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(2006, excerpts from *Bariatric Surgery Patient Education Book*, an 11,000-word handbook written for the Oregon Bariatric Center, PeaceHealth Oregon Region, Eugene, Oregon)

### General Overview

This handbook will help prepare you for lifestyle changes before and after your surgery. Your success as a gastric bypass patient is based on your total commitment to following the guiding principles provided in these pages. Please read the material and decide on a plan of action.

This handbook addresses some major issues:

1. *Mental preparation for surgery*: Mental preparation includes reading the information in this booklet, attending informational classes, and participating in regular health education classes before and after your surgery.
2. *Physical preparation for surgery*: Physical preparation involves using the material you learn in your daily life and getting your body ready for the surgery.
3. *Emotional preparation for surgery*: Emotional preparation includes possibly seeing a therapist, understanding food addiction, keeping a daily journal to identify your behavioral patterns, and learning new coping skills to handle emotional challenges.

### An Anatomy Lesson

Here is a simple explanation of the structure and function of the parts of the gastrointestinal (GI) tract involved in the surgery.

Digestion actually starts in the mouth. Chewing helps to break up the food so it can be more easily digested. After food is swallowed, it travels down the *esophagus* (ee-SOF-uh-gus) — a muscular, hollow tube that connects the back of the mouth to the stomach — to the stomach, which is also a muscular organ that stores food and can stretch to the size of a football. The stomach releases acid to help break down food, and it converts food to a liquid so it can make its way to the *small intestine*.

The stomach opens into the first part of the small intestine, called the *duodenum* (do-WAD-uh-num). The adult duodenum is 12 inches long. Although the duodenum is the shortest part of the small intestine, it is critical because it receives material from the *liver* and *pancreas* needed for digestion.

The next portion of the intestine, the *jejunum* (jay-JOO-num), about 10 feet long, then becomes the *ileum*, which leads to the *colon*, or *large intestine*. The total length of the small intestine is about 20 feet. Most nutrients (vitamins and minerals) as well as some fluids are absorbed in the small intestine. The colon, or large intestine, approximately 6 feet long, absorbs fluid and stores fecal material before it is expelled as stool.

### Types of Procedures

Operations for obesity fall into two categories: *restrictive* and *malabsorptive*. Restrictive procedures reduce the amount of calories or food ingested by limiting the stomach space available for the intake of food. Malabsorptive procedures reduce the absorption of food that has been consumed.

Roux-en-Y Gastric Bypass (RYGB) is recognized as the most effective treatment for clinically severe obesity because of its low complication rate and long-term success in achieving

weight loss. RYGB combines a gastric restrictive operation with a small amount of malabsorption.

RYGB has the highest long-term success and low rates of mortality, complications, and failures. The procedure carries a mortality rate of less than 1 percent, an operative complication rate of 5 percent to 10 percent, and an effective loss of 50 percent to 75 percent of excess weight. In most cases, this is enough weight loss to reduce the life-threatening danger that comes with a comorbid condition.

During the RYGB procedure, the stomach is stapled into two parts. The upper part receives food from the esophagus. The lower part of the stomach does not receive any food but does send stomach acid into the duodenum. After isolating the upper stomach, the surgeon divides the small intestine in the upper jejunum and connects it to the small stomach pouch with an opening the approximate size of a dime. This joining of the stomach pouch and the jejunum is called an *anastomosis*. The other end of the jejunum is reconnected, creating a “Y.” Absorption of food does not really begin until the point where the two pieces of jejunum come together.

### **Risks versus Benefits**

As a candidate for gastric bypass surgery, you should be aware that although deaths are rare, the national mortality rate is up to 1 percent. The risk of death is greater in extremely heavy patients and in patients who have serious medical complications such as heart disease, high blood pressure, diabetes, and lung disease.

Gastric bypass is not cosmetic surgery. This procedure is performed only to prevent major illness or premature death from the complications of clinically severe obesity. Although weight loss eventually leads to dramatic physical improvements, gastric bypass should not be undertaken for cosmetic reasons. In fact, there may be some undesirable effects on appearance such as temporary hair loss and unsightly folds of skin in various parts of the body that may require plastic surgery.

Most patients lose weight, often more than 50 percent of their excess body weight, and keep it off 10 years or longer. Type 2 diabetes usually disappears or is greatly improved. High blood pressure improves. Sleep apnea usually disappears within a year. Back and joint pain is greatly relieved. Acid reflux symptoms usually disappear. Most patients report improved quality of life.

Each person considering gastric bypass surgery should make a well-informed decision. You should evaluate your previous efforts to lose weight through nonsurgical means. Consider the risks and benefits of gastric bypass surgery. Discuss your thoughts about the operation with family or other support persons. Talk with others who have had the surgery. The decision to have the gastric bypass should be made only after learning about and considering all of the implications of the surgery.

