pace and timing of their weight loss. This adjustment process and the accompanying patient follow-up is seen as the critical mediating factor in weight loss outcomes with the gastric band (Nguyen et al. 2009; Schouten et al. 2013).

It is in this adjustment space, that the band actualizes itself as a *disciplinary* technology. Foucault (1995) describes disciplines as an apparatus for detailed, meticulous control over bodies and people; through training, measuring, ranking and ordering, subjected and docile bodies are created, increasing the capacity of the body while also reducing its threat. In this way, the band invites the promise of healthier, more socially normative bodies, but it also restricts, punishes, and corrects, creating a situation in which individuals submit to self-surveillance *and* to continual clinical oversight. New bodily technologies are often sold as life enhancing, yet the “disciplining and surveillant consequences of these technologies” are “often obscured” (Balsamo

1996, p. 5); other devices which focus on self-monitoring – such as telemonitoring of heart patients (Oudshoorn 2008, 2009) - to surveillance of pregnancy (Balsamo 1996; Rapp 1998; Layne 2006) – are intended to turn the body into an “object of intense vigilance and control” under the guise of ‘know your body’ and taking control over one’s health (Balsamo 1996, p. 5).

### **7.1.1 Taming Appetites**

Control is central to the adjustment process. The purpose of adding fluid is to induce *satiety*, or to not feel hunger or have any interest in food, and *satiation*, the feeling of being satisfied after eating a small amount of food (O’Brien 2007; O’Brien 2011). As one band surgeon tells a group of potential patients in an information session at Southside Hospital, “in simple terms, it gets rid of your hunger. When you put the band in and tighten it, you don’t feel hungry.” At an information session for Obesity Solutions, Grace, a bariatric patient advocate for the band-only practice, tells patients that the band “teaches you what full and hunger feel like. The band trains your body, it teaches you what the stopping point is.” Advertisements for the LAP-BAND similarly have laid claims that the band can “tame your hunger” (Allergan 2007d), while Ethicon advertises its REALIZE Band is designed to allow patients to “feel full sooner, and feel satisfied longer” (Ethicon n.d. a). Here, hunger remains something that humans – aided by technology – *can* control. By contrast, the obese body is viewed as uncontrollable, marked by patients’ untamable appetites and their “lack of willpower” (LeBesco 2004, p. 117).

For some patients – many accustomed to years of dieting and held captive to their self-described “emotional eating” - the prospect of being able to finally control their hunger is part of the appeal of the band. Samantha, a band patient, explains her initial

conversation with her band surgeon and her concerns about whether the band would be able to help with her “problem” of never feeling satisfied:

I said, look I've tried everything and I'm not stupid, I know what my problem is – I'm always hungry or at least I could always eat and I never feel full – so I didn't want to pay \$15,000 for something that wasn't going to cover these two problems. 'Cause I said, I'm not stupid, this is what's going on and he assured me that this lap band would do that, it would help with those two particular situations, so I said to him, OK, let's go for it. And it did, it did exactly that.

While Samantha asserts herself with her surgeon, presenting herself as an educated consumer, she also replicates medical knowledge that sees her body – and her appetite – as flawed and in need technological intervention. In presenting herself and her hunger as diseased and abnormal pre-surgery, Samantha believes the band was indeed able to ‘cure’ her.

Although patients are often told “hunger has an emotional and psychological component to it - hunger is complex” (psychologist, support group observation), discourses surrounding the surgery present hunger as physiological and as something that *can* be managed. But for other patients, hunger remains something that is uncontrollable and the feeling of satiation remains elusive, even after surgery. These disjunctures between clinical-guided expectations and patients' actual experiences cause confusion and sometimes fear among patients. In support group meetings and during in-depth interviews, patients struggle with the concept of suppressing their seemingly disorderly appetites – and the differentiation between “head hunger” and “physical hunger” even post-surgery. A female band patient, 14 months out of surgery, tells a group at University Hospital, “I don't know what the sweet spot it – I don't think I've ever been there”, while another explains “they do surgery here” as she points to her stomach, “not here” as you lays her hand on her head.

Immediately following surgery, patients often don't have physical hunger, primarily because the inflammation from surgery creates a feeling of restriction and sense of fullness (O'Brien 2007). In a pre-surgical nutrition session with a group of band patients, Sarah, a dietician at University Hospital, tells patients they are "going to have to force yourself" to drink protein shakes after surgery "even in the absence of hunger, taste and desire"; she tells them: "out of thousands of people, not one person has ever told me they were hungry after surgery – not one and that's after 10 years." While the dietician emphasizes the lack of hunger, the *return* of hunger once the swelling goes down often sparks fear and discouragement from patients who believe the band is 'not working'. Violet, a bariatric nurse practitioner, explains: "Some come in crying, a lot are frustrated when they have an appliance that doesn't quite work yet - everyone is different - there is no average." Sarah, the dietician, tells a group of pre-operative band patients that "you have to have patient – it works, you just have to have patience." Here, Sarah constructs appetite as something that *can* be suppressed, but it is seen as a process, and one dependent on patience, technological assistance, and on continual clinical oversight, reinforcing the idea that the band 'works' – but only as long as band patients return for adjustments.

But in patients' rush to have surgery, they "somehow miss" that there's no fluid in the band when it's initially implanted, explains Violet, a nurse:

At the first 6-week visit people are already frustrated thinking the band doesn't work because I'm eating the same volume of food, and I say, 'the good news is, the band is empty.' Where'd you miss that? There is a period of adjustment where you got the band, now we need to adjust it specifically for you, and that may take several adjustments. So I think it's that period of time that people think, gee this isn't going to work for me....after that, everyone wants to be a spokesperson for the band. Prior to that, they're 'this band doesn't work' ...and [then] it's 'oh, this band is wonderful if you need anybody, I want to be a spokesperson for this band, this band is fabulous.'

While some patients eventually want to be a “spokesperson” for the band and share their positive experiences with others, she explains that part of the problem with patients’ initial dissatisfaction with the band – and the relatively negative view of the band procedure overall compared to other bariatric options - has to do with the *pace* of patients’ weight loss – an average of 1-2 pounds per week - which is generally slower than gastric bypass. With gastric bypass, many patients lose a substantial amount of weight immediately following surgery – about 5-15 pounds a week - with the majority of the weight loss – sometimes called the “honeymoon period” - occurring within 12-14 months after surgery. Nguyen et al. (2009) find that at year one, gastric bypass patients lost 64 percent of their excess weight, while gastric band patients experience 37% EWL; other studies (Tice et al. 2008) show up to 48% EWL for band patients the first year after surgery. “We want everything quick fast [snaps fingers]”, Violet comments. Similarly, the North American Product Developer for Ethicon explains that the perceived inferiority of the band compared to the bypass is linked to broader society’s needs for “immediate gratification”; he says: “we suffer from this society is the obesity epidemic...but we also suffer from immediate gratification.” While the product developer maintains the seriousness of America’s ‘obesity epidemic’, he also explains the band is not intended to provide an *immediate* solution, despite patients’ - and society’s – desire for quick outcomes. The Medical Director of Allergan likewise explains that, with the band “you have to get fills, you still have to change your lifestyle, it’s a more gradual weight loss and patients – and people in general – tend to be impatient with the results.” Similarly, Dr. H explains “we tell patients in information sessions that if they’re getting the band, they are going to lose less weight, but they still come in after six months and say their friend Sally with bypass has lost 60 pounds and they want to lose weight faster”. Here, the surgeon reaffirms that it is patients’ unrealistic expectations, rather than the

technology itself, which is responsible for the slower weight loss associated with the band.

But patients often get a “false sense of security” when they lose weight quickly following band surgery, primarily because they’re on an all-liquid diet, explains Leslie, a bariatric nurse; they become discouraged when they don’t continue to lose at the same pace, she says. In interviews and in support group meetings, band patients often relay their impatience with the process and the challenge in comparing oneself both to gastric bypass patients and even other band patients that lost more weight. Before a support group meeting at Obesity Solutions, band patient Maria, a middle-age woman, talks about her frustration with the scale, calling it her “friend and enemy”. Andrea, another patient, responds with empathy: “I do not get on the scale anymore, that how I self-sabotage – I was driving myself nuts so I got rid of it.” In an interview, Justine, a band patient, comments that after losing 12 or 14 pounds in the first week post-surgery, she was “kind of got a little disappointed because I wanted to keep losing like that.” While she could rationalize the idea that “when you drink all your meals it’s obvious you’re going to lose weight”, she becomes discouraged: “when I started to eat, [the weight loss] kind of slowed down and I had to struggle with getting on the scale every day.” Similarly, Danielle describes how – in the first month after surgery she became “addicted to weighing every day”; but once the weight loss began to slow down and “leveled off”, the scale became discouraging, mirroring past experience with ‘failing’ at commercial diets. Diana, a band patient, tells me in an interview that having bariatric surgery can be mentally “depressing”, especially when patients compare themselves to others or hit a weight loss plateau:

A lot of people try to compare themselves to the next person. I have a lot of people online that say, ‘hey, I’m trying to get where you are, I’m trying to get the body like you, Diana I’m depressed because how many weeks are you out, I’m at that, I’ve only lost this amount.’ And they try to compare themselves, ‘hey I had the

same surgery, I'd have the same doctor, why am I not losing like you?' Everybody's body is different, but they see other people losing and they're at a stall for a month – this is normal, this is normal and the body is reacting, the body is in shock because this is something different, something that it's going through, something that you're experiencing and so mentally it can be depressing...I actually found myself doing that at the beginning and it started putting me down and once I found my voice, my voice to keep myself out there, then I said OK, I'm going to do this at my pace and try to make this work for me.

While Diana expresses an understanding of the frustration and emotional highs and lows that can accompany the surgery, she, like many of the other patients I spoke to, reveals the contradictions in wanting to 'do the work' that's required for band patients and not having the weight fall as quickly or as steadily as they would like. Patients must live in that tense space between the perception that the surgery is an 'easy way out' and the reality that life post-band surgery (like other bariatric procedures) is often wrought with challenges; they must also negotiate the tension between electing a surgery where the weight loss outcomes are slower than other procedures and their desire to lose weight and shed the stigma of obesity rapidly.

### **7.1.2 Getting in the 'Zone'**

If the slow weight loss associated with the gastric band is constructed as one of its biggest drawbacks, its *adjustability* remains a central selling point, the 'solution' to obese patients' limitless hunger which offers possibilities for patients to have *continual* control over their bodies. During information sessions, surgeons often promote the adjustability of the band as its greatest asset – explaining that, as long as patients “come in for an adjustment”, they will achieve results (Dr. J, bariatric surgeon). Dr. C, the medical director of Obesity Solutions, tells potential patients “we can always adjust it, that makes you lose more weight.” Surgeons and practitioners, however, tell patients that it will take 4 or 5 fills to get them in the 'green zone' or 'sweet spot' - the elusive and highly subjective experience of feeling full and satisfied when eating small quantities of

food. Ethicon's marketing materials for the Realize band explain that "when the band is adjusted to the proper tightness, you'll feel full sooner and stay fuller longer. As the REALIZE Band helps you eat less food, your body will stop storing excess calories and start using its fat supply for energy" (Ethicon n.d. h). Here, the biotechnology firm emphasizes the way in which the band induces satiety, defining weight loss as a clear-cut matter of eating less, replicating a largely problematic, mechanistic view of the body "where body weight is understood simply in terms of energy-in and energy-out" (Gard and Wright 2005, p. 11).

Different practices I observed used varying methods to measure patient's satiety and assess whether they were experiencing any discomfort when eating or had any other complications; some practices adopt the schematic of three 'zones', initially developed by Australian surgeon and obesity researcher Dr. Paul O'Brien (Allergan n.d. a; O'Brien 2007, 2011). The "Yellow Zone" is an indication the clinician need to add fluid, if patients are hungry between meals, eating large portions and are not losing weight. The "Red Zone" means there is too much fluid in the band. Regurgitation, experiencing discomfort when eating and having poor weight loss, as well as night cough and making "poor" food choices are signs patients should have fluid removed. Patients are in the "Green Zone" when they're not hungry between meals, there's "good" weight loss – generally 1-2 pounds per week - and adequate portion control; no fluid is added once patients have achieved satiety and are satisfied with their weight loss (see Figure 7.1).



**Figure 7.1 The “Green Zone” (Allergan n.d. a)**

Ethicon uses a similar three-level rating scale in its print promotional materials, although none of the practices I observed used this metric; in this system, the signals for ‘Light Fit’ – equivalent to the ‘Yellow Zone’ - are hunger between meals, eating between meals, eating more than 4 ounces of food at a meal, no sensation of restriction, and losing less than 1-2 pounds a week (Ethicon 2007). ‘Tight Fit’ – like the ‘Red Zone’ - signals are difficulty swallowing food or liquids, hiccups, sensation of pressure in lower chest, too much saliva in the mouth, dry tongue, coughing at night, acid reflux, nausea or too-frequent vomiting, abdominal pain, and feeling lightheaded when waking up. The ‘Right Fit’ – analogous to the ‘Green Zone’ - is considered ideal for weight loss and is typified by content without eating between meals, satisfied by a small meal, comfortable sensation of restriction, and continued loss of 1-2 pounds a week or maintenance of a satisfactory weight. To assess the ‘zone’ or ‘fit’ clinicians asked patients to complete a questionnaire, or simply asked them questions about their eating habits, sometimes referring them to posters representing the zones in the exam room.

Finding the elusive ‘green zone’ or ‘right fit’ is an ongoing process – even when one finds that ‘sweet spot’, it changes; as patients lose weight, the band’s position in the body loosens, diminishing restriction which often necessitates another adjustment. Surgical placement of the band can also impact how often a patient may need to return

for adjustments. The band also loses a small amount of fluid over time, also necessitating an adjustment (Ethicon representative, personal communication). While these guidelines, along with other metrics to gauge patients' experiences, attempt to provide clinicians with a framework to manage patients' aftercare, the subjective experience of feeling full is difficult to measure – particularly for those patients who describe never being able to feel satisfied after meals, especially those who are accustomed to 'restriction' from years of dieting. Deb, a band patient, relays: "I don't know if I ever had that feeling [of satisfaction]. I'm going to cry, I don't think I ever had that feeling in my life." Others, like Justine, do believe the band creates a feeling of satisfaction which they are unable to achieve on their own: "all of the diets I did, I never had that satisfied feeling and even with all the pre-packed food you look at it and you're like this is all I'm supposed to eat?" She describes going out to eat with her boyfriend and her diminished appetite, evidence that her band was helping keep her hunger at bay: "normally we would get an appetizer, split the appetizer and then get an entrée. And I just got an appetizer and that's it and I didn't even eat the full appetizer and he's like you're full? And I'm like yeah I'm not hungry anymore so it does help with the hunger."

Although many practitioners and biotechnology firms emphasize that 'lifestyle changes' are the key to successful long-term outcomes post-band surgery, fills are often positioned as the *solution* to patients' stalled weight loss and are a considered a requirement to 'successful' outcomes. Devon, a former band patient who converted to a sleeve after regaining all of his weight back, cautions pre- and post-operative patients at a support group meeting: "If you don't go back for adjustments, it's going to fail you." Similarly, Dr. S tells potential patients at a bariatric surgery information session that one of the disadvantages of the band is that it requires frequent adjustments: "if we put band in and you don't come back, it doesn't work," he tells them. Here, patients and surgeons

simplify the adjustment process and patients' role in working alongside technology to lose weight, positioning failure as solely a matter of not returning for aftercare.

Aftercare is constructed as an essential component of being banded. Surgeons and practitioners advise patients to return monthly to check in, discuss their nutritional habits, and potentially have more fluid added or have some removed. However, patients don't always keep up with their fills nor return to their surgeon's practice for a multitude of reasons – sometimes because they lost their jobs and no longer had insurance coverage, or because they moved and couldn't find another provider to assume their care. Mercedes describes how being unemployed prevented her from returning for adjustments: "In March I lost my job...and I didn't have insurance so I was able to do maybe one adjustment I think but the adjustment, the cost, is too expensive for someone who's not working – it wasn't a priority, it was like \$125 or something." Although she had lost more than 70 pounds with the band, she believed that "had I continued with the adjustments and at the rate I'm going, I'm sure I would have reached my goal by now." Here, Mercedes reaffirms the necessity of the fill in order to lose weight. Similarly, Peaches believes she would have "lost a lot more" if she had continually come back for adjustments, which she calls a "shot": "if I had been taking my shot properly I would have lost a lot more...I need to make a point even if it's just once a month to get in and do what I'm supposed to." In support groups and interviews many patients likewise describe a belief they could "always go back and have [the band] tightened" if they've plateaued on their weight loss or regained weight (Katie, band patient).

