CENTRA

Weight Loss Services

Bariatric Surgery

Patient Guide

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SECTION 1

Is Bariatric Surgery Right For Me?

What Is Bariatric Surgery?

Bariatric surgery, also called “weight loss surgery” or “metabolic surgery,” is the name for a set of surgical procedures and behavior changes that work together to help a person lose weight. Bariatric surgery has been performed since the 1960s, but within the last 10-20 years we have learned a great deal more about how these procedures work, how patients can stay healthy throughout their weight loss, and how to do bariatric surgeries very safely.

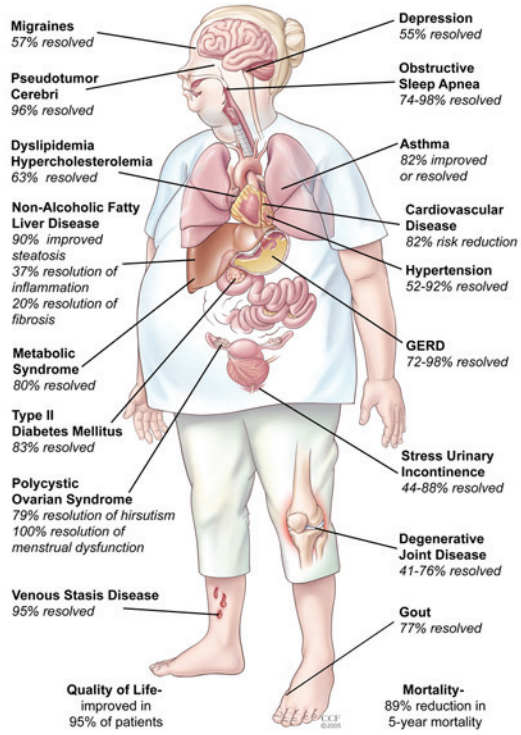
Who Qualifies For Bariatric Surgery?

Patients with severe obesity, as defined by Body Mass Index (BMI) (see chart below), may qualify for bariatric surgery. These patients have a:

- BMI of 40 or greater, or
- BMI of 35 to 39.9 with at least one severe medical condition caused by obesity, such as type 2 diabetes, severe obstructive sleep apnea, high blood pressure, or heart disease (elevated cholesterol, plaques in the heart arteries or history of heart attack or angina).

Other health conditions may be caused by obesity, but are usually not used by insurance companies to determine eligibility for bariatric surgery. The list below illustrates the health problems in different body organ systems that can be related to obesity:

- **Pulmonary (lungs)** - Obstructive sleep apnea, asthma/reactive airway disease, pulmonary hypertension
- **Cardiac** – High blood pressure (hypertension), congestive heart failure, atrial fibrillation, coronary artery disease
- **Gastrointestinal (abdominal)** – Gallbladder stones, fatty liver (steatosis, steatohepatitis, and cirrhosis), gastroesophageal reflux disease (GERD) and hiatal hernia, recurrent abdominal hernias
- **Endocrine (hormone)** – Type 2 diabetes, hirsutism (excessive body hair growth in women), high cholesterol, hyperlipidemia.
- **Urinary and reproductive** – Frequent urinary infections, stress urinary leakage (incontinence), menstrual irregularity or infertility (females), erectile dysfunction (males)
- **Musculoskeletal** – Arthritis of knees, hips, and ankles, disc herniation, chronic low back pain
- **Skin** – Irritation or infections between skin folds (intertrigo)
- **Central nervous system** – Pseudotumor cerebri (rare condition of headache and vision changes due to high pressure in the skull)
- **Cancer risk –** Increased risk of breast, uterine, colon, prostate, renal, pancreatic, gastric, gallbladder and liver cancers.



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Body Mass Index Chart

WEIGHT IN POUNDS

HEIGHT IN FEET AND INCHES	120	130	140	150	160	170	180	190	200	210	220	230	240	250
4′ 6″	29	31	34	36	39	41	43	46	48	51	53	56	58	60
4′ 8″	27	29	31	34	36	38	40	43	45	47	49	52	51	56
4′ 10″	25	27	29	31	34	36	38	40	42	44	46	48	50	52
5′ 0″	23	25	27	29	31	33	35	37	39	41	43	45	47	49
5′ 2″	22	24	26	27	29	31	33	35	37	38	40	42	44	46
5′ 4″	21	22	24	26	28	29	31	33	34	36	38	40	41	43
5′ 6″	19	21	23	24	26	27	29	31	32	34	36	37	39	40
5′ 8″	18	20	21	23	24	26	27	29	30	32	34	35	37	38
5′ 10″	17	19	20	22	23	24	26	27	29	30	32	33	35	36
6′ 0″	16	18	19	20	22	23	24	26	27	28	30	31	33	34
6′ 2″	15	17	18	19	21	22	23	24	26	27	28	30	31	32
6′ 4″	15	16	17	18	20	21	22	23	24	26	27	28	29	30
6′ 6″	14	15	16	17	19	20	21	22	23	24	25	27	28	29
6′ 8″	13	14	15	17	18	19	20	21	22	23	24	25	26	28

Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000)

How Does Bariatric Surgery Work?

Bariatric surgery procedures change the stomach and digestive system ("GI tract") to help a person feel more satisfied with smaller meals. This is due to both a smaller storage area for food in the stomach and to some changes in hormones in the digestive system that cause us to feel full or hungry.

But bariatric surgery is not successful for every patient in the long term, and that's because it requires behavior changes along with the surgical procedure in order to achieve and maintain a healthier weight over the long run. People who expect the surgery to "do it all" for them are disappointed and frustrated with their results. Surgery alone will not ensure long-term success. Surgery is a tool. Just like a spade won't dig and plant and weed a garden by itself, surgery alone will not ensure achievement of a healthy weight. Rather, you should see the surgery as a tool to help you form healthy, new habits.