### **Success Habits of Gastric Bypass Patients**

- Eat three small meals per day. NO snacking or grazing between meals.
- Concentrate on three kinds of food: protein, protein, and protein (fish, poultry, meat, cheese, eggs, seafood).
- Avoid coarse roughage foods such as coconut, cabbage, lettuce, skins of fruit.
- Eat slowly. Enjoy what little food you can eat.
- Sit down at meals. Eat only at a table and not in front of the TV.
- Cut food up well and chew thoroughly (30 times per bite).
- Drink fluids before eating solids. Do not drink with meals.

- Avoid sweets, candy, juices, and high-calorie beverages (may cause “dumping” and will prevent you from losing weight).
- Eat protein first, vegetables and fruit last. Each meal should be 75 percent protein.
- Stop eating when you begin to feel satisfied.
- Take your supplements every day.
- Maintain a regular (3 to 4 times a week) exercise program, for at least 1 hour.
- Avoid alcohol. It is high in calories and absorbed very quickly, and may lead to ulcers.
- Avoid caffeine, which may cause ulcers and is an appetite stimulant.
- Stop smoking.
- Get regular follow-up visits with your primary care provider and bariatric doctors.
- Attend support groups at least once a month.

### **Your New Anatomy and Nutrition Basics**

Keep an egg around as a reminder of your new stomach. Before surgery, a normal stomach can stretch to the size of a football. After surgery, your new stomach will be the size of an egg.

The size of your new stomach will be approximately 1 ounce (2 tablespoons) that could stretch to 2 ounces (the size of an egg) or more. It is crucial that you monitor your portion sizes accordingly and protect your new stomach pouch by not overeating or drinking too much fluid at one time. You will be able to eat only small portions of food *for the rest of your life*. It is normal for the pouch to stretch somewhat over time, but frequent overstretching will eventually lead to increased stomach capacity and weight gain.

With such a small stomach size, the nutritional value of the food you eat becomes very important. You should eat only foods with high nutritional quality, such as protein, vegetables, and fruits. You must be careful not to eat foods that are fibrous and hard to digest, such as poorly chewed pieces of meat or fibrous foods. These foods can block the outlet from your stomach pouch into your small intestine and cause pain and severe vomiting.

If you overeat or eat past the point of feeling full, you will feel very uncomfortable and may vomit. If you snack frequently throughout the day or drink high-calorie beverages, you will not lose as much weight as you potentially could. You could even gain some weight back.

To lose weight, you must eat no more than three small well-balanced meals each day and avoid snacks and high-calorie beverages. The gastric bypass meal plan includes foods that are high in protein and low in calories, sugar, and fat.

### **Problems Following Surgery**

Several common problems may occur after surgery. These problems include blockage of the anastomosis, changes in taste or smell, constipation, dehydration, dumping syndrome, gas, gout, hair loss, nausea and vomiting, vitamin and mineral deficiency, and weight loss plateaus.

### **Blockage of the Anastomosis**

Blockage of the *anastomosis* (tube that connects the stomach pouch and the small intestine) may occur if you eat fibrous or tough foods. Fibrous foods include dry or tough meat, coconut, hot dog skins, nuts, seeds, popcorn, and skins of some fruits and vegetables.

If food has blocked the tube, try adding one spoonful of Adolf's meat tenderizer to 1/4-cup warm water and sip slowly. If vomiting continues throughout the day, stop eating solid foods and sip only clear liquids for the next 8 hours (water, decaffeinated coffee or tea, or noncarbonated beverages). If vomiting continues for more than 24 hours, call your doctor. Continued vomiting

may indicate that the outlet from your stomach pouch into your small intestine has become blocked and you may be at risk for dehydration.

Sometimes food blockages must be removed using an instrument called an *endoscope*, which is passed through your mouth into your stomach. The best way to avoid this is to chew all foods to the consistency of baby food, and avoid foods that are fibrous or hard to digest.

In some cases, the outlet to the small intestine becomes narrowed over time even though you are following the dietary guidelines. This condition is called *stenosis*. Continued vomiting over 24 hours may be a sign of stenosis and must be reported to your doctor. The treatment is an endoscopic procedure performed on an outpatient basis using a small balloon to stretch the outlet so food can pass through.

### **Changes in Taste and Smell**

After surgery, you may experience sensitivity to tastes and smells. For example, foods that you enjoyed before surgery may take on a new flavor and may not be appealing to you after surgery. Sensitivity to smells like food odors or perfumes is common after surgery. Hang in there. These changes usually resolve a few months after surgery.