Some patients, however, reject the idea that the fill is needed for weight loss, relying on 'self-control' to monitor their eating; Patience explains: "I think I learned not to rely on inflation of my band to control my eating ... I'm not one to like my band to be tight because I want to eat, but some people want their band way tight where they can't eat anything. So the band didn't really control me most of the time." Similarly, Wendy, a

band patient, believes that “fills are not the answer.” She says “don’t let anybody tell you getting a fill is the answer – they’re wrong. I didn’t get my fill for 9 weeks and I lost...a good deal of weight.” She explains that she took the time to “really learn how to follow the rules before I got a fill” so she could experience satiety without relying on adjustments to lose weight. In positioning themselves as *non-reliant* on adjustments, some band patients simultaneously reinforce cultural beliefs that one can lose weight with ‘willpower’ alone and attempt to challenge societal stereotypes that obese people are unable to control their bodies and their appetites. Other band patients are simply satisfied with their weight and no longer have any interest in returning for ‘maintenance.’ Kristie describes having a small amount of fluid removed because she was comfortable with her weight and wanted to eat a broader array of foods: “I’m just comfortable where I’m at and I thought if I had a couple of ccs or a quarter of a cc out I might be able to eat salad a little bit better which I can....when I was at my tightest, I had a real limited repertoire of what I would eat.” Here, Kristie takes control over her body, even in the face of being banded. Choosing to *not* have a fill is to reclaim control over technology.

## **7.2 Subjectivity, Standardization and the Challenge of Post-Operative Management**

*In a conference room of a suburban hospital, Dr. C guides a group of clinicians – nurses, physician assistants and bariatric program coordinators – on gastric band adjustments, leading them over case studies where providers must assess how much or how little fluid to add or remove from a patient’s gastric band. The education session on the aftercare process, sponsored by Ethicon Endo-Surgery, is an attempt to provide better patient care post-surgery - and improve outcomes, providing training in a critical area of patient care management. “I know there’s frustration on the part of providers,” says Dr. C. “We want to help patients lose weight and, as a provider, we want to make the experience better and make sure our time is used more efficiently –we want to spend a smaller amount of time and get data from patient in a way we can give good care.” He tells the group there’s an “art” to patient care – and there’s a need to use a scientifically based framework to gauge whether patients need a fill. “This is not robotic - we still have to think of patients individually, but we’re trying to standardize it the best we can.”*

Band adjustments are, for the most part, a subjective process. Determining *if* and *how much* fluid to put in or remove from the band is often a trial and error process – one dependent on a multitude of factors, including the patient's highly subjective experience of hunger and satiety, the practitioner's own experience (or inexperience) with adjustments, the way adjustments are performed, and the type of and generation of gastric band the patient has implanted. In this way, band adjustments, while presented as a patient's responsibility and as *qua* solution to their weight issues, are just one part of a complex aftercare process, which points to both the instabilities in the technology and the fractures in the medical care pathways.

While individuality and customization with the adjustment process is emphasized in marketing materials for both the LAP-BAND and REALIZE bands, representatives from the biotechnology firms believe that *lack of standardization* in post-operative care – as well as surgeons' disinterest in managing 'high maintenance' band patients - is partly responsible for the greater variability in patient outcomes, driving the perception that the band is an ineffective technology (personal communication). While experienced clinicians are experts in adjustments, their methods are "not reproducible", accounting for some of the variation in the band's outcomes, a bariatric account representative at Ethicon explains: "It's purely based on their experience and their feel – how much the plunger on the syringe is pushing back on them, what they're hearing from the patient when they talk about things. It's not reproducible. That's sort of a weakness of post-op management." The Medical Director at Allergan points to the unwillingness of clinicians to spend the time with patients and to "ask the right questions" as responsible for some of the "poorer results" associated with the band; he also draws a correlation between improper adjustments and medical complications:

The clinicians who are managing the patients, surgeons like to do surgery so some surgeons don't like to do the aftercare that's

required of a band, so there's probably going to get much poorer results because they're not spending the time. Obesity is a chronic disease, it requires the same sort of regular follow-up that treating someone with hypertension and type 2 diabetes requires, and that is that you see the patient regularly so those who actually ask the right questions, and actually get the best results. Because sometimes the patients will say well, you know I haven't lost a single pound since I last saw you a month ago, I'm not exactly hungry, but I'm not losing weight, I need a band adjustment, I need it tightened. So if you don't ask the right questions, if you don't follow up with additional questions and just tighten the band, what will happen is the band is too tight and now the patient is going to start retching and vomiting and now you're going to put a lot of stress on those sutures and perhaps, I'm not saying this is going to happen, but perhaps this causes the band to slip or causes band erosion and now I just caused a complication because I inappropriately filled the band. What I should have asked is 'Well, tell me about your typical day, what sorts of foods are you eating?' Well, I have lunch, I go juice it up and I have this big juice thing with protein added and it has 700 calories or something in a drink and they don't recognize that they're drinking their calories in addition to what they're eating and that's why they're not losing weight. So it's not the band fill, they need to change how they're eating. And then, oh, and then they start to lose weight. Patients, it's not necessarily reflective of how much education they have, sometimes people don't think of those things and it's part of the clinician's job to ask the proper questions.

While the Allergan representative is careful not to paint the patient as responsible for poor outcomes, he points to flaws within the broader care system, and a lack of understanding – and patience – among health care professionals in ensuring band patients have the proper quality of care. The bariatric account representative from Ethicon likewise explains that most surgeons steer patients away from the band because they don't want to handle the post-operative management piece; as a result, Ethicon has taken recent efforts to educate surgeons and physician extenders about managing band patients post-surgery:

Every bariatric surgeon has their own definition of success, a successful operation. Our FDA trial, our PMA<sup>96</sup> data shows at 3 years an average of 42-point-something percent average excess weight loss. By definition, by the 50 percent criteria, every band patient averages failure. If you talk to the patients who lost 42 percent of their excess weight, I doubt they'll consider it a failure. So some surgeons want to see rapid weight loss. With the band, it's not like that. Some surgeons want to see consistent weight loss without excessive post-op patient management, the band is not really going to provide that either, it requires quite a bit of post-op patient management and very rigorous follow-up. What we're trying to do as a company right now is with the aftercare course is show how to be successful managing the band post-operatively. We feel we need to assume more responsibility for how Realize patients are managed because we manufacture the device, we should be the experts on it's built and how the patients are managed. It's something we're working very hard to do now.

The 'Aftercare Pathways' course, like the one I observed at University Hospital, he explains, is an attempt to improve the post-operative care of band patients - and improve weight loss outcomes and, thus, improve the perception of the gastric band as an effective anti-obesity device and its subsequent sales. Allergan also offers a certification program for its surgeons called LAP-BAND TOTAL CARE, which trains surgeons who perform the LAP-BAND<sup>®</sup> System procedure in surgical techniques and follow-up patient care, including the adjustment process (Allergan 2010e). ASMBS has established credentialing guidelines for physician extenders, advising they participate in clinical training in a preceptor program or supervised clinical training with an experienced provider, including observation of a minimum of 10 aftercare visits and 20 gastric band adjustments, and independent performance of a minimum of 10 aftercare visits and 50 gastric band adjustments (Davis et al. 2012, p. e70). However, the guidelines are not mandatory and training varies, even in ASMBS Centers of Excellence.

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<sup>96</sup> PMA is the acronym for 'Pre-market Approval'; the representative is referring to the required clinical trial the company performed as part of the Food and Drug Administration approval process.

Despite the availability of this type of training provided for bariatric providers, my fieldwork reveals how the divergence of methods and experience level of the clinicians performing adjustments differed from setting to setting; this variation, in turn, impacted the patient experience and may have accounted for some of the variation in experience and outcomes I observed. For example, one of the patients I spoke to, Katie, explained she switched practices and was now having all of her adjustments performed using fluoroscopy, which she believed improved her overall weight loss outcomes. In some practices, the surgeon performs all of the adjustments, while in other practices, nurses or physicians assistants handle all non-surgical patient care, including fills and unfills. Dr. G, a band-only bariatric surgeon, explains why he handles all of the adjustments in his practice:

I think it's important – at least in my belief system - the first couple, the first hundred at least, you need to see those patients for four years because you need to know how an adjustment works, when a band adjustment is too tight, when do you need to adjust a patient, when do you need to send them to a dietician as opposed to an adjustment, and what cues do you need to listen to and what exercises work for patients. It's basically finding out your own brand, what makes you work. And surgeons who just put bands in and don't do follow-up I think they really miss out because they miss out on the best part which is the follow-up.

In addition to variation among which clinician performs fills, some practitioners rely on feel and instinct to add or remove fluid, while others use ultrasound or fluoroscopy to fill or unfill band patients, like Katie described. Dr. A, a bariatric and general surgeon at County Hospital, says that he adjusts all band patients under fluoroscopy – which allows him to see if there's a band slip, a port flip or dilated esophagus, supporting limited evidence suggesting “radiography has been proven to detect complications, such as band slippage or malposition, perforation, overly tight restriction of the stoma, hiatal hernia, and intragastric perforation” (Ponce & Smith 2010, p. 9). Other researchers (Cherian et al. 2010) find clinical fills to be superior to radiology in terms of weight loss outcomes.

During fills I observed at County Hospital, which were performed in a Diagnostic Imaging Center adjacent to the hospital, patients drink a barium solution, while Dr. A watches on a high-definition monitor; in observing how quickly or gradually the fluid moves through the band, Dr. A explains he can more accurately gauge whether a patient needs more fluid or needs to have some removed if he sees signs of reflux. He adds that he's only had one erosion in 8 years, which he attributes to monitoring patients to ensure they aren't being 'overfilled' to the detriment of their health and the integrity of the band. To assess whether patients were overfilled, some practices – like Obesity Solutions - relied on a 'water swallow' to see whether patients had difficulty swallowing, indicating whether they would have a hard time keeping down fluids and solid foods; this method, however, has been shown to not be indication of the 'Right Fit' (Ethicon 2011).

Despite the emphasis on the part of surgeons, clinicians and biotechnology firms on patients' highly individualized experience with the band, patients' differing expectations and different subjective experiences present a challenge for the aftercare associated with the gastric band. Patients often gauge their own restriction and feeling of satiety on the experiences of other patients; however, practitioners warn that comparing 'ccs' to other patients can be counterproductive, not only because each patient has an unique experience, but also because not every patient has the same brand of and generation of gastric band (bariatric nurse, personal communication). Although some practitioners believe that patients get incorrect information in online forums, the in-person support groups can also be problematic; Dr. C explains that the hospital's support group meetings are attended by patients with old generations of gastric bands who would then tell other band patients that "if you can eat steak or bread, it's not tight

enough.” He said LAP-BAND patients – who had the first generation of the device - would tell REALIZE band patients that if they didn’t get “foamies<sup>97</sup>” that “should go back in and get Dr. C to fill you.” Part of this universalization of experience is linked to patients’ lack of knowledge about *which* brand of gastric band they have and what generation they have; in this research, the majority of patients I interviewed did not know whether they had the REALIZE or the LAP-BAND or what generation they had. Many clinicians and the representatives from the biotechnology firms attributed this to patients’ lack of education; as a representative from Ethicon explained: “people know more about the shirt on their back than they do their healthcare options.” However, many of the patients I interviewed explained the surgeon did not allow them to choose the brand of gastric band and simply implanted “whatever he could grab” when in the operating room or the brand the surgeon was using at the time (Deb, band patient). Perhaps patients’ unawareness of their band’s brand name or generation is also a product of the discursive over-simplification of the gastric band, generically called ‘the band’ or ‘lap band’. Despite the reason, this lack of awareness complicates the post-operative management of patients – and frustrates clinicians, Violet, a bariatric nurse practitioner, relays:

The majority of patients have no clue what kind of band they have, they have no clue that there’s probably 7 different kinds of bands on the market, they have no clue, honestly. They get on these [message] boards, they assume everything is the same. They come in and I can tell they’ve been waiting for a whole month to come in and talk to me and tell me my friend has 7 cc in their band and I only have 2. And I listen, I can tell they’ve been wanting to tell me this all month, they can’t wait and I sit there because I know where they’re going, I let them say everything they want to say and get it out and when they get it out, I’m like OK, first of all your friend has a totally different band than you and I explain it to

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<sup>97</sup> Sometimes also called Productive Burping or sliming.

them. At the end of the day, most people don't know what they have – they have no clue and that kind of fascinates me, I'm always a little, I don't know, I feel a little funny about that.

In addition to educating patients on which band they have and its corresponding fill volume, part of the challenge in managing patient care is changing the language of patient interaction to better manage patient expectations, adds Dr. C: “We have to educate patients that not every visit will result in a band adjustment.” He explains that his own practice was “sabotaging” itself by using the language of fills rather than terming patient appointments as evaluations or patient consultations: “at the front desk, they'd be asking patients if they were there for a fill every time they'd check in...we need everyone on board before the surgery.” To complicate matters, some insurance companies won't reimburse for evaluations if they are not coded as adjustments; for self-pay patients who pay a program fee that covers the first six months of fills, the “patient will be in every months and is going to want 6 fills or will feel gypped if they don't,” he explains. Violet likewise explains how she terms clinical appointments as “aftercare visits” to assess – somewhat objectively – whether patients need to have fluid added or removed:

What I tell them is I don't make an appointment for an adjustment, I make an appointment for your aftercare visit, we're going to sit down and talk about what you're doing, where you are and we're going to decide – even though I'm going to decide – we're going to decide if you need an adjustment or not. And I objectively go through a process so they don't think I'm just not wanting to give them any fluid in their band. So I let them know, this is a subjective experience, I'm going to be asking you, I don't know what you do at home, I know what you tell me, I don't know how much food you're able to eat. I can see your weight loss and say hey weight is very appropriate, tell me about your portion sizes, are you hungry between meals, are you eating too much. I go through kind of an objective checklist with them and most times I don't have a problem with that. I give them the opportunity, I have some people who clearly don't need one but their thing is when you come in you have to have an adjustment so that's a teaching session about how the band works, what this is all about and that every time you come in, you're not necessarily going to get one.

Despite efforts to add “objective” science to the adjustment process, Violet reveals, subjectivity often guides the patient-clinician interaction. As a number of scholars (Foucault 1972, 1980, 1992; Harding 1992; Longino 2001) have argued, there is no singular ‘truth’, nor is there an objective truth. Instead, Foucault (1980, 1992) argues that truth always masks its relationships to power and pretends to be objective. In the aftercare space, the subjectivity on the part of both clinicians and patients has very real consequences for patient care. It is also a space where clinicians’ own biases against obese individuals can have implications for their care (Watman n.d.); as many of the clinicians I spoke to conceded, they had or observed overt biases related to their patients’ weight. Jessica, the exercise physiologist and nutrition consultant, explains:

Starting out I was very – I don’t want to say naïve to it, but I was – I had my stigmas against [obesity], I was like they’re lazy, that’s why they’re overweight, they just don’t want to do anything, all they do is eat, eat, eat. Which in my head I knew there were other reasons for it but that was my stigma, they’re just lazy. When I started the job, I was still kind of in that mode, especially the first 3 months probably after that I started to realize that, you know what, there’s other things going on here as to why people are overweight.

This admission of bias against her obese clients demonstrates the powerful ways in which the pervasive weight-related stigma in the broader society seeps into the clinical encounter. The belief that patients’ ‘laziness’ is to blame for their obesity not only oversimplifies the complex social factors contributing to obesity, but also foregrounds clinicians’ beliefs that patients are responsible for failed outcomes post-surgery.

### **7.2.1 Measuring Hunger and the Future of Band Adjustments**

To gauge whether patients needed an adjustment, the practices I observed in my research attempted to gather patient information in a variety of ways - some spent a few minutes asking patients questions about their daily food intake, whether they were hungry between meals, and how often they were exercising; others had patients

complete forms to indicate how many times per week they were vomiting and if they were experiencing any heartburn or acid reflux. In the Aftercare Pathway course I observed, practitioners were introduced to a patient assessment tool to provide an “objective assessment” of patients’ vomiting, eating habits, and weight loss data; based on measures, the patients were assigned a quantifiable ‘VEW’ score which determined whether they should have fluid added or removed from their band (See Appendix G for sample). Davis et al. (2012) advise considering a number of factors to assess whether a patients needs an adjustment, including band size and type, current weight and weight loss or gain, dietary intake, number of meals the patient eats per day, what a typical meal entails, including type and amount of protein, fruits, vegetables, starches, fluid intake, snacking type and amount, symptoms of hunger, dysphagia, dehydration, reflux, or vomiting, date of and response to last adjustment, current band fluid volume, and any band-related and adjustment-related complications (p. e70).