Goals Of Bariatric Surgery

Bariatric surgery is not cosmetic surgery. It has real, long-term health benefits. But the goals of bariatric surgery may be different for different patients. Some goals may include:

- Improvement in overall health
- Improvement or resolution of specific health conditions (like Type 2 diabetes)
- Improved ability to move and stay fit
- Improved sense of self-esteem
- Longer lifespan

It is important to realize that bariatric surgery does not come without risks. We'll go into the risks in more detail later. Bariatric surgery involves major changes to the digestive system in order to change behaviors, achieve weight loss and improve health conditions.

Lifestyle Changes

The four most important factors in America's obesity problem (and really, in most of our health problems) are ***nutrition, fitness, sleep and stress.*** To be successful in the long run with weight management, we have to control all four. Nutrition is the most important for many patients in their weight struggles.

Nutrition

Life after bariatric surgery (and while preparing for surgery) involves a new view of food. Food and drink have many important roles for humans: providing energy, keeping the body working in top form, helping the body stay clean, providing enjoyment and social relationships and feeding the many bacteria that live inside our bodies that keep us healthy.

A turbo-charged sports car requires premium gasoline, NOT kerosene, diesel, water, coffee, sewage or regular gasoline, right? Our bodies are even more valuable and meant to be more long-lasting than a sports car, but we sometimes disregard the very specific "instructions" on how

to fuel our bodies. During thousands of years of recorded human history, people have kept their bodies healthy by knowing the foods and drinks we should consume, and passing that knowledge down to the next generation.

However, in the last 50-100 years we have begun to leave that wisdom behind, to eat things in packages that aren't food, to drink destructive beverages like soda and sugary drinks (even juice!) and to spend time in our cars idling as we wait for someone to hand us toxic "food" from a window.

Patients tend to gain weight back after bariatric surgery if they begin eating processed foods or junk foods, start "grazing" or eating out of boredom or loneliness or if they drink high-calorie beverages like juice, soda or alcohol. Journaling (writing down) your food and drink intake will be important before and after surgery.

Alcohol consumption is not recommended after weight loss surgery. The main reason is that alcohol can be much more rapidly absorbed into the body, especially after gastric bypass and sleeve gastrectomy. In some patients, this can result in alcoholism and devastating effects on their entire lives. One study on this subject concluded that "safe levels of alcohol consumption have yet to be established for patients after bariatric surgery." Also, alcohol can lead to weight gain because it contains empty carbohydrate calories, much like soda. Alcohol tends to be more potent in patients after weight loss surgery, leading to lapses in judgment or even tragic accidents. Patients who are shedding their lifelong addiction to food and calories do not need to fall down another potential "slippery slope."

To regain our health, we must make some major changes in how we eat. We can teach you this knowledge, but it won't be easy to change your eating habits. Keep at it, though, and it will pay off.

Fitness

We move our bodies less than ever before, sitting in chairs at work, in school and at home. The human body is meant to move, to be active, to walk many miles per day, to lift heavy things and be strong, to breathe hard, to sweat and cool us off. We can't ignore this and think "I will be okay. Everyone else is the same as me."

If you have the good fortune to have work and a lifestyle that require you to move a lot, then great! You'll need less exercise than others, but you'll still likely need an exercise program. If you have the misfortune of a desk job, then you'll need to work doubly hard to overcome the effects that has on your health.

A good rule of thumb is, "If you're not breathing hard, sweating, and feeling completely beat a few times every week, you're not doing it right."

Sleep

Did you know that the amount of sleep you get directly affects not just your health, but also your weight? Studies have shown that too little sleep is a major risk factor for being overweight or developing obesity. Sometimes this is because you're caring for a family and working two jobs to make ends meet – a hard situation – and you should be congratulated for your dedication and outstanding work ethic. Sometimes poor sleep is because of health conditions like sleep apnea, chronic pain or depression/anxiety.

But for many Americans, the one thing we can change to affect this important part of our health is to **form good habits** around sleep. The section on stress and sleep near the end of this patient guidebook provides information on how to improve your sleep and reduce the effect of poor sleep on your weight.

Stress

A little stress every so often is good and healthy. Think of our ancestors: the "fight or flight" response kept them alive when they faced a dangerous situation or when hunting large, dangerous animals. However, in modern society, stress can become an everyday, constant thing, and that is not healthy. Work relationships, family

relationships, financial hardships and other issues can put our bodies in a constant state of stress. This results in some hormones, such as cortisol, constantly circulating in the body, causing us to gain weight and develop other health problems. Our mental health team can help you work through some of these issues. Sometimes it may be necessary to confront a situation or make a change in your life in order to see long-term success in weight management.

Regular attendance of support groups can be a huge help for patients. A support group is like a community, a congregation. It is the one place (besides your doctor's office) that patients can be totally honest with each other. That accountability is a powerful motivator for long-term success

in weight management. Centra hosts regular bariatric surgery support group meetings. Details can be found on our website, www.CentraWeightLoss.com.

Insurance Coverage

Many health insurance plans cover bariatric surgery, but some do not. If a plan does not provide coverage, it is usually because the employer (who provides the insurance) has not chosen a plan that offers this benefit. In other words, if you work at (let's choose a fictional example) "Joe's Tire and Lube," and your health insurance is through "Blue Armor," it's likely that Joe has chosen not to provide this benefit, because Blue Armor provides insurance to other businesses that includes bariatric surgery. It may be that Joe feels he can't afford to provide this benefit for his employees, or maybe he is not aware that he has chosen this plan.