Determining *how much* fluid to add is also something Ethicon officials attempt to standardize; based on data from its FDA Pre-market Approval study, Ethicon recommends patients have 4 to 5 adjustments per year, with an average band fill in increments of 0.6 ccs (personal communication; course materials). Others (Ponce and Smith 2010) advise up to 1 ML per visit. Practitioners claim patients “obsess” over how much fluid is being added or removed from their band; Dr. C advises the group of practitioners at the Aftercare class to “not tell the patient how much you put in – they will obsess about it.” While many clinicians were critical of patients’ lack of knowledge concerning which brand of gastric band they had, Dr. C, and others I interviewed, were also dismissive of patients’ request for information concerning their band, revealing contradictions in the ways in which many clinicians wish to interact with patients, demonstrating a desire to have control and authority in the clinical encounter.

As surgeons and practitioners often relayed during interviews and in clinical observations, many times patients don't need fluid and over-filling the band can cause dangerous consequences – an inability to eat and vomiting can cause nutritional deficiencies and may later lead to band slippage and erosion. A Bariatric Account Representative from Ethicon explains:

.. a lot of people feel like they need to adjust the band but we find even more I adjust and tinker, the more detrimental it is the outcomes...But the mentality is, Doctor, I'm in your office, I need an adjustment, OK I'll give you an adjustment. What we're trying to do right now is kind of get the cart back behind the horse and try to educate people on and the surgeons on how to manage the band post-operatively.

Although the root causes of band slippage, erosion, or dilation has “not been agreed upon by the bariatric surgical community”, Snyder et al. (2010) state that “a commonly agreed cause is chronic over-adjustment” (p. 62). Biotechnology firms charge surgeons with improper fill amounts; the Principal Engineer of the R&D team at Ethicon explains:

Sometimes we've seen information come back where they're giving weight loss data and then you go and they actually filled the band and it's above and beyond the recommended fill volume and technique is, so what they're doing is because patients are saying I want more, I want more, so what they'll do is they'll fill the band all the way up to the maximum restrictions they can go to and then they dramatically lose a lot of weight and then they'll all of a sudden put it back on and then they'll wonder why, you don't fill them anymore because you filled them to the limit – it's supposed to be a gradual fill to teach them how to be compliant. It's kind of like if you do it all at once, you're not teaching, you have to do it multiple times, it's like training a dog to bring the ball back, you reward them every time they do it correctly.

Here, fills are seen as a way to teach patients 'compliance', analogous to training a dog. This loaded metaphor – equating obese patients to domesticated animals - reveals the ways in which many surgeons, medical practitioners and biotechnology representatives are not only distrustful of patients, but also demonstrates a gross oversimplification of the experience of being banded as simply about behavior modification. Dr. C similarly

explains that the goal is “to have as little band fills as possible and still lose weight and not be starving.” He adds, “it’s not relying on the band to do the work, it’s behavior adjustment,” reinforcing the role of the patient in having successful outcomes.

Designers at both companies have looked at – and dismissed - other modifications to the band – including consideration of adding electronic components – to standardize care remotely and control patient outcomes. However, the future of the gastric band, the account representative explains is a move toward “pressure guided adjustments”. A bariatric account representative from Ethicon explains:

So what we’re looking to do is be able to access the band through the port and by taking some readings, we can get feedback from the body that illustrates what the optimal level of pressure is, so we can get into that sweet spot faster. So instead of just using how do you feel and a score sheet, those are just kind of metrics that say OK, score sheet is telling me this, you’re telling this, my experience is such that they’re in alignment, here’s where your optimal level is – if we can get people to that optimal level faster, we can potentially get better weight loss, long-term results and at the same time eliminate some of the complications from under and overfilling.

Pressure-guided adjustment, representatives from Ethicon, as well as researchers (Snyder et al. 2010; Lechner et al. 2005), state, will help address some of the subjectivity involved in the post-operative management of gastric banding patient – and usurp some of the negative consequences associated with an ‘overfill’. He explains: “We think that can take a little bit of the guessing, a little of the art away from a little bit more of the art away from adjustments and sort of make it more reproducible.” This move towards a *scientifically-based, seemingly objective* approach, as opposed to the subjective experience and interpretation on the part of both practitioners and patients, has the potential to improve outcomes and the alter perception of the band as an ineffective weight loss technology, adds the Product Development Manager at Ethicon: “If I can add science to [the adjustment process] as opposed to getting rid of the art associated with it, the guessing associated with it, to make it more consistent outcomes,

we're not having wide standard deviations for what we consider normal weight loss, I think that's what's going to breathe some life back into the band." In invoking the power of science in the banding context, the representative hopes to lend greater legitimacy to the device and, perhaps most significantly, improve sales.

### 7. 3 Being 'Tight': Constriction, Restriction and Patient Control

*It's an unusually warm October afternoon at Obesity Solutions, a bustling surgical center in an office plaza in suburban Atlanta. I spend the afternoon with Violet, the Nurse Practitioner who sees post-operative band patients and other clients for supervised medical weight loss<sup>98</sup>. Between clients, we talk about a patient who's scheduled for an unfill – the process of removing fluid from the band. "They think it means it's working [if can't eat] – they should be able to function like don't have one – I don't even think about mine – I don't feel it," says Violet, who also has a gastric band. "If a patient is too tight, then they come back – I don't want it to be a medical emergency – we want to conserve the integrity of the band and we don't want them to fear getting fluid taken out – it's constant education." Violet reviews her charts of her next patient, Shawna, a 29-year-old African American female and says: "I saw her in August, she always wants more. I put .2 CC in before and now she's back to get it removed." "Some people don't need a band," she adds, "it's not for everybody." In the exam room, Shawna waits impatiently. "I have got to get this out of me," she says desperately. "I haven't eaten a meal since September – I've been in the bathroom since I got here and all I ate was oatmeal." Violet listens intently, and calmly replies: "Once you start vomiting, it creates inflammation, and when you continue vomiting, it creates more inflammation and that makes it worse. I only put .2CC in; at this place, it's not the fluid. Ask yourself: are you focusing on what do I need to do? Am I eating 3 meals a day? Am I getting enough liquid in? Am I eating too much fast food? I am eating too many carbs?" Shawna is quiet, and then meekly asks if regurgitating is normal, as she begins to lie down on the examining table. Violet replies: "It's a sign the band can't any more fluid in it if you can't tolerate it. Having it too tight doesn't make you lose weight – it just makes you sick." She tells Shawna to "push out real hard" as she inserts the Huber needle in her port, taking out .3 cc, as Shana airs a visible sign of relief. "I'll see next month. You have 6.9 in there now – you should be in a good spot." As Shawna returns to the waiting room, Violet readies for her next patient, Angela, who has indicated on her paperwork that she's vomiting four times a week, ever since her last fill in September. Angela, a 31-year-old African American female with curvy hair and patchwork plaid button-down shirt that matches her shoes, explains she has been unable to keep anything down for nearly a month. "I had everything blended down to applesauce consistency – it goes down, then it catches and comes up," she explains. Violet responds: "Are you too tight? Why did you wait so long to come in?" There is notable silence. "I understand," she states, before Shawna replies, "one day*

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<sup>98</sup> In addition to seeing bariatric patients, the center offer B12 and lipovite injections, as well as prescriptions for hunger suppressants.

*you get up and things are OK and the next it's not - it's a vicious cycle – everything comes up, it irritates and creates inflammation and then gets to point where can't get anything down. I'm surprised even water goes down with that inflammation."*

Although the gastric band is intended to *improve* patients' health, many band patients, like Shawna, demonstrate that the lived realities are much more complex; instead of creating a body that is *free* of disease, the band can actually result in *poor* health and both minor and major complications, like vomiting, reflux, and dehydration. Being "too tight" – considered being at the point where a band patient has too much fluid in their band that patients have difficulty keeping down solid foods, vomit regularly, or experience some type of discomfort, like acid reflux – is a common occurrence among band patients I interviewed and observed. These clinical sites reveal not only the challenges and uncomfortable realities of living with a gastric band, but also the frustration on the part of both clinicians and patients in managing the aftercare process. While clinicians attempt to educate patients on the potential drawbacks of being 'too tight' – sometimes revealing minor annoyance with patients' lack of adherence to the band 'rules' – patients struggle with negotiating life post-surgery; this struggle is often amidst differing expectations and sometimes conflicting information, in which patients sometimes draw on past diet 'knowledge' – mirroring feminized 'beauty is pain' discourses - that weight loss surgery *should* be painful and they should be punished for making poor food decisions. In an interview a few days after her unfill I observed at Obesity Solutions, Shawna relays her initial belief was that "if I get it tighter, it will make me lose more [weight]." She continues: "At first it was OK but it just seemed like it was getting worse and worse and worse and I was like OK, take this out." She said, at her worst, she had "had a couple times where I had accidents you know I couldn't hold it and oh wow, I got it all over myself and it was just terrible." Similarly, Kristie relays her experience with an overfill:

I went and got a fill...and we got it too tight and I could only eat protein shakes, and vanilla yogurt mixed with peanut butter. I could get down 2 or 3 bites of oatmeal but it was just too tight, flat out too tight. And I suffered for about 3 weeks before I could go back to the doctor and get them to fix it - I couldn't leave here because my assistant was gone – I just had to suffer. It's pressure...it's not painful – it's painful if you eat too much but it's pressure in your chest. It wasn't constant pressure, only when you ate...

The suffering, however, was often seen as “part” of the banded experience, a small price to pay for achieving weight loss success. Jessica, who serves as the nutrition consultant at Obesity Solutions, explains that patients have a misguided belief that they must be “as tight as possible so they lose weight as fast as possible.” She says she tries to tell them “you can't do that, because if you do that, you're really going to be miserable, you're not going to be able to eat, you're not going to be able to drink, it's going to be terrible.” She adds that each adjustment “doesn't have to be uncomfortable...you have patients though with the whole psychology thing all-or-nothing mentality, so they need it to be as tight as possible in order for them to think it's working.”

Rather than band tightness being indicative that the band is “working”, surgeons, practitioners and representatives from the biotechnology firms believe being too tight can cause more harm than good. An overfill can cause dysphagia (difficulty swallowing), reflux, and problems with the esophagus where the esophagus essentially becomes part of the gastric pouch, explains the bariatric account representative from Ethicon. He states that in addition to managing patients' expectations concerning weight loss, practitioners need to better educate patients on what a fill does:

More fluid does not equal more weight loss or faster weight loss. There's an ideal amount of fluid that induces satiety without inducing any of the negative side effects, the discomfort or dysphagia, etc. It's all about managing the patients' expectations, educating them prior. The last thing a surgeon wants is to do an evaluation on a patient and find that oops we put a little too much fluid in this patient, we need to back off, their eating habits are looking maladaptive or trying to explain why they're taking fluid out. Removing fluid is not failure, it's not that the patients did

something wrong. It doesn't mean that they're going to lose weight any more slowly or that they're going to gain weight. There's the correct amount of fluid and the incorrect amount of fluid – too much is incorrect, not enough is also incorrect – finding that balance is the art.

In this statement, the Ethicon representative reaffirms the challenges of managing patients' aftercare and the need to educate both patients and practitioners on the adjustment process. But in conceding that adjustments are an "art", he reveals the complexities and contradictions of the adjustment process, and the ways in which the onus of responsibility is often placed back to the patient. In one clinical encounter I observed, Violet conducted a post-operative exam on Denise, a 44-year-old old female band patient who had recently had surgery to re-position her band, which had slipped halfway down her stomach – a complication sometimes attributed to repeat vomiting. Violet explains that she will be "starting over on aftercare", returning to the same post-operative diet she had when she originally had the band implanted. Denise's partner Kelly asks how much fluid they will be putting in and raises concerns that the fluid was put in too fast last time, causing the slip. Violet explains that "in surgery, it may have looked one way and as the body heals, it may have repositioned itself. The amount of fluid you had in was always small, so we're going to keep going in tiny increments." Kelly tells me privately, "she started having problems early on, but she was so desperate to lose the weight she didn't want to tell them she was nauseous and vomiting." Like I witnessed with Kelly, my fieldwork and interviews revealed that, while some patients experience discomfort post-adjustment, they also feel temporarily powerful by their *inability* to eat. In this way, the ability to contain their appetite and the accompanying weight loss it brings is seen, at least initially, as a benefit to having the band. Patience, a band patient, describes this feeling of both pain and power:

It's really good because you lose weight but when you're used to eating, but it's not good at all. And I think for a new person with a new band it would be kind of discouraging and scary. But I went

the whole week with mine like that – it's not good, it just doesn't feel good the first couple of days, you're like OK you deal with it but after a week it was getting to be too much, you can't even eat a yogurt.

Jamie, like Patience, relays how he was unable to eat after getting a piece of a vegetarian corndog 'stuck' in his band: "all I could do all day was Gatorade – protein shakes were too thick to go thru. I did two of the big bottles of Gatorade and that was all I had all day. It was great because I lost like 7 pounds that weekend [laughs] but it wasn't too good as far as the other stuff goes but, by Monday I was cranky, I was mean, I was ready to eat." For many of the patients I spoke to and observed, the suffering and discomfort they sometimes experienced from being over-filled were inconsequential to the resultant weight loss. Here, patients' desperation to be thin is considered paramount to their own health. While clinicians and designers try to emphasize the consequences of these actions, they cannot usurp the cultural context that heralds slenderness at any cost; but clinicians own biases regarding patients' noncompliance also reinforce the idea that patients *should* be punished in their quest to lose weight. This disjuncture between what patients desire and what is healthy and sustainable in the long-term has implications for patient care.

### **7.3.1 Designed for Discomfort?**

Part of patients' desire for tightness and discomfort, some representatives from the biotechnology firms argue, is linked to the *design* of the original LAP-BAND. The first generation of gastric bands were designed to punish, a high pressure band that felt like a brick in the stomach – a physical reminder that patients had overate or ate the wrong food and made the wrong choices. A bariatric account representative for Ethicon says the original design of the LAP-BAND, released in 2001, set the expectation that patients have to be punished; although the band has since been modified toward a lower-

pressure design, past design decisions, coupled with the diet culture, persist in patients' minds:

I think it goes back to the earlier designs of the bands and a lot of the weight loss strategies they've tried outside of surgery. They expect to be punished, that it's a process that the more painful it is, the more fruitful it will be and if they make a bad decision they should be punished. We actually designed the Realize band so most patients won't feel discomfort, that tightness and pain of discomfort, they won't feel it until they're way beyond overfilled. We designed it such that there's a very large window where the patients can be overfull but not feel the discomfort, so they can make bad decisions and not feel discomfort – we don't want them to feel discomfort, we want them to just to not be hungry. So it goes back to their expectations – their expectations need to be they're not going to be punished for making a bad choice, they're not going to feel pain when they eat the wrong thing or throw up or have some kind of painful, uncomfortable process.

Though the bariatric account representative at Ethicon explains that the Realize band is designed for comfort rather than “cause pain”, many patients, like Samantha, seek a physical form of restriction as a way to curb their own painful cravings:

I consider the lap band kind of the overeaters version of antabuse<sup>99</sup> because it is, you think about it, if you do just disregard everything and attempt to just eat as much as you want, you're going to get sick, you're going to be uncomfortable - it's not just the regurgitating you will be uncomfortable, food will get stuck. You sort of learn through negative reinforcement, especially at some point in the beginning. After the first or second time you attempt to eat a donut or a baked good or something like that it doesn't work for you, you finally realize I don't want to go there again, no more donuts for me. And it makes it easy at that point to say no thank you. .. I have no problem saying no and that is huge emotional relief for me to absolutely not want it ...you just don't want it anymore, it's like, no, not going through that. It just kind of frees you up to know that stuff , those sweets, the things you usually can't say no to no longer have a hold on you. And that's what sort of keeps you moving forward, makes you want to exercise, makes you want to lose the weight because you're finally feel free.

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<sup>99</sup> Reference to drug given to alcoholics.

Samantha conveys that to be restricted – to be punished – is liberating, representing freedom over poor choices and ultimate control over her body, her emotions, and weight. The feeling of being uncomfortable, of feeling in control of one's physical and social life, links to feminist debates about eating disorders and the pressure many women feel to conform to a largely unrealistic expectation of beauty. As Susan Bordo describes, like femininity, hunger is a social construction that “operates as a practical ‘discipline’ that trains female bodies in the knowledge of their limits and possibilities” (Bordo, 1993b, p.130). To deny oneself food and to choose not to satisfy one's appetite becomes an important lesson in learning proper femininity. Throsby (2008) claims the “surgically induced inability to eat becomes a parody of ‘dieting like a normal person’ – an act of passing which is achieved through the mobilization of the normatively feminine practice of dieting” (p. 127). Despite medical literature's pathologization of patients as compulsive overeaters or food addicts (Murray 2009), patients' disordered eating post-surgery is often a *result* of the surgery. But the restriction experienced as a *result* of adjustments is also a *familiar* process carried over from years of dieting; in this way, patients begin to equate pain and restriction to ‘normal’ eating. In a gendered culture of restriction, the band emerges as a progressive although *natural* solution to their desire to lose weight, supporting feminist scholarship on dieting and eating disorders (Pipher 1995; Lupton 1986; Orbach 1986; Bordo 1993b).

Despite efforts on the part of clinicians to encourage patients to eat regularly and to schedule an appointment if they're having difficulty keeping down food, many patients resist, reverting to past diet knowledge which emphasized restriction. Many patients, explains Jessica, the exercise physiologist and nutrition consultant, have “grown up with the idea of, if I need to lose weight, I don't eat.” She says much of the diet advice patients are accustomed to centers around denying oneself food, which doesn't necessarily equate to sustainable weight loss:

They don't eat regularly, they don't have those three solid meals a day, it may be one, it may be two meals. That's the problem with the majority of patients because I have to explain to them that, in order to lose weight, you have to eat, and that's a concept they don't get. Because back in the day, you don't eat, you lose weight, that was the mentality, but that doesn't work.

While Jessica attempts to challenge past diet advice, her advice stands in contrast to much of the discourse surrounding the gastric band; marketing pieces and the websites for both Allergan and Ethicon tell patients the band will help them "eat less." In this way, the band becomes the very technological embodiment of the largely gendered imperative to restrict and deny oneself food.

While the intent of the band is to reduce the overall consumption of food, designers express concerns that the *feeling* of restriction – and the *expectation of discomfort* - can be counterproductive to their overall goals and to their physical health. Marketing materials for the Realize band use the tagline "Restriction not constriction", emphasizing how the band is designed to be comfortable, not painful (brochure). An engineer at Ethicon explains that while "some patients like to feel the restriction" the design of the REALIZE band is intentionally based on "comfort":

Some patients like to feel the restriction and they look for that but that doesn't necessarily mean that they have to feel the restriction in order to lose the weight for it to do its job. Our band, if you looked at our band, the Realize band verse competitor bands, ours is, and you look at it from the standpoint of comfort, ours is more comfortable...The Realize band is, if you have a volume like a baggie and you fill the baggie up to its maximum capacity, it's kind of like a pillow - as soon as you lay your head on it, it complies to the shape of your head. That's what happens with our band, it complies to the shape of your stomach that you wrapped it around yet it provides a little restriction, it's on kind of the lower end of pressure, whereas if you put the Lap-Band on where we say high pressure is on the higher end of the pressure curve. What's happening there is you take the same baggie and now you fill it up but you go beyond the normal volume so it's like blowing up a balloon now, when you lay your head on a balloon it doesn't completely comply to your head laying on it. So that's what happens with the lap band, basically you're stretching the material so that means the pressure in the band is high because the materials pushing back on the fluid in the band. So it becomes

less compliant when wrapped around the stomach which gives you that feeling of restriction.

The R&D engineer at Ethicon believes that the rigidity of the earlier bands - although they made patients woefully aware they had eaten too much or had eaten the 'wrong' foods - are linked to cases of band erosion. Band erosion is considered one of the most serious complications associated with the gastric band. Although it occurs in 1% to 3% of all cases, erosions have decreased with the advent of newer band designs that have a high-volume, low-pressure system, and improved surgical techniques (Snyder et al. 2010; Mittermair et al. 2009; Biagini and Karam 2008; Balsiger et al. 2007). The engineer explains:

But I think what really happens in the world now is – it's my opinion – but as you reach higher pressures or less compliance – so if I made the band rigid what you end up having then is the body now reacts to it because it's at a constant pressure being pressed against it, the body now reacts to it, it starts to encapsulate it and eventually what you end up with is a band erosion. So you have a situation that you need to optimize – at what point does band erosion start to occur, where's that pressure point? So what the Realize band does is it tries to minimize the erosion by going away from such a high pressure whereas a Lap-Band is closer to that point of where erosion may occur. Not saying that but half the bands used to be harder and they had more erosion problems – that's where they came to these more compliant bands, that's when the lap band went away from being more rigid to being more compliant and we went a little bit more compliant. Does that mean that you're going to lose more weight with one versus the other? I don't think so because, like I said, 75 percent of it is patient compliance.

The engineer draws a connection to complications associated with design issues centered around the pressure of the band's inner balloon, but also reaffirms the idea that patient's weight loss is dependent on their *compliance* with the diet and exercise changes post-surgery. But patients' ability to be compliant is *dependent* on the design of the band; while medical studies often frame the issue as one of non-compliance, charging patients' maladaptive eating is responsible for their 'failed' outcomes, others

bring attention to the correlation between the band's design and complications, including poor weight loss:

With a higher pressure band, understand you're going to feel that restriction much more prominently. The problem with that is, over the long term, you run into complications. If I'm continually trying to tighten the strength of the esophagus, and you're trying to eat, you're going to eat less, regurgitate, because it's uncomfortable. But that unfortunately, in our estimation, is not sustainable long-term. You can get pretty good results 8-9 month out, but over the long-term, you do one of two things – you either, it's not sustainable because you have to eat to get nutrients in your body, but also from the standpoint of you start cheating the band, you start eating soft, high-caloric density foods – we call that maladaptive eating which means you eat puree pizza, I mean whatever you can, the thing you like, you figure out a way to cheat the band. So we feel like we wanted to do something that was much more a higher volume, low pressure band to eliminate some of the issues with the maladaptive eating which causes weight loss, the tighter the band, the more restricted, often times leads to a higher level of complications (Product development manager, Ethicon, personal communication).

Dr. S, a band surgeon, likewise explains “if there's too much restriction, you get reflux and that leads to maladaptive eating.” He says: “We don't want them to go to sweets – if it's too tight, we don't want them to go to ice cream and chips because it goes down and they're hungry and they want to eat - if it's too tight, it drives bad behaviors.” At a support group meeting at University Hospital, Eve, a female band patient, tells the group she's had intense heartburn for six months and started to have reflux at night: “the healthy food don't go down good - the unhealthy food just slides down.” The nurse who leads the support group cautions her not to ignore the problem and see her surgeon. Eve responds with both fear and embarrassment: “I'm afraid now. I'm afraid they may take it out. I can't imagine that. I'd be lost without it. I gained 10 pounds, I'm afraid of the scale. I'm eating the wrong food because the [good ones] don't go down, yogurt and ice cream go down. All the forbidden foods go down.” As patients soon learn, unhealthy, high-calorie foods – whether emulsified into liquid form or solid, high fat processed foods – easily pass through the band, which are termed ‘slider foods’; commonly accepted

healthy foods, such as meat proteins and fibrous vegetables, are difficult for patients to ‘get down’ even if they are not overfilled.

The belief that patients should feel discomfort when eating is contested among various actors; some don’t believe that patients “necessarily...have to feel the restriction in order to lose the weight” (R&D engineer, personal communication), while others – including some patients - think ‘punishment’ is necessary to meet weight loss. Dr. E, a bariatric surgeon who no longer uses the Realize band in her practice, explains that Ethicon’s band actually *allows* for ‘cheating’: “they [Ethicon Endo] tried to make it really low in terms of potential complications of slippage and erosion, but they made it too permissive so I think it allows for more cheating and I think it gives less restriction. So I think in that respect, the old band, the LAP-BAND is better”. Here, Dr. E seems to argue that efforts to reduce complications enables cheating, indicating that patients need to be restricted; in this way, being punished – even at the expense of potential complications – becomes instrumental to patient success. In this study, some practitioners were aggressive and overfilled their patients, potentially to the detriment of their health and weight loss outcomes. Dr. D. a, a band surgeon, explains that he sometimes over-fills his patients to “teach” them to eat properly with the band:

The ones that are screwing around, throwing up all the time, I tend to be fairly aggressive tightening them to get them to get control over it. Throwing up itself, as long as it’s not a consistent episode, is not a bad thing for some of them because it teaches them no. After about three or four times they’ll stop. The ones that consistently throw up and they know they’re going to throw up, that’s a really good time to get the dietician and psychologist involved and say, ‘hey it’s not band that’s the problem, you need to work on the behavioral, maladaptive’.

The assumption that patients’ lack of compliance or inability to make behavioral changes informs much of the clinical space, driving clinicians like Dr. D. to use adjustments to ‘train’ patients. Just as clinicians’ assumptions about patients seeps into the aftercare

space, patients internalize these judgments believing they should be punished for not following the rules of living with the band.

### **7.3.2 Pushing Fills, Cheating the Band: The Construction of the Manipulative Patient**

While chronic overfills can cause serious complications, practitioners explain they will overfill at the insistence of *patients*; Violet explains that sometimes she adds fluid – despite her better clinical judgment:

I have one or two that just think that 'I just need a little bit [of fluid]' and I'm going, 'I just don't think you need any' and they're 'oh just a little' . 'I'm I don't think this is going to work out and this is what's going to happen.' And I can just see the disappointment and if it's someone who lives 3 hours from here it's 'let's try this and next month when you come in and you still feel like...we'll do it then'. Someone who lives five minutes from here, I go, 'you know what, we can try it' and I know they're coming back the next day and sure they come back the next morning and they're here before I get here and I don't beat them up about that either, they're like 'I should have listened, you told me' And I say 'OK' and that's called customer service. I have one patient in particular that could not understand what I meant when I told her that you can't get that amount of fluid at one time – she just wasn't hearing it – I had to put the fluid in and of course she came back and 'I don't ever want that again', and I said, 'I know that, I could not get you to understand, oh you don't have to say a word whatever you say. That's all you need is one time and I don't do that often if it's totally against my better judgment and I know from a practitioner standpoint I just can't do that I don't . There's one or two, I mean it's not going to kill them.

Violet describes how patients become active agents in the adjustment process, insisting on more fluid, despite the advice of clinicians. Patients themselves admitted to pushing the envelope on the fill level; Andrea, whose band was at 8cc at the time of the interview explains: "I'm one of those that I said from the very beginning...that I have to go to a 10 in order to be right, because the band can only go to a 10 so I've always laughed and said I'm going to have to be the one that goes to a 10. Most people you know, I hear, feel this uncomfortable feeling at 3 – I didn't feel that at all. And I guess it was just

psychological maybe, I don't know." Others actively resist having fluid removed, even if they're experiencing discomfort and have trouble keeping down solid foods. In a clinical encounter I observed, Sandra, a band patient complaining of pain in her esophagus, vomiting "clear fluid" two to three times per week after eating, resists the nurse's efforts to remove 0.4 cc of fluid from her band. "That's a lot!" Sandra replies, negotiating to only have 0.2 cc of fluid removed. "Am I going backwards?" she asks Violet who explains she's trying maintain the integrity of the band, replying "No, this is part of the plan – it's high maintenance, remember?"

In interviews, practitioners and representatives from the biotechnology firms often relayed how patients tried to "manipulate" them into adjusting their band, some asking for fluid to be removed for the holidays or if they were going on vacation, so they can eat more. Some try to have a clinician add more fluid; as the Ethicon U.S. product developer explains: "people are smart enough and manipulative enough to know if I want to get something, I know how to manipulate something to get what I want so doctor I'm tight or doctor I've got a wedding dress I've got to get into in 6 weeks, I think you need to tighten me up." Despite patients' efforts to drive clinicians into over-filling the band, the product developer believes "that's not conducive to the long-term approach we believe is necessary to be successful."

Some actors acknowledge that an overfill can lead to maladaptive eating, while others couch patients 'noncompliance' with the post-surgery nutrition and aftercare regime in simpler terms, reverting to patient-blaming discourse which centers on patient's role in 'cheating' the band. Practitioners and surgeons often relay anecdotes of their patients' efforts to 'cheat' the band. Rebecca, a registered dietician at County Hospital, describes how patients have developed "tricks" to be able to "get around the surgery":

...they learn their little tricks as far as if I eat this much, I can eat this much now and 10 minutes later I can eat this much more. Band patients they'll call before a holiday and say 'oh, can I get some taken out, they kind of use it as , they misuse it, they won't get filled for a while if the holidays are coming up or whatever, they won't get filled so they can eat more. So it's kind of misused in that way with a lot of people I've seen as well. I don't know if it's a type of self-sabotage or again wanting to use it when they want to use it kind of a thing, you know like I know I have this tool, but I also know that I cannot get filled and eat whatever I want and when I'm really serious about again, I can get it filled again.

Like Rebecca, Dr. E, a surgeon, describes how patients employ different strategies in order be able to eat some of the band's 'forbidden' foods; she relays the story of one band patient who confessed to – despite advice to stay away from doughy breads that often ball up and get 'stuck' in the band – eating a biscuit: “he was too tight to eat it, so he put so much gravy to make it slide down. You can definitely cheat it, cheating is very easy.” However, Dr. I, a psychologist, clarifies that 'cheating' is often presented in simplistic terms and patients cheat for a multitude of reasons:

There are some things you can do with gastric bypass, if you eat certain foods you get immediate feedback that you're not supposed to be eating this<sup>100</sup>. With the band, there are some things like that but you can also cheat if you want to cheat. So if you want to drink chocolate milkshakes, you can do that. If you want to eat ice cream, you might be able to. I think people cheat for a number of different reasons. I think the primary reason people cheat because it's their life they'll do what they want to, it's independence and stubbornness. I think people cheat because they don't have any other coping skills to deal with negative emotional states. I think most people cheat at some level, I don't know what percentage cheat at a significant level. If you went to a support group and you asked everyone to empty their pockets and purses, you will, I can almost guarantee you that you will see foods that are not on the recommended aftercare regimen.

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<sup>100</sup> Refers to dumping syndrome; high fat and sugar-containing foods often cause dumping or excess diarrhea among bypass patients.

In this way, the psychologist presents cheating as both a reflection of lack of coping skills and the willfulness of bariatric patients; in this way, non-compliance with the “recommended aftercare regimen” is seen, at least partly, as an attempt for patients to control their bodies. But those who “cheat” are scorned not only by clinicians, but by fellow patients as they attempt to police not only their own bodies, but the bodies of others; some of the patients I interviewed accused other patients of not following the rules, sometimes expressing disdain at those who fail to follow the recommended aftercare program. Ilene explains she gets “mad and angry” at people who don’t follow the rules post-surgery. She explains that those rule breakers’ own willfulness prevents them from being successful with the band:

Personality-wise, maybe they think my way is the highway or they don’t care or they get away with getting that stuff down into the stomach – the only sacrifice they’ve made is maybe they’re not losing as quickly as they could. Some don’t have the knowledge and don’t research the knowledge to get where they should be. And some don’t want to, they don’t care, they’re happy.

Often, discussions about cheating fail to draw a connection between surgical techniques or the adjustment process and complications which lead to ‘maladaptive’ eating, reinforcing the idea that patients not only are to blame for poor outcomes but also that punishment and deprivation are necessary to succeed with the band. However, some band patients confess to intentionally defying the rules. Erica, who was waiting approval for a revision from a band to a bypass, explains: “my band was always in the right place like when he’d go to do the adjustments he was like it’s perfect, there’s no flipping, there’s no slipping, I had the perfect band and people say did it just not work? And I say no, it works, there’s no malfunction with mine, I just have learned how to eat around it.” Dichotomizing cheating as either an act of defiance or as the result of technological malfunction is itself problematic; instead, I view the aftercare space post-surgery as

complex and unstable, just as the band itself and the experience of being banded shifts and alters over time, reflecting the variance in human will and clinical judgment.