SECTION 2

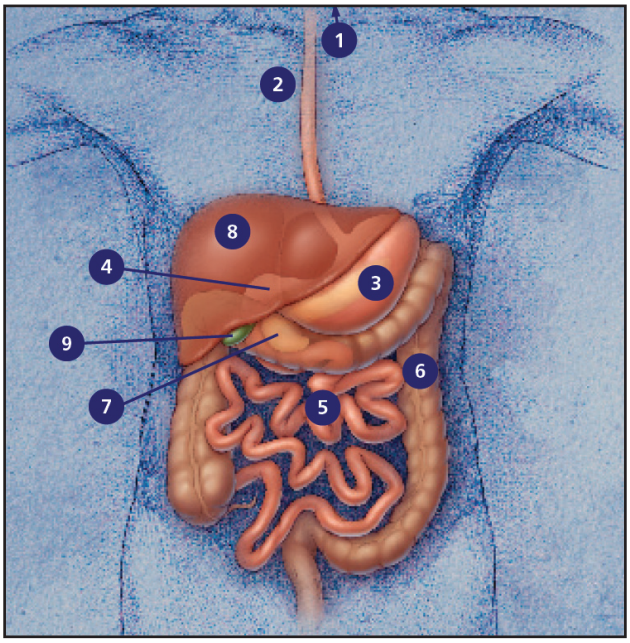
Surgical Procedures And Risks

Normal Digestive Anatomy

The gastrointestinal (GI) tract is one continuous tube that runs from the mouth to the anus.

The organs of the body that make up the GI tract include the mouth, pharynx, esophagus, stomach, small intestine and large intestine. Organs that also assist in the digestive process include the pancreas, liver, and gallbladder.

Normally, as food passes along the GI tract, digestive juices and enzymes help break down large food molecules into their basic nutrient parts (carbohydrates, proteins, and fats) that are absorbed by the cells of the body.



1 Mouth

The breakdown of food begins with chewing. Food is mixed with saliva and reduced to a soft, flexible mass called a bolus.

2 Pharynx and esophagus

Swallowing moves the bolus from the mouth to the stomach.

3 Stomach

The bolus is mixed with gastric acid fluid and converted to liquid by a churning/squeezing movement of the stomach. The food passes through the pylorus, the "exit door" of the stomach that connects to the small intestine.

4 5 Small intestine

As liquid moves through the pylorus to the duodenum (the first segment of the small intestine) bile and pancreatic juices break down the liquid food particles into the absorbable molecules that are the basic building blocks of food.

Most of the calcium and iron in the foods we eat are absorbed in the duodenum. The jejunum and ileum, the remaining two segments of the small intestine, complete the absorption of almost all nutrients found in food.

6 Large intestine

Food particles that cannot be digested in the small intestine are moved through the large intestine (also called the "colon"). The large intestine absorbs much of the water and electrolytes (like sodium and potassium) in our food, and bacteria in the large intestine breaks down some of the food particles that our body was not able to. The bacteria are responsible for the smell of feces and gas. As these bacteria multiply in numbers, they are swept along with what remains of the food, until the whole collection of bacteria, fiber and food are eliminated through the anus as feces.

7 Pancreas

This organ is connected to the duodenum by two small ducts, and it secretes pancreatic juice which does most of the digestion of carbohydrates, proteins, and fats. Other cells in the pancreas help to control our blood sugar; it's a really multi-functional organ!

8 Liver

The liver produces bile that is temporarily stored by the gallbladder. The liver also is the first stop for processing many of the foods absorbed by the intestines as the nutrient-rich blood flows through it. The liver is one of the body's main ways to de-toxify itself by identifying and destroying many of the toxins that we eat or drink.

9 Gallbladder

This small sac-like organ is connected to the small intestine by one duct and secretes bile, which aids in the breakdown of fats in our diet.

Now that we understand the basic workings of the digestive system, let's look at the bariatric surgery procedures and how they alter or affect the GI system.

Laparoscopic Roux En Y Gastric Bypass

Roux en Y gastric bypass, or "gastric bypass," (Figure 1) has been used since the late 1960s as a weight loss procedure and until recently was the most commonly performed bariatric procedure in the United States.

Anatomy

In gastric bypass, the upper portion of the stomach where food would first enter is stapled and separated from the remaining portion of the stomach during surgery. This stomach "pouch" holds approximately **1 to 2 ounces** of food or fluid (about the size of a golf ball or egg) and creates a sensation of fullness or "satiety", after a very small meal. The small intestine is redirected to accept food from this small stomach pouch.

The remaining stomach (called the "remnant" or "excluded stomach"), duodenum and the initial part of the jejunum stay in place and continue to make digestive juices, but are "bypassed," resulting in a different kind of journey for our food and digestive juices. This change causes some natural chemicals (hormones) to circulate through the body that make a person feel less hungry, more full and promote blood sugar control and more energy burning.

Gastric bypass causes food to skip the duodenum, where most iron and calcium are absorbed, so the risks for nutritional deficiencies become higher.

Vitamins and nutrition

Vitamin B12 is not absorbed normally after the stomach reconnection, so anemia and fatigue may result from decreased absorption of vitamin B12. Because of this, most patients will require a B12 supplement, either as a daily under-the-tongue tablet or as a monthly injection.

Decreased absorption of **calcium** may bring on loss of bone density (osteoporosis) as the body tries to meet its calcium needs by absorbing its own bone calcium. For this reason, a special kind of daily calcium supplement is required lifelong. More on this later.

Iron supplementation may be required in some patients, such as menstruating women.