#### **7.4 A Piece of Plastic with a Mind of its Own: The (Un)intended Consequences of Living with a Gastric Band**

*“Tonight I am TRYING to eat salmon... it's not any different than what I cooked last night. It won't go down for nothing. Ughhhh. Why is it I can shove cookies and chips down with no issues but tonight, when I am eating healthy... it's not going down at all!!!!!!!!!!!!!! Come on lapband cooperate with me! [sic] A few bandsters reply to the message: “that is life with a lap band...lol...well mine anyways,” responds one band patient, while another empathizes: “I know the feeling, I'm scared to go out to eat now unless I get soup because I never know if its going to act right” [sic]*

The member's post on a Bariatric Surgery Group<sup>101</sup> on Facebook is not uncommon, as members respond with similar anecdotes, expressing frustration – and ultimately acceptance – of being captive to the ‘quirks’ of their band. For the band patient, living with the gastric band requires a series of negotiations, of unknowns and finicky peculiarities, even for the most knowledgeable ‘bandsters’. In this space, individual human needs sometimes come into conflict with the peculiarities of the band, revealing tension between human and non-human actants, between the wants and desires of individuals, and the seemingly human-like willfulness of the band itself.

This tension arises from the “partnership” users are told they must have with their band post-surgery (O'Brien 2007). While biomedical firms emphasize patients' responsibility in ensuring appropriate aftercare, they stress that the patient and the band must work *together* to determine whether an adjustment is necessary. On its informational site for potential REALIZE band patients, Ethicon explains, “There is no set

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<sup>101</sup> I was invited to join this group by one of the group's administrators, a band patient I met while observing adjustments at County Hospital. I observed this group from July 2011 to July 2012.

schedule for band adjustments because each person's needs are different. Listening to your band (paying attention to physical signs) and tracking your weight loss will help you to know when it may be time for an adjustment" (Ethicon n.d. a). Similarly, in its marketing materials, Allergan emphasizes the customization afforded by the LAP-BAND, which provides for a varied, highly individual experience with the band:

This allows you to customize the LAP-BAND® System to meet your own needs. Just as you listen to your body, it's important for you to listen to your LAP-BAND® and work with your doctor to find the right fit, or degree of tightness, that allows you to feel full and comfortable. The LAP-BAND® System journey is different for each person and the exact amount of fluid required to make the new stomach opening the right size varies from person to person. An ideal "fill" level should be just tight enough to let you gradually lose weight. That means you should still be able to eat enough to get the nutrients that you need, while still reducing the overall amount you can actually eat (Allergan n.d. a).

Both Ethicon and Allergan focus on the co-constitutive state of living with a gastric band, and that patients must "listen" to and work cooperatively with their band to be 'successful'. In this way 'learning' one's band not only when it comes to adjustments becomes a critical part of living in a banded body. As patients learn early in the months following their surgery, even knowing and following the bariatric surgery "rules" - like avoiding certain foods such as overcooked steak and chicken, breads and fibrous foods like broccoli, not eating and drinking at the same time – doesn't make one immune from the band's idiosyncrasies and unpredictable temperament. A number of patients and practitioners in my research referenced the "Rules" of living with a gastric band, developed by Australian band surgeon Dr. Paul O'Brien; the "rules" are: eat three or less small meals per day; don't eat anything between meals; eat slowly and stop when no longer hungry; focus on nutritious foods; avoid calorie-containing liquids; exercise for at least 30 minutes every day; be active throughout the day; and keep in contact with your aftercare specialist (O'Brien 2007). But despite this set of guidelines, Christy explains the challenges of trying to adapt to rules that are constantly changing:

..It's not cut and dry all the time. Some days I could eat say a large salad and it could have meat in it and croutons and whatever and lot of different whatever and I can eat it and it can be a big salad and I won't feel uncomfortable at all. And maybe two days later I eat it and I can't eat half of it. So some of that has been difficult because you kind of want rules that are cut and dry and that you know if you follow them or didn't follow them. So having to listen to your body for a person that never did or never stayed present to what I was eating – I didn't notice before what I ate and now I do and so in some ways sometimes that scares me because I'm like I shouldn't be eating this amount of food so if I eat a bigger amount of food maybe what would be normal for anybody else I feel somehow like I've done something wrong. That idea of the area above my band is only this big so that should be the amount I should be able to eat – so there's a lot of trying to figure out from day-to-day. The it not being cut-and-dry has been more of a struggle than I thought because I thought it was going to be more cut and dry - you eat this amount of food, you feel good and you don't have to eat again for several hours, but that's not the way it works, it's just not the way it works.

Christy describes how *not* having “cut-and-dry” rules represents a “struggle” for some patients as they negotiate the day-to-day existence of being banded. For some, the weather, high altitude, airline travel, even menstruation, can affect what they are able – or, better said, what their band will allow them – to eat on a daily basis. Patience explains her band is “finicky”, especially around her menstrual cycle: “it gets a little bit tighter than it normally is on an everyday basis. I know when I'm ovulating like with my band, it just clamps down and I can't really eat anything.” Foods considered ‘healthy’ – like grapes, corn or broccoli - also pose a challenge for band patients, while some unhealthy foods like potato chips slide down the band easily. The irony is that nutritionally devoid foods, like cookies and ice cream, pass through the band with relative ease (Murray 2009). Violet, a bariatric nurse and band patient, explains the challenge of the changing rules with the band and how the band reacts to one's psychological changes:

One thing about the band is, you might have some days where food doesn't necessarily go down good, it could be based on anxiety, maybe it's just one of those days where you're running

around and you can't slow down and like the other day, I had one of those days – I had finished what I was going to do but I had so many things processing in my mind, I was trying to do this, trying to do this, someone's calling my name, I'm trying to do this, blah blah blah, and I'm trying to eat and I kind of sat down and I think I ate too fast and I just felt like 'oh I don't feel very well' – I wasn't going to throw up but I could tell that I wasn't relaxed, that I didn't take my time when I ate. So your body kind of responds to all those things – somebody could have a death in the family and not put it together and I might see them after 8 months and I won't recognize them and they'll say 'it' was just all of a sudden' to them, all of a sudden food does not go down really well, now liquids feel kind of difficult because things kind of swell up in there and I say do you recall eating something, it getting stuck and you throwing up? 'Well, no.' 'OK, so it just started?' they say 'yeah I was fine' and I say 'was anything else going on?' they say 'no, well, I mean me and my husband are getting divorced and I just moved and lost my job.' And 'OK, there we go.' That's stressful, stressful period, it contributes – women when they're on their menstrual cycle, I know all these things, I tell people these things all the time, when it happens to me, it's like it's like [makes motion like it's going over her head.]

Violet, like other patients, describes the *band's* resistance to cooperate with human efforts to lose weight and eat a healthy diet; in the process, the band ultimately humanizes itself to the patient, depicted as having 'a mind of its own' and something that cannot be contained despite efforts on the part of both patients and clinicians to control outcomes. But some band patients describe testing the waters, in terms of what their band can and cannot tolerate. Justine comments: "I'm the kind of person that needs to test things so when people say you're not going to be able to eat rice, you're not going to be able to eat this, I'm like why can't I eat rice, what's going to happen?" Similarly, Lauren, who was one month out of surgery at the time of our interview described how she's been "daring" in terms of trying some of the 'forbidden foods':

I've kind of been a little daring even though I don't want to derail myself, but I try little things just to see if I can get them to go down – like my daughter said she wanted pizza one day so I made some frozen store bought pizza and I tasted a little piece just to see how it would feel – I know they say stay away from the bread products they don't feel very good – and I put a little piece in my mouth and I swallowed it and I like 'oh that doesn't feel good' so I

didn't eat anymore, I just gave it to my daughter and called it a day.

Lauren, like a number of other band patients I interviewed, describes how her curiosity and daringness to try 'forbidden' foods; in this way, her will and desire drives her to make choices that are in defiance with the prescribed post-surgical diet, revealing the ways in which band patients intentionally disobey clinical orders. Erica talks about how, after a year of following the 'rules' of living with a gastric band, she began to experiment with different foods, including drinking "100 ounces of Dr. Pepper" every day which she attributed to her weight regain:

You go to restaurants and I was like oh let me have a little piece of bread...let's start with a bite and see if I can eat it and honestly I would go to places where they would put rolls out and the whole basket and normally I'd go in and eat one and I'd be like this is good, I just ate one, well then I realized I could eat more than one, I could eat two and I could eat three and I could just eat what I normally did before and now I'm back to what I ate before ...I will eat a little bit and it goes down and I eat a little more and it goes down, basically it goes down to my big stomach so by the time it goes to my big stomach it's like, OK, I can eat another bite again so I think I've unconsciously instead of eating the whole thing and it like makes me full and I'm like oh you want to stop , I'll eat a bite, wait a little bit then it's like it's not there anymore so I just keep eating and then you can eat several of them again.

At the time of the interview, Erica has been approved to have the gastric bypass surgery; she believed the prospect of dumping – experiencing diarrhea if she ate sugar or fat post-gastric bypass surgery – would deter her from making bad choices: "I have one of those personalities where if I can get away with it, I'm going to do it. I can get away with my Dr. Pepper then I can do it, but if I know it's going to make me sick, I won't do it, it's kind of odd."

#### **7.4.1 Getting 'Stuck', PBing and Sliming**

Beyond weight re-gain, many patients learn the consequences of choosing both the 'right' and the 'wrong' foods – sometimes intended, sometimes unintended. Getting

“stuck” – having a piece of food lodged in the band – is a common experience for patients, particularly early on in the weeks and months post-surgery, as they learn the ‘rules’ of living with a gastric band - if they take too big of a bite, if they don’t ‘chew, chew, chew, chew, chew’ until the food is pulverized into near liquid form, if they eat too quickly, and if they eat one of the ‘wrong’ foods, like bread, rice, pasta, fibrous vegetables, overcooked meat, particularly steak, shrimp, or other foods with skins, like grapes and apples. Sometimes after an adjustment, patients get stuck if they attempt to advance their diet too quickly, meaning they eat solid foods before the inflammation from the fills goes down. Allergan (2010d) advises that patients ‘swap’ patients’ favorite “trouble foods” for healthier options that won’t get stuck, like skipping bread and wrapping sandwiches in lettuce, ordering thin crust pizza instead of soft and doughy pizza, and swapping spaghetti squash for ziti or fettuccine for angel hair pasta. Patients also often share food preparation tips and recipes with each other in support groups and online chat rooms and blogs. But knowing the rules doesn’t always exempt one from getting stuck; however, many patients express they “deserved” to throw up or experience pain as a result (Katie, band patient). Danielle, a band patient, adds:

You can try and it will let you know if you can’t do it. ... I have been the one who forgot to count in the beginning the 20 to 30 seconds to get your food completely chewed, that I would swallow it and it was like no, no, that’s not going to go down and I’d go to the bathroom and I’d learn my lesson. And it doesn’t take you long, trust me, it doesn’t take you long, once it goes down that way and once you feel full do not eat any more.

Again, patients reiterate the belief that they should be punished for making poor choices, with the design decisions reinforcing not only restriction but discomfort. In this way, band patients themselves come to describe what is considered ‘normal’ or ‘healthy’ is eating on the technology’s terms, meaning their own beliefs and experiences are dictated by what they can/cannot eat *because* of the band. The technology ‘speaks’ for science/medical authority, conveying knowledge about how much food is/isn’t

appropriate or healthy for some individuals; but what is considered 'normal' and 'proper' ways of eating is as informed as much by cultural beliefs about women's appetites and social stigma about fat and obesity as it is about scientific evidence. Many patients internalize these beliefs and begin to alter their perception of 'appropriate' eating, judging fellow band patients who don't follow the rules of living with a band. Wendy explains that she has little tolerance for those who don't follow the prescribed eating regime post-surgery: "I had a do not eat list and I follow the rules – the doctor said not to eat it and I didn't." She says of those who do attempt to depart from the post-surgical rules of living with a gastric band: "they're not cash pay and they're not willing to change their life. I'm just saying, you know." Some band patients also displayed judgment toward other obese people in general, turning their former self-hatred outward toward others who are the fleshy embodiment of the identity they are desperate to shed. Patience explains:

Even now I think I look at obese people differently...and I'm like, damn, did I look like that? I was like oh my gosh and [my partner] is like why'd you say they're fat? She said, you shouldn't say that because you were like that. I said, 'I know' but I was just thinking did I eat like that? She said that that's what they think is normal and now you have a totally different normalcy and I'm like, yeah, you're right.

This new "normal", however, is sometimes glaringly *abnormal* to individuals who have not had weight loss surgery. When food is stuck, patients have few options – some go to the emergency room because they can't breathe (Peaches), some chew on some papaya enzymes to try to break down the food (Wendy), some do "jumping jacks" (Diana) to try to get the food to move down their esophagus, some attempt to vomit it out, while others mistakenly try to drink something in the hopes of passing the food through, learning soon that water on top of food doesn't solve the problem; others suffer, hoping it will pass itself or waiting until they're able to get an appointment with their

doctor or medical practitioner. Peaches describes an episode where she 'got caught' after eating a sample piece of chicken and ended up in the emergency room:

I just had a sample piece of chicken, I was going to buy some lunch, it was baked chicken and I was going to – she let me taste it to see if that was the flavor or kind I wanted...and the next thing I know it got caught and maybe because I didn't chew it right, I don't know what happened at that moment I don't know. But I do know that that took more than 3 hours for it to pass, cause I stayed in the emergency room, they came and they gave me some crackers – let me tell you something, you can get something stuck, it's not going anywhere, water I don't care how much water you drink it's not going to move you have to wait 'til it passes – the water is not a flusher, it will come right back up, the water will come up first before anything you got in there. I truly experienced that, water doesn't help at all – just wait until it passed through your digestive system. I'm very funny about eating now, very careful about how I eat so I won't have that. That one right there, I don't want to play that game.

Peaches conveys that this one experience taught her a lesson – one she hopes to not repeat. For many of the patients I spoke to, this form of punishment often 'taught' them to 'obey' the rules.

Although Allergan warns its LAP-BAND patients to “never let an untrained clinician or a non-medical person do it. And never try to make adjustments yourself”, during my fieldwork, surgeons and practitioners talked anecdotally about patients' desperate efforts to relieve the remove fluid themselves and relieve some of the discomfort they feel as a result of being overfilled. Dr. R explains that one of the surgical residents at County Hospital – a band patient himself - “was too tight and he was trying to adjust it himself” before she intervened. “I guess he was tight and while he was on call at [City Hospital] he was trying to adjust himself, he was trying to find a needle, trying to adjust himself. When he came in I was like no, no, you can't just use a regular old needle to stick yourself,” she says. Violet explains that some band patients have difficulty accessing care, especially if they've moved from their original surgeon or had surgery overseas: “it's liability and time – most places won't take someone who had it

done elsewhere, it's too much trouble.” The challenge too is that many patients don't know what brand or generation of band they have, making it difficult to clinically assess how much fluid to add or remove, relaying she “won't do one especially if I don't know what they had”. She said sometimes she's in a position where she had no choice to help desperate patients: “They are in such bad shape sometimes – I had one lady who was so sick when she came, she had poke marks all over herself from trying to find her port and take fluid out herself - I couldn't turn her way. She had been to the ER and they couldn't do it, the ER won't touch it.”<sup>102</sup>

Getting stuck is often viewed as a consequence – albeit unintended - to breaking the ‘rules’ of the gastric band; sometimes as a result of eating their food too fast or not chewing it to liquid form, some patients also experience Productive Burping, which patients refer to PBing, or sliming, meaning excess saliva is produced, sometimes because food hasn't yet passed through the band and saliva or foaming can occur. Ilene, a band patient, describes PBing:

If you tend to eat too much, too fast and didn't chew your food, you will be very very uncomfortable...because that's where your food is. You will make yourself throw up and it doesn't come out like food, it comes out like spit. You cough, you get the hiccups and you burp a lot, it's called PBing, it's called productive burping and you burp up not liquids but a gooey substance and you drool... And as I throw up – I've thrown up and if I've seen that if I had too much Jell-O it will be thick, slimy and filled with Jell-O. I've sat by the computer after eating food too fast, not paying attention, not chewing my food, I have a garbage pail under myself sitting and waiting for myself to throw up.

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<sup>102</sup> Places like ‘Fill Centers USA’ perform adjustments nationally to those without a ‘home’ bariatric providers, but the chain closed in 2011; its owner Iris Stratton started the network after her teenage daughter was unable to find aftercare following her gastric banding surgery (PR Web 2011).

On YouTube and in online chat rooms for band patients, hundreds of videos and posts likewise describe patients' experiences with PBing – which is often positioned as a way to not only provide information and their own personal journey but to warn other patients to follow the 'rules' – cautionary tales of public embarrassment and discomfort. Diana explains, “[PBing] takes a lot out of you, it brings tears to your eyes and you never want that feeling – that is a horrible, horrible feeling that I experienced that I wouldn't want anyone to experience but if you have the band, at some point in time you will experience it. And if it needs to come up, no matter where you are, it's coming.” Here, while patients are often 'punished' in private spaces for 'breaking' the post-surgery rules, these sometimes very public displays of the band's – and the patient's - incontainability become a way to reinforce not only the need to clinically manage patients but also the need for patients to discipline themselves, in order to prevent reoccurrence, discomfort or public shame. While often presented as a co-constitutive arrangement, here, the band becomes the conduit for the disciplinary practices which patients were unable to accomplish on their own accord. In so doing, the docile body is subjected, transformed and questionably improved in the face of being banded.

## **7.5 Summary and Conclusions**

As part of a larger framework of disciplinary and normalizing practices aimed at correcting the obese body, the gastric band in the pre- and post-surgical space is a reflection of both cultural stigmatizations concerning obesity and increasing reliance on science to correct, normalize and train obese bodies, particularly gendered bodies. The gastric band as a disciplinary weight loss technology requires continual clinical monitoring and 'maintenance', making it distinctly different than other bariatric surgeries. Adjustments function as a way to *continually* discipline patients, to tame their disorderly appetites, to 'teach' compliance, and reinforce the need for clinical intervention and

oversight. It is in this adjustment space that one sees the ambiguities and the inconsistencies as human and non-human actors fight for control over outcomes, autonomy, and control.

Feminist theorists view controlling one's food intake as about containment, the exertion of the will over the flesh, the mind over emotions, the striving toward the idealized 'civilized' body" (Lupton 1986, p. 152). Pipher (1995) argues that it is in refusing to eat or restricting their appetites that women feel they have control over their lives (p. 11). It is perhaps within this framework, in the control over their own appetites, that women can begin to exercise resistance. But in the process of dieting, many women lose touch with their own internal cues about hunger and fullness, setting them up for a lifetime of disordered eating (Pipher 1995). But it is also these years of experiences with diets – coupled with design elements that *reinforce* the need to restrict patients' eating and tame their seemingly uncontrollable appetites – that the band emerges as a natural extension of other disciplinary practices of femininity. Here, technology aims to continuously tame the bodies of the obese while reinforcing the *desire* for discomfort and the (un)intended consequences stemming from the surgery, both minor and major.

The location of this particular medical procedure, at the nexus of science and technology and cultural norms regarding weight and appearance, brings attention to the ways in which self-surveillance is no longer sufficient to regulate obese bodies; rather, new tactics and increasing institutional control emerge. In other words, growing rates of obesity in the U.S. signals that the disciplinary tactics of past, in which all individuals participate in policing the actions of others – in this case, the weight of others – are inadequate and that science must intervene. In some ways, the surgery represents an extreme shift in bodily power: once a patient has the surgery, they are held captive to it physiologically and psychologically; they must obey the 'rules' and alter their eating habits accordingly or face greater health risks or 'unintended' consequences. In this way,

power is exercised at the level of the individual body, but it shifts from productive to repressive; it chains the body in ways emblematic of pre-modern power relations and returns the location of power to the institutional medical setting when patients return for adjustments. But power is also smooth and automatic and patients discipline themselves – and each other – outside of the clinical encounter, monitoring their own and their fellow patients' adherence to the 'rules' of living with a band. Although surgeons, practitioners and biomedical firms warn against patients' over-reliance on the fill, they simultaneously 'sell' the fill as providing the extra, lifelong support patients throughout the weight loss 'journey' – with the promise of taming the seemingly uncontrollable hunger of (gendered) obese body.

For many band patients, the adjustability of the band is a major selling point – the perceived ability to more steadily control their weight loss and to return for fills when they are in need of a 'jump start' or remove fluid, appeals to patients. Despite the discursive emphasis on individualization and customization afforded by the band, as described in marketing materials and as revealed in interviews, the need to *standardize* patient care remains high as clinicians and biotechnology firms attempt to improve weight loss outcomes and reduce the variability of results among band patients. This variation of weight loss outcomes – particular when compared with the 'gold standard' gastric bypass and the emerging sleeve gastrectomy – drives the perception that the band is an inferior weight loss technology. As biomedical firms jockey for legitimacy, they drive new attempts to better control outcomes and *remove* control from the patient, turning the 'art' of adjustments into more of a 'science', turning subjective feelings of hunger and fullness into objective feelings of satiety and satisfaction, with quantifiable outcomes in the form of weight loss. But attempts at objectivity reveal the ways in which *subjectivity* guides clinicians and the design and development of the gastric band. Beliefs concerning patients' use and *misuse* of technology, coupled with the belief that patients obesity is a

reflection of their perceived *lack* of discipline, enters into clinical encounters, guiding the decision to add or remove fluid, just as it guides the ‘science’ behind the adjustment process.

But as band patients reveal, despite their best efforts, the band does not always cooperate, revealing greater tensions between human and non-human actants. The band’s uncontainability, however, is sometimes presented as patients’ unwillingness to adhere to the ‘rules’ of living with a band rather than an acknowledgement of the band’s technological instability or the variability in patients’ aftercare post-surgery. Although patients are told – and reaffirm among themselves – that they must work in collaboration with the gastric band, their own wills sometimes take over as they ‘break’ the rules of living with a gastric band, just as the band enforces its own wills on the patient. Throsby (2012a) too sees moments of resistance among gastric band patients, recognizing the complex and simultaneous existence of both resistance and compliance; in this way, it is overly simplistic to ascribe solely empowerment or submission to weight loss surgery patients. Instead, I see the battle for control on the part of patients, clinicians, and biotechnology firms – and even the band itself - as part of a broader debate concerning human’s dependence on *and* ambivalence toward technology. Patients’ resistance *and* compliance reflects their need to control not only their own bodies but also to control and dismantle discourses that see technology as *qua* solution to the obesity epidemic; this tension manifests itself in the aftercare space, with important implications for patient care. The next chapter provides an overview of the major themes and conclusions which emerged throughout this project and concludes with a discussion of future research directions.

## **CHAPTER 8**

### **CONCLUSIONS, LIMITATIONS, CONTRIBUTIONS AND FUTURE DIRECTIONS**

This chapter provides a discussion of the major themes and conclusions which emerged throughout this research, focusing on how the gastric band, as a contested technology, takes on manifold meanings, just as its users re-configure their own identities in the face of being banded. But while the band offers possibilities for new selves, it reinforces constructs of gender and serves to further stigmatize obese bodies. In drawing attention to the instabilities of the technology itself and the fractures in the aftercare pathways, I point to the complexities and contradictions in the bariatric surgical space, of which the band, as a salient non-human actant, remains a central albeit challenged actor. I then discuss limitations in the current study, contributions to the field, and conclude with a discussion of future directions with which to take this research.

#### **8.1 Discussion**

One cannot understand nor deconstruct the gastric band without first considering the broader socio-cultural structure in which the band first emerged, gained tremendous momentum at the promise of weight loss success amidst rising rates of obesity in the U.S., and then struggled to keep pace and redefine itself in the wake of public controversies and medical disputes over its viability as a long-term weight loss solution. Although bariatric surgery has been around for more than half a century, multiple forces worked in concert over the past decade to elevate surgery to a more socially and medically acceptable treatment for obesity: rising rates of overweight Americans, the country's renewed focus on obesity as a public health 'crisis' and the accompanying media construction of America's obesity 'epidemic', the medicalization of obese bodies,

the advent of laparoscopic surgery, intense lobbying efforts on the part of organized surgeons groups and biomedical firms to include surgical coverage on federal, state, and private insurance policies, and growing use of biomedical technologies in health care. Still, despite the efforts of diverse actors – surgeons, biotechnology firms, government officials, patients, advocacy groups, clinicians, and the medical community – in elevating the stature of surgery and repositioning it as medically necessary – changing the conversation to one centered on health - bariatric surgery is neither universally adopted nor broadly accepted. Today, only a small percentage of clinically eligible (predominately female) patients have surgery, reflecting not only the divided views concerning the necessity of surgery, but broader trends in the stratified nature of biomedicine, as well as gender-specific appearance norms concerning weight. In the contentious arena of bariatric surgery, highly publicized reports of surgery-related deaths, complications, and weight regain continue to infiltrate the public space – and the public’s imagination – alongside scientific evidence pointing to improved health and quality of life post-surgery.

Within that larger oppositional space, lays the gastric band, which I position as a contested technology, at the center of broader disputes about whether surgery is necessary, which bariatric surgery is superior, and *which* brand name technology is better designed and has better outcomes. Although a relative newcomer in the bariatric surgical space, the band, some actors argue, is “dead” and will be eventually replaced by other procedures, with better – more stable – outcomes, like the sleeve gastrectomy, or new, even less invasive devices. While biomedical firms cling to the idea that ‘the band ‘works’, others, including some band patients, dispute these claims. For some band patients, the band is a mere ‘tool’ – a minor aid in the battle to lose weight, while patients do the ‘hard work’ of lifestyle and behavioral changes. For others, the band is a technological step child to the ‘gold standard’ in bariatric surgery – the roux-n-y gastric bypass - with inferior and highly variable results, in terms of weight loss and resolution of

obesity-related medical conditions. Some actors – fat activists, organized physicians groups, and even other weight loss surgery patients – actively attempt to unseat the band and draw attention to the dangers and drawbacks of surgery. Silent but important groups – patients’ significant others and social networks, the diet industry, even those who stand to profit from bariatric-centered products - have a vested interest in the success or failure of the gastric band as a viable weight loss technology and each has contributed to the band’s rise and demise in the United States. Its uncertainty in the future marketplace is unknown as new meanings are made, new scientific knowledge is generated, more surgical and non-surgical alternatives emerge, new design modifications are made, and new controversies emerge.

In some ways, the gastric band initially arose as a viable weight loss technology because the alternative – gastric bypass – was constructed as unacceptable, ‘scary’, ‘unnatural’, and ‘permanent’. Counter-constructions of the band as less invasive, safer, adjustable, and perhaps most significantly, removable technology has helped drive its use, while widespread direct-to-consumer marketing and prevalence of technology in other medical settings enhanced its accessibility, familiarity, and re-imagined naturalness. For patients, the decision to have bariatric surgery – and to elect the gastric band above other options – is likewise the result of numerous forces. For the majority of the patients I interviewed and observed, existing health problems or *risk* of inevitable health problems, coupled with years of trying – and failing – at conventional diets or dangerous pharmaceuticals, pushed them towards considering bariatric surgery. Marketing efforts aggressively drove them into the surgical space while our society’s technological enthusiasm normalized their engagement with medical devices. Patients – especially those who encountered discrimination being overweight and felt shame about their bodies - saw medical complications from surgery as *less risky* than living as an overweight person in America. Social sanctions against the obese – more harsh for

women – drove many into the operating room; engaging with technology – seen as normative and familiar - in this context was not a choice but an obligation. However, for many, choice was also function of their class status, as the costs associated with surgery made it an unattainable option for many who may have considered the device.

The medicalization of obesity created a disease which ushered in a ‘cure’ in the form of the gastric band; the acceptance of obesity as an illness opened the pathways for medical management of obese bodies and insurance coverage for bariatric surgery, and unleashed market forces onto a growing consumer base. Despite rhetoric that obesity is the result of complex social, economic, and genetic conditions, the band, like all bariatric surgeries, is still positioned as an *individual* solution to a *public* ‘epidemic’. The surgery hinges both on discipline of the individual, gendered body and the increasing reliance on technology and medical institutions to ‘manage’ and ‘correct’ obese bodies. Medical institutions not only create a norm by which to categorize oneself as ‘healthy’ or ‘obese’ but also create a corresponding solution. As a *disciplinary* technology, the band becomes the mediator between those – it is the mechanism by which individuals who ‘failed’ to effectively correct themselves and their bodies through behavioral modification or ‘traditional’ diets are able to achieve a socially normative body. For women, the band becomes a natural extension of other disciplinary practices aimed at ‘fixing’ their bodies, a technological corset which sometimes draws them into more technologically-oriented space vis-à-vis plastic surgery. Far from a neutral technology, the band shapes and is shaped by gender relations.

Despite the social imperative to participate in technological transformation, in electing to have gastric banding surgery - generally after a long, deliberative process - patients often face resistance and condemnation for seeking what many of their own social networks perceived to be a surgical ‘quick fix’ to lose weight. This judgment concerning their decision, overlaid with pre-surgical discourse that patients have to be

'willing to do the work' and make the needed lifestyle changes to be 'successful' with the band, led to a need to position themselves as active agents in the 'war' on obesity - agents with willpower and with *more* commitment to the body project than their gastric bypass counterparts. Still, despite patients' attempts to assert themselves as solely responsible for positive outcomes, human action is constituted as primarily working alongside or in partnership with medical technologies, rather than exercising resistance to its normalizing and transformative effects. However, in adhering to this normative framework and participating in the physical constraints associated with gastric banding, patients described feeling empowered. This co-constitutive state, in which technology was restraining in the physical sense and empowering in the social sense, enabled patients to create new identities that, while normalized, allowed some patients to reinvent themselves as "happy" and "normal" individuals, to be banded bodies with improved health, greater social capital and improved quality of life. However, not all patients equally embraced the band nor experienced an improved sense of being as a result; their weight loss journey 'journey' was wrought with instability, ambiguity, regret, and unintended consequences. All patients – whether they were 'successful' or not - conveyed a complex re-negotiation of their bodies and minds post-surgery; the surgery changes their physical self as much as it changes their social self and it was a complex, difficult, often lonely and sometimes incredibly rewarding journey they faced.

But despite the divergence of experiences among band patients, a central theme that emerged was the need for control. The band's adjustability appealed to patients' desires to control their bodies and the pace of their weight loss. This ability to 'fill' or 'unfill' their bands represented patients' ultimate perseverance over their bodies, but it simultaneously created a dependency on technology; patients' unwillingness to remove their bands – driven by fear their weight would spiral out of control *without* the device – created a mutually dependent relationship, between the patient and technology, and the

technology's conduit, often a surgeon or a nurse. But the irony is that the degree of user variability and control individuals had at the hands of the gastric band made it a 'poor' medical alternative to other types of bariatric surgery; in other words, allowing patients to control their bodies led to – arguably – poorer weight loss among band patients compared to other bariatric patients. Struggle for control over (female) patients' bodies remains present in the design of the band and in efforts to standardize the adjustment process. These efforts toward standardization are linked not only to broader agendas to legitimize the surgery and secure the band's position as a remedy to America's obesity epidemic, but perhaps, most significantly, responds to broader concerns regarding the tension between human and non-human actors.

In deconstructing the intended use and the actual use, I found a disjuncture between intentionality and practice, not only on the part of patients, but also on the part of clinicians, whose varying methods, experiences and own biases regarding this patient population seeped into the patient-practitioner encounter. Often times, this disjuncture is couched simplistically as 'failure' – failure to achieve 'adequate', significant and long-term weight loss and failure to follow the 'rules' of living with a gastric, rather than a critical interrogation of the technology itself or the social, medical, economic context in which patients must manage their bodies in the face of being banded. While patient-blaming dominated discourse on the band's efficacy – perpetuating the belief that the band 'works' but does not make choices for the individual – patient failure – in whatever terms diverse actors described it, was actually the result of complex factors. Sometimes failures were based on poor food choices or lack of exercise, but sometimes it was the result of the technology itself – such as when patients' bands were overfilled and they resorted to 'maladaptive eating' or they developed some complication. But other factors also contributed to poor outcomes – disjunctures in the aftercare pathways, misleading advertisements which promised the band was a 'cure' for obesity, the economic climate

– which caused some individuals to lose insurance coverage, thereby rendering them unable to get fills or medical attention – the social landscape that directed their food choices, that presented them with larger-than average portion sizes, unhealthy portions at every turn, and a demanding work-life schedule that left them unable to exercise or unable to properly plan for their meals, as well as unsupportive families and friends. In bringing attention to the broader context, I aimed to unpack the social and technical insides of the band and reveal the complexities, uncertainties, and contingencies of the band as a weight loss technology and as an individual living in a banded body.

## **8.2 Limitations**

This study included interviews with a small number of patients, surgeons, medical practitioners, and technoscientists/developers, in addition to observation of information sessions, support groups and clinical interactions; thus, the findings will prohibit generalizability beyond this particular study. Further, the focus on one particular type of biomedical technology – the gastric band –may also prohibit generalizability. However, the focus on just the band, as opposed to other bariatric surgeries, was an intentional decision to interrogate the technological trajectory of a specific medical device while still considering its role in the larger bariatric surgical space. This study does contribute to the medical sociology and science studies literature by more critically examining the use and intended use of an increasing popular surgical intervention for weight loss; the framework here could be useful in examining other biotechnologies, particularly those considered ‘neutral’ without demarcated male or female users, and/or those which have moralizing connotations, such as anti-smoking agents, prosthetics and dental implants. In applying questions concerning intentionality and actual user experience, we can better understand the broader social context in which new

biomedical technologies emerge, how they are embedded with meaning, and how they shape the embodied experience.