Fortunately, bariatric surgery programs are well aware of these issues, and they can be treated. For this reason, bariatric surgery programs will

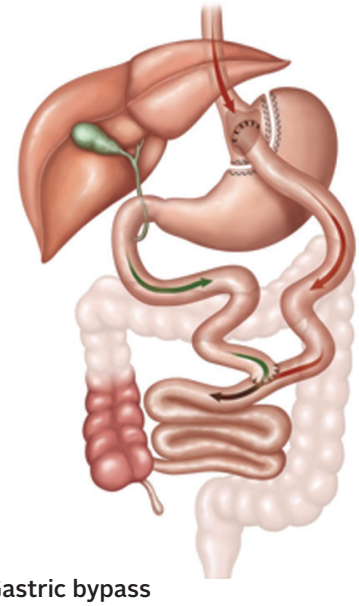


Figure 1. Gastric bypass

do blood tests for certain vitamin levels at least once a year for the life of the patient. Patients are required to take lifelong nutritional supplements that usually prevent these deficiencies.

Dumping syndrome

Gastric bypass patients may experience **Dumping Syndrome,** caused by high-calorie foods moving too quickly into the small intestine. Dumping Syndrome symptoms include nausea, sweating or flushing, weakness, faintness, heart pounding and, occasionally, diarrhea after eating. Dumping Syndrome is not a complication of gastric bypass; it is a reminder that high calorie foods are harmful after bariatric surgery. Dumping Syndrome only happens with foods that we need to avoid, like cake with icing, sodas or juices, ice cream or candy.

Nsaids

Non-steroidal anti-inflammatory drugs (NSAIDs) cannot be used after gastric bypass surgery because of the risk of forming a special kind of ulcer, called a "marginal ulcer." This class of medication includes ibuprofen, naproxen, and aspirin (except a daily baby aspirin for heart health, if recommended by your healthcare provider).

Weight loss

Gastric bypass yields an **estimated excess weight loss of 70-85 percent** at one year.

Reversibility

This procedure is considered irreversible, but in rare cases can be reversed for a life-threatening medical need.

Laparoscopic Sleeve Gastrectomy

Anatomy

Sleeve gastrectomy is a stapling procedure where approximately 80 percent of the stomach is surgically removed, resulting in an evenly sized tubular stomach, or "sleeve" (Figure 2).

The sleeve holds approximately 3 to 4 ounces of food or fluid.

This change to the stomach creates a sensation of fullness, or "satiety," after a very small meal.

The portion of stomach removed contains many cells that produce a hormone called ghrelin, which is associated with the sensation of hunger. Some patients do report feeling less hungry after this weight loss procedure.

Weight loss

Sleeve gastrectomy yields an estimated excess body weight loss of 50 to 70 percent by one year after surgery.

Reversibility

This procedure is not reversible. Once the larger portion of stomach is removed, it cannot be put back into the body.

Vitamins and nutrition

About 20 to 30 percent of sleeve gastrectomy patients may require long-term vitamin B12 supplements, as an under-the-tongue tablet or by monthly injection.

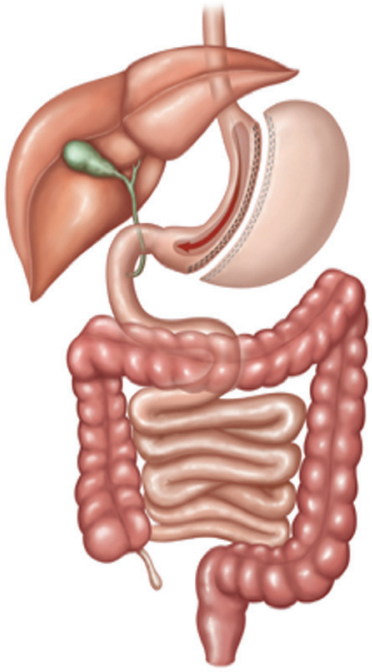


Figure 2. Sleeve gastrectomy

"Dumping Syndrome"

Rarely, sleeve gastrectomy patients may experience the "Dumping Syndrome" with high-calorie foods or liquids. See the section on Gastric Bypass for more details.

SADI-S Laparoscopic Single Anastomosis Duodeno-Ileal Bypass With Sleeve

Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI-S) was first described in 2007 as a simplification of the bilio-pancreatic diversion with duodenal switch (BPD-DS). The American Society for Metabolic and Bariatric Surgery (ASMBS) has endorsed this procedure.

Anatomy

SADI-S is an operation that starts in the same way as a Sleeve Gastrectomy. First (1.), the sleeve gastrectomy is performed. This is a stapling procedure where approximately 80 percent of the stomach is surgically removed, resulting in an evenly sized tubular stomach, or "sleeve". Secondly (2.), once the sleeve surgery is completed, the surgeon will proceed with dividing

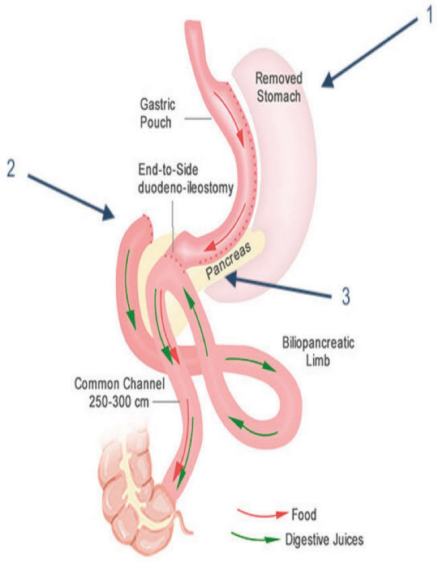


Figure 3. SADI-S

the first part of the small intestines just after the stomach. Lastly (3.), a loop of intestines is measured from the division of the small intestine in step 2. and is then connected to the stomach.

How does SADI-S work?

As food goes through the 'sleeve', and directly into the new connection of the small intestines, it mixes with digestive juices. This allows for enough absorption of vitamins and mineral to maintain healthy levels of nutrition. This surgery offers good weight loss along with less hunger, more fullness, blood sugar control and diabetes improvement.