While I made efforts to interview a diverse group of patients, in terms of age, race, and sexual preference, I acknowledge that many of the individuals I spoke to were 'superstar' patients – those who did extremely well with the gastric band, losing a significant amount of their excess weight – this success in the quantitative sense affected their sense of happiness or satisfaction in the qualitative sense. These 'success stories' were also easy to find and these patients were willing to share their stories. As I discovered throughout the course of my research, many practitioners believed that those who had done 'poorly' with the gastric band or had regained their weight over time were absent, invisible for view, or hiding from other patients or clinicians, embarrassed by what they believed was their 'failure' in the medical sense. I was, however, fortunate to either directly interview or observe patients in support groups who spoke openly about their struggles, their embarrassment and their desire for support. I believe this helped balance accounts of patients' stories, by representing the range of experiences, both positive and negative with the gastric band.

Due to lack of resources, the research for this study took place in the southeastern United States; the benefit of concentrating on the Southeast is that the study population was racially diverse, in terms of both patients and the health care providers I interviewed. However, although a number of the patients I interviewed were originally from other parts of the country, I acknowledge there are distinct regional differences, as well as cultural differences with regards to perceptions of body weight, and a future study would expand geographically. In observing forums and groups online, however, I was able to see commonalities across the country, although the care paths may be quite different. This study too focused on the United States, which has a distinct regulatory pathway that altered the trajectory of the gastric band in a way that was

dramatically different than Europe and Australia, which have been performing band surgery for nearly a decade longer. There also exists a drastically different healthcare system in the U.S., which affected the patient experiences, their ability to have surgery, and access to aftercare.

### **8.3 Contributions to the Field**

This research makes a number of contributions to the field of medical sociology, feminist science studies, and traditional feminist body studies. This research contributes to the existing sociological literature on obesity surgery by incorporating the perspectives of representatives of the biomedical firms that market and manufacture the gastric band, which have previously been excluded from work in this area of study. These perspectives are crucial in understanding not only the patient experience but the broader environment in which the band exists; by focusing on these actors and drawing attention to the marketing and design elements, I was able to ‘open the black box’ and point to the instabilities in the technology and the controversies surrounding its use. In so doing, I was able to interrogate the legitimacy of biomedicine and begin to disrupt the idea that patients are solely responsible for failed surgical outcomes. Further, in drawing on the perspectives of surgeons and medical professionals who work directly with patients, who have likewise been omitted or underrepresented in the sociological study of obesity surgery, one can see the crucial importance on not simply focusing on users/patients *or* designers; instead, clinicians – as human mediators of technology - play a crucial role in the execution of the band’s aftercare, which has important implications for patients’ experiences. Lastly, while surgical patterns suggest stratification with regards to gender, race and class, social location has been largely absent from existing sociological work on this topic; by drawing on a diverse sample of women, I was able to complicate the idea that only Caucasian women are consumers in this space and explore some

racial/ethnic differences with regard to body ideals, demonstrating that band patients are not homogenous and experience their bodies in the presence of the band in sometimes very different ways based on their social location.

Theoretically, the examination of patients' use of new biomedical technologies is of significance to the field of feminist science studies by exploring the role of technology in mediating gendered bodily experience within the context of supposedly gender-neutral technologies, in this case, the gastric band. This study contributes to that body of literature by dismantling the presumed neutrality of the gastric band and drawing attention to the ways in which gendered assumptions not only enter into the technological design and marketing process but also the pre- and post-surgical space with repercussions for patient care. As my research showed, traditional gender scripts concerning motherhood and appropriate femininity drew women into the operating room and had material implications with respect to the patient-clinician interaction and the design and marketing of the band. This study also added to that body of literature by drawing attention to women's strategic use of essentialism as a justification for engaging with obesity technologies.

This study also contributed to relevant debates within medical sociology and feminist science studies by addressing the possibilities and limitations offered by biomedical technologies. While this study advances our understanding of how new biomedical technologies are affecting the bodily experience in both empowering and disempowering ways, I also sought to complicate that dichotomous view of technology by pointing to a space of ambivalence, both in how individuals experience their bodies and how their identities shift in the presence of the gastric band. In pointing to the tension between human and non-human actors, and accompanying anxiety about human dependency on new technologies, this study also contributes to our understanding of how humans resist, comply or are ambivalent toward adoption of

emerging biomedical technologies, particularly those which seek to control – or are perceived to control - human will.

Traditional feminist scholarship on the body sees women's engagement in disciplinary techniques as a reflection of patriarchy and women's diminished social status; however, this literature has failed to fully complicate the role of science or technology in the normalizing process. This study adds to that literature by connecting the use of the technologies of health to previous engagements with dieting, the 'cult of slenderness' and the fantasies of transformation made possible from cosmetic surgery. These are not simply body projects of the past, but ones which are heightened by a technological imperative towards bodily modification and grounded in cultural beliefs about scientific authority and objectivity, technological efficacy, and acceptance about medical intrusion in women's bodies. Further, rather than positioning women's engagement in technology as simply a matter of patriarchal domination, this study contributes to our knowledge of the ways in which market forces draw many women into the bariatric surgical space, with implications for the health and the bodies of women. Lastly, while mainstream feminist theory has focused largely on the ways in which women's participation in body transformation is either oppressive or the result of false consciousness in a quest for social power, this study complicates that idea by drawing attention to ways to the complex relationship women have with their bodies post-band surgery.

#### **8.4 Future Directions**

This study represented an effort to understand the decision-making context driving individuals to elect the gastric band over other surgical and non-surgical options and to explore how the experiences of those living with the gastric band differs or coincides with the intended use of the band, as determined by those who provide care to

gastric band patients, and those who design, develop and market the gastric band. Throughout the course of the research, there emerged a number of opportunities to expand the scope of the study. As addressed, the emphasis of this research was on the experience of female gastric band patients; however, future research should more closely examine the experience of male gastric band patients in order to draw a comparison between the experiences between sexes. While women account for roughly 80 percent of all bariatric surgery patients, the 20 percent of male users remains an important area of study. A future study would also expand the patient population and attempt to provide a comparative analysis between and among patients groups. Though the patients interviewed for this research were diverse, in terms of race/ethnicity, income level, and sexual orientation, additional interviews should be conducted with diverse groups, particularly women of color who are understudied with respect to research on this topic. In addition to gender, race, social class, and sexual orientations are social locations which affect the use of and experience with the gastric band. During interviews, patients and practitioners also indicated a difference between patients who had been obese most of their lives, verses those who gained weight in adulthood. A future study could provide a comparison between these types of patients; further, patients could be grouped by age to assess whether generational differences alter the experiences of being banded; for examples, some patients grew up in different eras of diet advice, had engagement with pharmaceuticals which are no longer on the market, and others have more familiarity and comfort with technology.

During the in-depth interviews, patients and practitioners conveyed a belief that there was a difference in the level of 'commitment' between patients who were self-pay and those who had insurance to cover the procedure. Other comparative studies will examine differences in experiences among patients who self-pay for surgery and those who have their insurance provider cover the procedure; this insured group could also be

examined by public versus private insurance, as it became clear during the scope of my research that pre-surgical requirements were mandatory for some providers but not for others; Medicare patients, for example, were not required to attend support groups. Overall access to financial resources both before and after surgery seemed to affect the patient experience and further work on class differences would be valuable in aiding our understanding of how stratified biomedicalization operates in the bariatric surgical space.

This importance of social support was reiterated throughout my research as a key component in successful patient outcomes and overall improved quality of life. A future study may also look at partners who both opt to have gastric banding surgery (or another type of weight loss surgery), whether they are male-female, female-female, or male-male intimate relationships. In my fieldwork, it became clear that the family dynamic was affected both positively and negatively by bariatric surgery, thus it would be useful to see how intimate partners navigated life post-surgery together, and whether there was a difference in experience and outcomes between those whose significant other also had surgery – and whether there was a difference depending on what *type* of surgery - and those who may have been isolated socially from those who had the surgery. With the emphasis placed on the family dynamic, it may be valuable to interview patients' family members who have not had surgery to understand their perspective.

Over the course of my fieldwork, I was able to see a number of patients from the beginning of their journey – whether they were attending an information session or attending a mandatory support group meeting for insurance purposes – to post-surgery to those who were three years post-surgery; during this time, I saw band patients with varying complications, set-backs and successes both physically and personally over the course of the year. A future study will be done longitudinally, to follow the same patient cohort from the decision-making space to surgery on through the aftercare process. As I

discovered, patients often bonded over the same surgery date –their ‘surgiversary’ or ‘bandiversary’ as they called it – particularly if they had the same surgeon. Following a cohort may lend additional insight into the patient experience in a way this study cannot; many patients admitted over the course of their interview that they simply forgot the details of their journey and, if they experienced overall success, many focused solely on those moments of triumph rather than the hardships and struggles along the way. As my fieldwork ended and I was focused on analyzing my data and writing, I was unable to follow-up with the patients and practitioners I interviewed; I often wondered if some of those I observed during information sessions who were planning to have surgery were able to follow through and if they were able to gain insurance coverage for the surgery, if those who experienced complications eventually had their bands removed, and if those who did well later met with set-backs. A future study would follow a patient group over time, to have a holistic view of the before, during and after experience of living with a gastric band.

This study focused on the perspectives and experiences of distinct actor groups; a future study would expand this analysis to include *non-users*, specifically those who elected to have another form of bariatric surgery and those who initially considered the band but opted to not have any type of bariatric surgery. While users were critical to this research, non-users are just as essential in understanding why some technologies are adopted or fail. In-depth interviews with non-users, specifically bypass and sleeve gastrectomy patients, may also provide insight into whether the experiences faced by banding patients are indicative or distinctly different than those who elect to have another form of bariatric surgery. Interviews with other non-users, such as those who actively petition against bariatric surgery, such as fast activists or physicians, are also critical in understanding the broader bariatric surgical space in which individuals make decisions to have or not have surgery.

Future studies would also include interviews with other medical practitioners, including Primary Care Physicians and pharmacists, who see bariatric patients both pre- and post-surgery, and have an impact on their access to surgery and their overall care post-surgery. Other actor groups within the bariatric surgical space, such as representatives from insurance companies and from the FDA, are also an important group in need of study. In-depth interviews with these groups would provide additional insight into the role of the gastric band as a viable weight loss technology and the various bureaucratic pathways patients must encounter to have the gastric band, as well as the regulatory pathways. Another group that has an interest in the bariatric surgery space are those competitors to surgery, specifically the diet industry and pharmaceutical firms. The majority of the patients I interviewed and observed discussed how they had tried multiple diets and multiple pharmaceuticals in their efforts to lose weight; it was their repeated failure with these means that helped drive them toward the decision to have surgery. For many patients, health issues as a *result* of over-the-counter and physician-prescribed pharmaceuticals – specifically heart issues – drove them to elect gastric banding surgery. These diet drugs are likewise regulated by the FDA and have intense lobbying groups working to approve new medications; how representatives from these drug companies position pharmacology relative to bariatric surgery would be an interesting topic for future research. While feminist scholars have linked participation in diets and commercial weight loss efforts to the 'body project' there has been limited effort to analyze the technical and social dimensions of these body projects as weight loss technologies.

While I was able to interview and observe bariatric surgeons, as well as collect primary information from the American Society of Metabolic and Bariatric Surgeons and analyze scientific journals, a future study would involve observation of ASMBS conferences and education sessions, to gather additional perspective on the conflict

within the bariatric community concerning which surgery is a more effective tool in managing the weight and health of obese patients; conferences could also provide useful context for the construction of what constitutes 'success' and 'failure' post-surgery and the patient's role in either set of outcomes. Similarly, bariatric providers, such as nurses, also have conferences and educational events that discuss patient care; during the course of my research, one of the individuals I interviewed had provided me with some information on an out-of-state session for nurses and physicians assistants employed in a bariatric practice. These types of sessions could be valuable, particularly since these clinicians often work more directly with patients than the surgeons who operate on patients.

Ethnographic research often involves immersing oneself within the setting; in this case, while I was able to spend a good deal of time observing a variety of settings, practices, and patient experiences, being embedded within the community or a setting may provide additional insights that I was not able to garner from my vantage point. Although one of the practice sites offered me a position as a bariatric representative in the course of my research, I turned down the offer, simply because I was there to observe the interactions, rather than to facilitate their ability to have the surgery. Following on the heels of science studies scholars, a future study would involve ethnographic fieldwork within the biotechnology firms themselves, observing and embedding myself within the Research and Development and marketing teams at both Allergan and Ethicon Endo-Surgery. A future study would include more interviews from this group, as well as in-person observation of design meetings, sales meetings, and clinical trials run by these firms. This insider perspective may provide additional insight into the regulatory pathways, the construction of scientific knowledge, and the way gendered assumptions about patients affects the design and marketing process. As the band – and the social meanings surrounding it – continues to evolve, this study offers

additional possibilities for exploring the ways in which new technologies shape the human experience.

Future research may also take a global perspective, providing a comparative view of the trajectory and use of the band in the U.S. compared to Europe and Australia, where the band is a more established. The divergent health care systems may account for differences in rate of adoption and patient experiences. Interestingly, over the course of my research, several surgeons described how, despite the popularity of the band in Australia, surgeons there were beginning to see long-term failures and were moving toward revisional procedures to other bariatric options. However, because of the emphasis on training in band surgery, there was a gap in knowledge of other procedures. Exploring this topic may be of interest for future work. Throughout my fieldwork, clinicians also mentioned the growing trend toward patients seeking gastric band surgery overseas, particularly in Mexico, because of the lower costs; future research will examine medical tourism for bariatric surgery, including the gastric band, and involve interviews with patients who had their surgery out-of-the-country, looking specifically at whether they faced challenges receiving aftercare when they returned to the U.S.

## **8.5 Conclusions**

My intent with this study was not to perpetuate a victimization model which sees band patients - and all bariatric patients – as victim of society and medical authority - nor do I wish to create an equally dangerous ‘empowerment model’ which gives tremendous agency to women’s participation in their own care. Neither sufficiently acknowledges the complexity of measuring ‘choice’ in this dynamic – and neither captures the complexities of living in a banded body post-surgery. My intention was not

to paint band surgery patients as 'cultural dopes', to borrow from Harold Garfinkel's 1967 *Studies in Ethnomethodology* via feminist scholar Rosemary Gillespie (1996), nor to call band surgery inherently bad, but rather to interrogate the broader context in which banding surgery occurs and bring attention to the intricacies and ambiguities, as well as the joys and woes, of the post-surgical experiences and providing care for those patients.

In this contested bariatric space, I believe women can be and are active agents, informed consumers and willing participants, just as there are those who are mystified by the promise of a better life and a thinner body, who may not be adequately informed about their experience nor receive the proper level of care. While I hesitate to appropriate the word 'success' here, there are patients that do incredibly well with the band (improving their health or quality of life) and others who do not lose weight or make a marked improvement in their health outcomes, some who experience serious complications, some who experience minor ones, and some who have no problems at all; there are some band patients who lose and then regain their weight, and some who never lose weight. There are some patients who take the journey seriously and others who do not; there are some that have ambiguity about their experience, and others with regrets concerning their decision, wishing they had chosen another procedure or none at all. The individuals who chose to undergo surgery do so for a variety of reasons – whether because of their health, their families, to please a partner (or find a partner), to look better, to feel better, to live longer, and/or to no longer be obese. I do not wish to diminish that, nor judge those individuals for the choices they made. Whatever the outcome or the motive, their voice is critical to an analysis of the gastric band. Similarly, the purpose of this study was not to criticize the band per se, nor to deem it an unsafe or ineffective technology; nor did I wish to cast clinicians as villains who were distrustful of the patients they were charged to care for. Instead, I aimed to show the ways in which

the gastric band is positioned as a contested technology not the least of which is linked to patient's role in post-surgical outcomes. In opening this black box and pointing to the instabilities of the technology and the inconsistencies in those human actors charged with being its mediator, I intended to show the very complexities in the way technologies are presented as individual solutions to multifaceted social problems like obesity.