Pros and cons comparison of bariatric surgery procedures

PROS	CONS
Gastric Bypass	
The "gold standard" for weight loss surgeries	Requires close attention to vitamin supplements
Improvement or remission of Type 2 diabetes	Risk of intestinal connection leakage
Improvement in acid reflux (GERD)	Risk of bowel blockage
Durable, long-lasting weight loss	Cannot use NSAIDs (anti-inflammatories)
Sleeve Gastrectomy	
No change in how food is absorbed in intestine	Less effective with sweet-eating behaviors
Rare to see vitamin or mineral deficiencies	Risk of staple line bleeding or leakage
No restriction of NSAID use	Uncertain long-term weight loss
	Irreversible
Lap Single Anastomosis Duodenal-Ileal Bypass With Sleeve Gastrectomy (SADI-S)	
Restricts the amount of food the stomach can hold.	Vitamins and minerals are not absorbed as well as in the sleeve gastrectomy procedure.
Significant decrease in the absorption of calories and nutrients.	Newer operation with only limited short-term outcome data available.
Produces favorable changes in the gut hormones that reduce appetite and enhance satiety.	Potential to worsen or develop new-onset reflux symptoms.
Simpler and faster to perform (one intestinal connection) than gastric bypass.	Risk of looser and more frequent bowel movements.
Excellent option for a patient who already had a sleeve gastrectomy and is now seeking further weight loss.	
Outcomes reported in literature for the SADI-S: In five of 11 articles, the excess weight loss (EWL) showed an average of 79 percent decrease at the one-year post-op mark.	
No restriction on NSAID use.	

Risks Associated With All Bariatric Surgery Procedures

Deep Vein Thrombosis/Pulmonary Embolism (DVT/PE)

A blood clot can develop in any of the leg veins and break off traveling to the lungs. This can be a serious life-threatening event. Severely obese patients are at higher risk for DVT/PE than individuals of normal weight. Laparoscopic or open surgery also increases the risk of developing blood clots. See sidebar at right for more information on DVT/PE prevention.

Bleeding

Generally, the amount of blood lost in a laparoscopic weight loss surgery is approximately two to three tablespoons. Rarely, though, patients can have significant or even life-threatening bleeding and may need to return to surgery or have a blood transfusion.

Infection

A dose of antibiotics is given before surgery to prevent infection. The small incisions used for laparoscopic bariatric surgery rarely become infected, but it can occur, and an infection may require additional procedures or antibiotics.

Injury to nearby organs, blood vessels or nerves

Other organs near the region of surgery can rarely be injured during the surgery, such as the spleen, pancreas, liver or intestines.

Hernias

Any incision into the abdomen can result in a hernia, a hole in the muscles where abdominal tissues or organs "bulge" through. This is much less frequent after laparoscopic surgery than after large open incisions.

Scar formation

Scarring occurs with any surgery, and there is some scarring inside the body where the surgical work was done.

Gallbladder stone formation

For patients who have a gallbladder (if it has not been removed previously), rapid weight loss may result in formation of gallstones. Gallstones may cause symptoms of pain under the ribs on the right side of the body, especially after eating. It is important to notify your surgeon if these symptoms develop, because surgery may be required to remove the gallbladder.

Conversion to open procedure

Although most patients successfully complete laparoscopic weight loss surgery, your surgeon may make the decision during the procedure to convert from laparoscopic to open surgery. This decision is made by the surgeon who weighs the risks and benefits to you and decides if making an open incision is safer for you. In this situation, there will be no hesitation. *Patient safety always comes first.*

DVT/PE Prevention

In our program, we attempt to prevent DVT/PE in three ways:

Sequential compression devices: "Squeezer stockings" are placed around the legs before surgery in the prep area. These help to keep blood flowing through the leg veins even while the patient is asleep and not moving. While in the hospital, it is important to wear the compression devices anytime you are not walking. In order for the compression device to work properly the machine must be turned on. If you hear a beeping noise or the compression devices are not inflating and deflating as they should, it is important to notify a nurse.

Anti-thrombotic injectable medication: A mild blood thinner is injected in the belly area before surgery and each day thereafter to reduce the risk of DVT/PE. This may sound concerning, but the low dose of blood thinner generally does not result in significantly increased risk of major bleeding.

Walking: Once you are fully awake after surgery, the nurses on the bariatric unit will assist and encourage you to get up and walk on the day of surgery. Your abdomen may be sore from surgery, but it is still vitally important that you walk.

Other risks

Allergic reactions, longer hospital or ICU stay, breathing problems, metabolic or vitamin deficiencies, inadequate weight loss, heart attack, stroke, or even death are all risks in any kind of weight loss surgery. Your surgeon will discuss each of these with you individually. In addition to the above list, each bariatric procedure carries specific risks.

Risks Associated With Gastric Bypass

Leakage from intestinal connections or suture lines

During surgery the newly formed stomach pouch is stapled and connected to the small intestine, and the small intestine is cut and reconnected to itself. This kind of bowel reconnection is called an "anastomosis."

- Less than 2 percent of anastomosis connections will fail, causing intestinal contents like food and digestive enzymes to leak into the abdominal cavity.
- Strict adherence to your surgeon's instructions about a liquid followed by a pureed diet must be followed, especially during the first four weeks after surgery.
- A leak usually will mean one or more re-operations, a longer hospital stay and an increased risk of other life-threatening complications.

Narrowing of intestinal connections

Occasionally because of scarring, connections can become too narrow for solid food to pass through. This is called stenosis or stricture.

- Around 5 percent of stomach pouch-to-small intestine connections will narrow enough to require treatment.
- Treatment usually involves passing a flexible scope down the mouth, under sedation, and using a balloon to stretch or "dilate" the affected area. Dilation may be required one or more times.
- This issue would usually show up within the first one to six months after surgery, but can occur later.

Ulcer formation

A special kind of stomach ulcer called a marginal ulcer can form after gastric bypass, right where the stomach pouch connects to the small intestine. This can occur any time after gastric bypass: months or even years later.

- Marginal ulcers may cause pain, bleeding, or even rupture and leakage into the abdominal cavity.
- The two most important causes of marginal ulcer are **smoking** and the use of **NSAID medications.**

- **NSAIDs** (Non-Steroidal Anti-Inflammatory Drugs) include aspirin, ibuprofen (Motrin®, Advil®), naproxen (Aleve®, Naprosyn®), ketorolac (Toradol®) and COX-2 inhibitors (Mobic®, Celebrex®), among others. Patients who have had gastric bypass should not use NSAIDs or smoke. Acetaminophen (Tylenol®) is a different class of over-the-counter pain reliever and may be used according to the manufacturer's and your physician's instructions.

Internal hernia or intestinal blockage

Gastric bypass patients may be at risk for intestinal blockages. Once the surgical pain is gone after gastric bypass, a return of abdominal pain could signify intestinal blockage or an ulcer. Abdominal pain after gastric bypass is not normal, and should prompt you to see your doctor right away.

Risks Associated With Sleeve Gastrectomy

Leakage from stomach suture line

The stapling and removal of the large section of the stomach during a sleeve gastrectomy requires time to heal.

- Failure to heal or rupture of the staple line can cause intestinal contents to leak into the abdominal cavity.
- A leak usually happens within the first four weeks following surgery.
- A leak usually means one or more re-operations, a longer hospital stay, and an increased risk of other life-threatening complications.
- Strict adherence to your surgeon's instructions about liquid diet must be followed, especially during the first two weeks after surgery.

There are three important ways your surgeon can check for signs of leakage:

- Leak test in the operating room – A flexible scope can be passed down the mouth into the stomach sleeve and with the sleeve placed into sterile irrigation fluid, air is inflated into the sleeve, checking to ensure the stomach wall staple line is airtight, with no bubbles exiting.
- Swallow leak test under X-ray – In some patients, after surgery, an X-ray video will watch as the patient drinks contrast, ensuring the contrast stays within the stomach and passes easily into the small intestine without leaking. This is not routinely done, but the surgeon may choose to do this in some cases.
- Suction drain – The surgeon may decide to place a drainage tube near the staple line inside the abdomen which drains to an outside suction bulb. The normal appearance of fluid in the drain following surgery is similar to red Kool-Aid. This is not routine, but the surgeon may choose to do this in some cases. The fluid inside SHOULD NOT be brown, green, murky or foul-smelling. The suction drain acts as a "window" to the inside belly, providing early warning to a potential problem. The drain is usually removed before discharge home from the hospital.

Gastroesophageal reflux (GERD)

Sleeve gastrectomy alters the anatomy of the stomach, and some patients can experience new or worsened gastroesophageal reflux (GERD).

- Symptoms may include heartburn, regurgitation of fluid or food into the mouth, "gurgling" in the chest, asthma flare-ups or hoarseness. These symptoms tend to decrease the first year after surgery, although some patients may require medication or revisional surgery.

Narrowing of stomach

Even with the use of a sizing tube during construction of the sleeve gastrectomy, occasionally the stomach can become too narrow for some solid foods to pass through. This is called a stenosis or stricture.

- Around 5 percent of sleeve gastrectomies will narrow enough to require treatment.
- Treatment usually involves passing a flexible scope down the mouth, under sedation, and using a balloon to stretch or dilate the affected area. Dilation may be required one or more times.
- This complication usually shows up within the first one to six months after surgery. Occasionally, surgery may be required to correct this narrowing.

Risks Associated With SADI-S

Risks for this surgery will be like those associated with the gastric bypass and the sleeve gastrectomy.

- Incidence of leakage is less often in the SADI-S; the rate of leakage at the duodenoileostomy is 0.6 percent
- There is less incidence of acid reflux with the SADI-S versus the sleeve gastrectomy.
- The incidence of internal hernia is less with the SADI-S than the gastric bypass.
- Greater risk of malabsorption of vitamins, increased need for certain vitamins. Patients having the SADI-S procedure will need to follow a different specific vitamin regimen after surgery.
- Greater risk for diarrhea after surgery.

SECTION 3

The Road To Bariatric Surgery

The Road To Bariatric Surgery

Because clinically severe obesity is associated with many severe and chronic medical problems, there is a detailed and occasionally time-consuming process involved in getting ready for surgery. Some patients with obesity may not even be candidates for weight loss surgery, due to the severity of their illness.

Informational Seminar

The first step toward weight loss surgery is our free, public, informational seminar. This is likely where you began your journey with us. The informational seminar covers the current status of obesity in the United States, the medical risks associated with obesity, the qualifications for bariatric surgery, the types of surgery, expected risks and benefits of bariatric surgery and the type of follow-up care needed for success.
Our goal is that every patient be as informed as possible, so that the best decisions can be reached, to enhance long-term success. The more you can do to inform yourself about weight loss surgery before your consultation with the surgeon, the easier this process is.

Three To Six Months Before Surgery

During the three to six months prior to surgery, you will be working on the following steps:

Medical weight management

Many insurance providers require that you have had documented attempts at weight management, as well as a history of obesity. Even if your situation does not have such a requirement, our program will require that you undergo some nutrition and weight management education before undergoing surgery. Records from your primary care provider can be helpful in this pre-surgery weight management phase.

Fitness education

Each patient is required to begin a light fitness program at your level of ability, if you're not already doing this. The surgeon may recommend an initial assessment with our physical therapy specialist if you have limitations or concerns about beginning a fitness program. The physical therapist will evaluate your abilities, level of fitness, limitations or injuries, access to fitness activities or equipment, and can lay out a beginner exercise program tailored to your specific needs. A walking program is the most common way to begin, and this begins to prepare your body to safely undergo surgery. Start now!