Having seen the way in which surgery can be life-changing – both in positive and negative ways - I believe there is a place and a need for the gastric band, just as there is a place and a need for all types of bariatric surgery, as one of many potential options for individuals who wish to seek medical intervention for obesity. But there is equally a need to critically examine these surgeries – and all emerging biomedical technologies – both from the perspective of their technical insides and the context in which they are designed, marketed and used. As the nature of healthcare and biomedicine changes, and our bodies become re-configured as a result, understanding how humans and technologies must co-exist is of momentous significance.

**APPENDIX A**

**INTERVIEW QUESTIONS: GASTRIC BAND PATIENTS**

### **Interview Questions: Gastric Band Patients**

1. Tell me a little bit about yourself (age, race/ethnicity, family background, education, etc.).
2. Tell me about what specific procedure you had done and when you had the surgery.
3. What were the primary reasons you had the surgery? Tell me about other options you may have explored before the surgery.
4. Tell me about how you ultimately came to make the decision to have the procedure and if there were any particular people or factors that heavily influenced your decision.
5. Talk about whether you feel you had all the information to make an informed choice about the surgery. Tell me about if there was some particularly useful advice you received before the surgery or if there was something you wish you knew prior to having the surgery.
6. Tell me about the surgery itself and your experiences in recovery. Talk about your interactions with the surgeon and other medical professionals.
7. Tell me about whether you had any complications after the surgery. Tell me about whether you expected to have them and whether you felt you had a role or responsibility in any complications.
8. Tell me about what your health and lifestyle was like before the surgery and what it's like now. Talk about whether you think there's been an overall improvement in your health or general quality of life.
9. Talk about what kinds of changes you've had to make on a daily basis after having the procedure. Talk about whether you felt prepared for that and whether you feel you are getting good support from family and your doctor.
10. What type of advice would you give to others considering this surgery? Talk about what you think it takes to have successful surgical outcomes, and whether the patient or the doctor and the surgery itself plays a bigger role.

**APPENDIX B**

**CONSENT FORM: PATIENTS, SURGEONS AND MEDICAL PRACTITIONERS**

**Consent to be a Research Participant  
Georgia Institute of Technology, Ivan Allen College,  
School of History, Technology & Society**

**HTS 8902 Special Problems, Spring 2010**

**Project Title:** Weight Loss Surgery: The Role of Science and Culture in Patient Decision-Making

**Principal Investigator:** Dr. Willie Pearson, Jr.; phone: (404) 385-2265

**Experimenter:** Lisa Borello

**Location:** Of Participant's choosing, Georgia Institute of Technology

**Duration of Each Session:** 1-2 hours

**Number of Sessions:** 1

**Total Compensation:** None

**Number of Participants:** 30

**Participation limitations:** None

**General:** You are being asked to volunteer for a research project.

**Study Description:** Rates of obesity has grown around the world in recent decades. As such, there are now a number of different medical options available to manage one's weight. This research looks at the reasons why individuals choose to have surgery (such as gastric bypass, LAP-BAND, etc.) in order to lose weight. This research study includes potential patients, as well as existing patients and the medical professionals who perform bariatric surgery. This project intends to allow diverse group of patients to talk about the decision-making process involved in having the surgery, as well as their experiences after the operation; it will also allow medical professionals to talk about their role in this process.

**Procedures:** If you decide to participate, you will be asked to have a one-time interview with the Student P.I. This interview will take place at a date and time scheduled at your convenience. The interview will also take place at a location of your choice (home, office, neutral meeting place or over the telephone). The interview will be audio-taped for transcription. The interview consists of about 10 questions and is expected to last 1-2 hours; no other time commitment will be asked of you.

**Benefits:** There is no direct benefit to you; however, your participation will be useful in gaining insight into the cultural and personal context in which patients elect to have weight loss surgery, and the role of science and the medical community in the decision-making process. The expectation is that the results of the project will help others who are considering this procedure make a more-informed decision, as well as assist surgeons and others in the medical community communicate more effectively with their potential and current patients.

**Costs:** There are no costs to you except for your time.

**Foreseeable Risks or Discomforts:** The risks involved are minimal. There is the possibility that participation in this study may cause you some emotional discomfort. The researcher will make every effort to prevent this and will continually ask throughout the interview if you are comfortable with the questions and if you would like to stop or continue the interview. If you experience some discomfort, the researcher will terminate the interview immediately.

**Confidentiality:** The following procedures will be followed to keep your personal information confidential in this study: The data that is collected about you will be kept private to the extent allowed by law. To protect your privacy, your records will be kept

under a code number rather than by name. Your records will be kept in locked files and only the course teaching staff and the student researcher you worked with will be allowed to look at them. The audiotape from the interview will be downloaded onto a firewall protected computer, burned onto a CD and stored in a locked file cabinet in the Student PI's office; transcriptions from the taped interviews will be stored on a firewall-protected computer. The tapes will be stored for six months and later destroyed. The transcriptions will be stored in a locked file cabinet and destroyed after six month. Your name and any other fact that might point to you will not appear when results of this study are presented or published. To make sure that this research is being carried out in the proper way, the Georgia Institute of Technology IRB will review study records.

**Injury/Adverse Reaction:** Reports of injury or reaction should be made to the supervising instructor, listed above. Neither the Georgia Institute of Technology nor the researcher has made provision for payment of costs associated with any injury resulting from participation in this study.

**Contact Persons:** If you have questions about this research, call or write the principal investigator, Dr. Willie Pearson, Jr. at telephone (404) 385-2265.

**Statement of Rights:** You have rights as a research volunteer. Taking part in this study is completely voluntary. If you do not take part, you will have no penalty. You may stop taking part in this study at any time with no penalty. If you have any questions about your rights as a research volunteer, call or write: Melanie Clark, Office of Research Compliance, Georgia Institute of Technology, Atlanta, GA 30332-0420. Phone: 404-894-6942; Fax: 404-385-2081.

**A copy of this form will be given to you. Being in the interview indicates that you consent to volunteer for this study.**

**APPENDIX C**  
**INTERVIEW QUESTIONS: SURGEONS**

## Interview Questions: Surgeons

1. Talk about your academic and career background (schooling, professional experiences, current position, etc.). Tell me a little bit about yourself (age, race/ethnicity, family background, etc.).
2. Tell me a little bit about your practice and how long you've been performing bariatric surgery, and if you have a specialty, or a type of procedure you perform most often. Tell me a little about how and why you got into this field of surgery.
3. Tell me a little bit about your experiences with this particular procedure and if you think some techniques are better or produce better results than others.
4. Tell me a little bit about the patients that you encounter. How would you describe the typical or average patient that comes to your practice?
5. Talk about what a typical consult would involve, both with a potential patient who is still considering options and a pre-surgery consult.
6. How would you describe the process for them, in terms of how they come to make the decision? How would you describe your role in the process?
7. How do you determine what makes a patient eligible for this type of surgery? Tell me about whether you think the standards for determining who should or should not have the surgery are realistic?
8. Tell me about what your center does in terms of patients care before, during and after the surgery? What kind of individuals work for you and what type of pre and post-op care is given to patients?
9. What do you think contributes to patients' success? What do you think makes patients fail? How would you describe failure in terms of this context? What is your role in this process?
10. What kind of advice would you give to someone considering this surgery?
11. How do you describe the risks and consequences to this surgery? How can you as the surgeon and the patient mitigate that?
12. What do you see as the future direction of this procedure, in terms of types of patients, new surgical techniques?

**APPENDIX D**

**INTERVIEW QUESTIONS: MEDICAL PRACTITIONERS**

### **Interview Questions: Medical Practitioners**

1. Talk about your academic and career background (schooling, professional experiences, current position, etc.). Tell me a little bit about yourself (age, race/ethnicity, family background, etc.).
2. Tell me a little bit about your role in this center/hospital and how long you've been working with bariatric patients. Tell me a little about how and why you got into this field.
3. Tell me a little bit about your experiences with this particular procedure and if you think some techniques are better or produce better results than others.
4. Tell me a little bit about the patients that you encounter. How would you describe the typical or average patient that comes to your practice?
5. Talk about what a typical consult would involve, both with a potential patient who is still considering options and a post-surgery consult.
6. How would you describe the process for them, in terms of how they come to make the decision to have surgery? How would you describe your role in the process?
7. Tell me about whether you think the standards for determining who should or should not have the surgery are realistic.
8. Tell me about what your center does in terms of patients care before, during and after the surgery. What kind of individuals work with you and what type of pre and post-op care is given to patients?
9. What do you consider as 'success' post-surgery? What do you think contributes to patients' success? What do you think makes patients fail? How would you describe failure in terms of this context? What is your role in this process?
10. What kind of advice would you give to someone considering this surgery?
11. How do you describe the risks and consequences to this surgery? How can you as the surgery and the patient mitigate that?
12. What do you see as the future direction of this procedure, in terms of types of patients, new surgical techniques?

**APPENDIX E**  
**INTERVIEW QUESTIONS: TECHNOSCIENTISTS**

## **Interview Questions: Technoscientists/Developers/Affiliated Biotechnology Representatives**

1. Talk about your academic and career background (schooling, professional experiences, current position, etc.). Tell me a little bit about yourself (age, race/ethnicity, family background, etc.).
2. Talk about your involvement with the gastric band (LAP-BAND, REALIZE or other). Talk about your current position.
3. What role, if any, did you play in the development or design of the band? Talk about the historical trajectory of the band.
4. Tell me about the technical aspects of the band, such as how it works, the adjustable nature of the device, etc.
5. Talk about how this technology works and the role of the patient and surgeon in the process. Talk about the role the band has in facilitating weight loss.
6. Talk about what factored into the design of this technology, such as user habits, the amount of food that's sufficient to eat.
7. Talk about who you envision the typical patient of this device to be. Talk about what type of individual is most or least successful with this device. Talk about how you would define "successful" or "failed" outcomes from the surgery.
8. Talk about some of the risk and benefits of this procedure. How does this compare to other bariatric surgical methods?
9. Talk about the future of this device, in terms of new 'generations' or new patients who may benefit from this.

**APPENDIX F**  
**CONSENT FORM: TECHNOSCIENTISTS**

**Consent to be a Research Participant**  
**Georgia Institute of Technology, Ivan Allen College,**  
**School of History, Technology & Society**

**Project Title:** Biomedical Technology and Obesity: An Analysis of Gastric Banding

**Principal Investigator:** Dr. Willie Pearson, Jr.; phone: (404) 385-2265

**Experimenter:** Lisa Borello

**Location:** Of Participant's choosing, Georgia Institute of Technology

**Duration of Each Session:** 1-2 hours

**Number of Sessions:** 1

**Total Compensation:** None

**Number of Participants:** 5-25

**Participation limitations:** None

**General:** You are being asked to volunteer for a research project.

**Study Description:** Rates of obesity has grown around the world in recent decades. As such, there are now a number of different surgical options available to medically manage one's weight. This research looks specifically on gastric banding, one type of bariatric surgery, in an effort to understand the ways in which an emerging biomedical technology has the potential to facilitate weight loss and improve health outcomes. This study aims to examine the perspectives of individuals who have a role in the research, design, development, marketing and/or sale of the adjustable gastric band, in order to understand both the technical and the social dimensions of an increasingly common technological intervention for obesity.

**Procedures:** If you decide to participate, you will be asked to have a one-time interview with the Student P.I. This interview will take place at a date and time scheduled at your convenience. The interview will also take place at a location of your choice (home, office, neutral meeting place or over the telephone). The interview will be audio-taped for transcription. The interview consists of about 10 questions and is expected to last 1-2 hours; no other time commitment will be asked of you.

**Benefits:** There is no direct benefit to you; however, your participation will be useful in gaining insight into the scientific, cultural and personal context in which patients elect to have gastric banding surgery, and the role of science and the medical community in the decision-making process. The expectation is that the results of the project will help others who are considering this procedure make a more-informed decision, as well as assist surgeons and others in the medical community communicate more effectively with their potential and current patients.

**Costs:** There are no costs to you except for your time.

**Foreseeable Risks or Discomforts:** There will be minimal risk involved with participation in this study. Participants will only be asked to discuss information that is publically available and is not considered to be confidential or proprietary; information shared during the course of the interview will generally be available via the company's Website, brochures, and/or marketing materials. The researcher will make every effort to ensure the subject is not sharing information that may be considered 'trade secrets' and will continually ask throughout the interview if you are comfortable with the questions and if you would like to stop or continue the interview. If you are not comfortable answering the questions, or are concerned about how your responses and participation may affect your current position or may adversely affect your affiliated organization, the researcher will terminate the interview immediately.

**Confidentiality:** The following procedures will be followed to keep your personal and professional information confidential in this study: The data that is collected about you and your affiliated organization will be kept private to the extent allowed by law. To protect your privacy, and the privacy of your affiliated company, your records will be kept under a code number rather than by name. You will be assigned an alias and identifying details, such as educational background and specific job title, will not be directly linked to you; your company will also be assigned an alias. Confidential material, knowledge, or information otherwise considered to be nonpublic business information will not be included in the results of the research study. Your records will be kept in locked files and only the course teaching staff and the student researcher you worked with will be allowed to look at them. The audiotape from the interview will be downloaded onto a firewall protected computer, burned onto a CD and stored in a locked file cabinet in the Student PI's office; transcriptions from the taped interviews will be stored on a firewall-protected computer. The tapes will be stored for six months and later destroyed. The transcriptions will be stored in a locked file cabinet and destroyed after six months. Your name, specific company affiliation, and any other facts that might point to you will not appear when results of this study are presented or published. If requested, the researcher will sign a Non-Disclosure Agreement to protect the information provided in this study. To make sure that this research is being carried out in the proper way, the Georgia Institute of Technology IRB will review study records.

**Injury/Adverse Reaction:** Reports of injury or reaction should be made to the supervising instructor, listed above. Neither the Georgia Institute of Technology nor the researcher has made provision for payment of costs associated with any injury resulting from participation in this study.

**Contact Persons:** If you have questions about this research, call or write the principal investigator, Dr. Willie Pearson, Jr. at telephone (404) 385-2265.

**Statement of Rights:** You have rights as a research volunteer. Taking part in this study is completely voluntary. If you do not take part, you will have no penalty. You may stop taking part in this study at any time with no penalty. If you have any questions about your rights as a research volunteer, call or write: Melanie Clark, Office of Research Compliance, Georgia Institute of Technology, Atlanta, GA 30332-0420. Phone: 404-894-6942; Fax: 404-385-2081.

**A copy of this form will be given to you. Being in the interview indicates that you consent to volunteer for this study.**

**APPENDIX G**  
**VIEW SCORING RUBRIC**

# REALIZE<sup>®</sup> Band Patient Assessment

KE

NAME

DATE

Please provide the following information in preparation for today's appointment.

Please check the box that best describes how often you have vomited or regurgitated your food in the last 2 weeks:

- Daily
- 2-3 times per week
- Once per week
- Once in the last two weeks
- None

Please check the box that best describes how long, on average, in the last 2 weeks, it took you to eat a meal:

- Less than 15 minutes
- 15-30 minutes
- 31 minutes – 1 hour
- Greater than 1 hour

Please place a check in the column below that best describes how often you eat the following foods:

FOOD	DAILY	2-3 TIMES PER WEEK	ONCE PER WEEK	ONCE PER 2 WEEKS	MONTHLY	LESS THAN MONTHLY	DISLIKE/ NEVER HAVE EATEN
Meat (Beef/Pork)	X						
Poultry (Chicken/Turkey)		X					
Bread		X					
Rice						X	
Raw Vegetables	X						
Solid Fruit (e.g., Apple)			X				
Cooked Vegetables			X				
Casseroles						X	
Pasta						X	
Eggs		X					
Yogurt/Dairy/Cheese			X				
Fish			X				
Fried Foods						X	
Crackers				X			
Chips						X	
Soups						X	
Ice Cream						X	
Alcohol							X

How often do you stop eating a meal due to the following:

	Never	Sometimes	Most of the Time	Always
Pain or discomfort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting/Regurgitation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The plate being empty	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling full/had enough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Not full but I stop myself	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please check the box that best describes what you think needs to be done today to your gastric band:

- I need fluid removed from my band
- My band is perfect the way it is
- I need fluid added to my band
- I don't know

In the last 2 weeks, how often did you feel hungry:	Never	Sometimes	Most of the Time	Always
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please check the box that best describes when you typically felt hungry in the last 2 weeks:

- Morning
- Afternoon
- Before Bed
- 1-2 hrs. after eating
- 2-3 hrs. after eating
- >3 hrs.

## OFFICE USE:

13.1    2  
ΔWeight / #Weeks = Weekly Weight Loss

V:

E:

W:

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