Psychological assessment and evaluation

Each patient is required to complete an initial psychological evaluation by our psychologist. This evaluation allows us to get to know you better so that we can best help you to achieve and maintain weight loss. There may be additional visits recommended by the psychologist before you are ready for surgery. In addition to the pre-surgery evaluation(s), you also will be able to follow up with our mental health team after your surgery as needed.

Nutrition education

You will be scheduled to attend a class on basic nutrition, which covers topics such as healthy eating, label reading, portion sizes, smart grocery shopping, creating healthy meals, and preparing for your post-surgery eating style. After this, you will begin one-on-one sessions with our bariatric registered dietitian (RD). As part of your lifestyle change, the registered dietitian will ask you to begin journaling the foods you eat. This will be important as you learn to eat well.

One of the most important steps many patients can take right now is to quit drinking soda. If you already have, great! But for those who drink soda, it can be a BIG contributor to weight gain. Even diet sodas have been shown to result in weight gain. Start working on cutting out this habit now – it can take time.

Bariatric support groups

Each patient is required to attend at least one of our monthly community support network meetings before surgery, and you are encouraged to continue to attend as much as you are able after surgery. For patients who are looking at surgery, it helps to talk with others who have been through the process. Questions you might ask include:

- "Would you do anything differently if you could go back in time?"
- "What do you like or dislike about your procedure (SADI-S, sleeve or bypass)?"
- "What was unexpected for you?"
- "What has been your greatest challenge?"
- "What is the most crucial thing you can tell me as I start this process?"

The support meeting serves two major functions:

1. **Educational** – The support gathering helps patients continue to stay informed about their health after bariatric surgery. One of the Centra Weight Loss Clinic health professionals spends a few minutes at the start of each meeting covering a topic related to weight loss surgery, healthy eating, mental health, fitness or other related topics.

2. **Motivational** – The support group is a social network, helping you stay focused on your goal of better health by seeing others' success and updating them on your own milestones. Part of our success depends on knowledge, but much of our success depends on staying motivated. This is simply human nature; none of us is exempt from the power of motivation in staying on track.

Support group meetings have focused on topics such as nutrition, fitness, goal setting, vitamins, dealing with setbacks, mental and emotional preparation, plastic surgery after weight loss, and other topics. Learning should never stop, and we are here to help you in your lifelong learning quest.

Safe surgery preparation

In order to safely undergo bariatric surgery, there are some evaluations that are commonly done for patients in the pre-surgery period. If the studies listed below have already been completed outside our system, we only need copies of these records to be provided to us, and we can assist with obtaining these records. Studies are grouped into two categories:

1. Basic preventative health maintenance
2. Risk assessment for safe surgery

We will order these studies or provide you with a checklist so that your primary care provider can order and follow these exams.

Health maintenance

We will ask that you be up-to-date on:

- Colonoscopy (all adults age 50 and older, or anyone with history of inflammatory bowel disease or a strong family history of colon cancer)
- Pap smear (all women, unless prior hysterectomy)
- Mammogram (women age 50 and older, or with prior breast cancer or pre-cancer)

Risk assessment for safe surgery

- Home sleep study or overnight sleep study (to evaluate and treat sleep apnea, if required)
- Upper GI X-ray swallow series and/or flexible upper endoscopy (to evaluate esophagus, stomach and upper intestine)
- Comprehensive blood laboratory panel
- Echocardiogram (for select patients)
- Cardiologist or internist consultation (for select patients)

Once all exams are complete, and one of our weight loss providers has reviewed the studies to make sure no additional treatments or studies are required, you will be invited to plan a scheduled date for surgery.

"When am I going to be ready for surgery?"

Our team at Centra will be tracking your progress as you move through the program. Refer often to the list you were given at your initial appointment to see if you've accomplished everything on it, such as a sleep study (if ordered), dietitian visits, psychologist visits, mammogram (if needed), etc. If you believe you have completed all required items and you still have not heard from our team, you are welcome to call and check whether anything is outstanding.

Three Months Before Surgery

Tobacco or nicotine use

If you smoke or use tobacco or nicotine products, and you haven't quit yet, now is the time! If you need help quitting, call 1-800-QUIT-NOW or talk with your primary care doctor. Our program requires that you be tobacco-free for at least three months prior to your surgery date. This includes smoking, chewing and vapor cigarette use. This is in preparation for a lifetime free of tobacco after surgery, because serious and life-threatening complications can develop for patients who start smoking again after surgery. Make this your once-and-for-all quit date.

Remember, you must never return to tobacco use after bariatric surgery or you could be at risk of developing a life-threatening complication.

Exercise

If you have not yet begun a walking (or an alternative fitness) program, now is the time. You want to not just survive surgery, but come through with flying colors. The way to do this is to begin getting your body ready for surgery by exercise. Strengthening your legs, conditioning your heart, strengthening your abdominal and core muscles, and arms — this is how you want to focus your exercise right now.

Two To Four Weeks Before Surgery

Obstructive sleep apnea treatment

If you had a sleep study and the results revealed that you have obstructive sleep apnea, you should have been prescribed continuous positive airway pressure (CPAP). You will need to wear your CPAP machine at night while sleeping for at least 30 days prior to your scheduled surgery. Your CPAP should be worn ANYTIME you decide to sleep, including taking short naps. (See the information about obstructive sleep apnea on the next page).

Treating obstructive sleep apnea reduces the strain on your heart and lungs in preparation for surgery, and it reduces your risk of having a complication after surgery if you're wearing your CPAP while sleeping. If you're having trouble wearing the CPAP, notify the clinic. On the day of surgery, you will need to bring the CPAP machine with you to the hospital.

Pre-operative visit

Once all required testing and evaluation is complete, and your insurer's requirements have been met, we will schedule you to return to the clinic for a pre-operative visit. By this time you should have a good idea of which procedure you have chosen, although you may wish to chat briefly with the surgeon about your choice. At the pre-operative visit, a review of your studies and medical history will again be done, along with a brief physical exam, and you will have some additional teaching about what to expect next.

The pre-surgery visit is a long one. Even though it may only be "scheduled" for 30 minutes with the doctor, it usually lasts more than two hours working with the nurse and patient educator. During this visit you will be reading, writing, and signing some papers. If you wear reading glasses, you should bring them with you.

The doctor and nurse will have you sign some forms for surgery, after reiterating the possible risks of surgery that you read a few pages ago. Some of the risks include:

- Breathing problems or other types of lung complications
- Bleeding
- Wound infection
- Hernias
- Nerve injury
- Heart attack, stroke or death
- Other risks already described in this patient guide

Obstructive Sleep Apnea

Obstructive sleep apnea (OSA, or just "sleep apnea") is a serious, chronic medical condition that is strongly associated with obesity. Extra weight in the head and neck area causes the airway and throat to collapse during sleep, especially during deep sleep. This results in snoring and pauses in breathing throughout the night. When breathing stops, the patient wakes up briefly before falling back to sleep. Some patients stop breathing dozens or hundreds of times per night. Unfortunately, this means that patients with OSA never get to a deep, restoring level of sleep because they are waking up all night long. This often leads to daytime sleepiness. Also, the low oxygen levels through the night cause the brain to swell, leading to frequent morning headaches.

OSA can increase the risk of heart rhythm abnormalities (arrhythmias) and can increase the risk of sudden death or anesthesia-related complications after major surgery. This is why it is so important to test for and treat OSA before bariatric surgery, to reduce the risk of major complication or death.

Many patients are not aware that they snore or have sleep apnea. This is because they are asleep when snoring, and the awakenings that happen when they stop breathing do not last long enough to remember.

OSA is treated with positive airway pressure (PAP), either continuous (CPAP) or at Bi-Level setting (BiPAP). This involves a small machine that gives extra breathing support via a mask while you sleep. If your doctor has prescribed CPAP or BiPAP to treat OSA, you must wear the device for at least 30 days before surgery, and afterward until your doctor has told you that you may stop it. This is a matter of your safety, and failing to follow the doctor's recommendation could put your life at risk.

Getting used to CPAP or BiPAP can be challenging for some patients. Many patients end up trying two or three different masks before finding the right fit for their comfort. The medical equipment supplier that you got the CPAP from can be very helpful in assisting patients to find the right mask that fits them well and is well-tolerated. Once OSA is treated, most patients are amazed by the quality of their sleep and their energy level. Finally, the good news is that a significant number of patients after bariatric surgery can see their sleep apnea improve or even resolve.

On the other hand, if you follow the directions of the program and make healthy lifestyle changes along with the surgery, potential benefits include:

- Improvement in the quality of your life
- Improvement in life expectancy
- Reduction in weight
- Reduction in severity of weight-related medical conditions

If you have religious objections to receiving blood or blood products transfusions, inform your surgeon and the team as soon as possible. We will need to know your wishes and beliefs to help plan an approach that will be safe and also match your personal convictions.

There is a pre-operative quiz that you will take during this visit. Don't worry – it's not difficult if you've paid attention so far and read the materials we've given you. The quiz reviews the main points that we want to be sure you know before starting this life-changing journey. At this visit, we also confirm a date for your surgery. If you are using health insurance to pay for your care, we send the authorization forms to your insurance provider.

Once your surgery date has been scheduled, there will be some tasks to accomplish:

- You will be scheduled to meet with an anesthesiologist.
- You will be sent to obtain lab work and/or X-rays to prepare for surgery.
- You will start a two week liquid diet.

Pre-surgery liquid diet

To some, the idea of a diet just reminds them of all the "tried and failed" approaches to weight loss in their past. Actually, the pre-surgery, two- week, high protein, low calorie, liquid diet is meant to make your surgery safer and simpler.

During surgery, your surgeon has to lift part of the liver out of the way in order to get to the stomach. In morbidly obese patients, the liver is generally fatty and large. This is dangerous, because the liver can block the surgeon's view during surgery, and because the fatty liver is more fragile and prone to tearing and bleeding when the surgeon lifts it out of the way. It has become standard practice in weight loss surgery to restrict calorie intake before surgery and shrink the liver size, making the surgery safer and easier.

There is no specified amount of weight that must be lost during the two week liquid diet. The requirements are simple:

- Each patient must **do** the two-week, all-liquid diet. No cheating.
- Each patient must **lose weight** on the diet.

You will be weighed on the day of surgery. If your weight is higher than, or the same as, your pre-operative visit weight, your surgery will be canceled. If the surgeon begins the surgery and finds that the liver is too large and fatty, the surgeon may decide that proceeding ahead is too risky for you, and the surgery may be stopped to allow a week or two more on the liquid diet.

Refer to the "Diet Stages" section of this patient guide for more information about the pre-surgery liquid diet.

We occasionally hear from patients that "This liquid diet is working so well, I think I'd like to just do this instead of surgery!" This starts sounding really good, because you're seeing some weight come off, and the liquid diet isn't so hard after a couple of days. Sometimes your family is pushing you to cancel the surgery and just drink "all shakes, all the time." The problem is that the liquid diet isn't sustainable. Anybody can do it with the goal of surgery in mind. But you won't be able to keep doing it and keep the weight off. It's just a temporary weight reduction to allow you to get through surgery safely. If you didn't have surgery, your body would just put the weight back on over the next weeks to months.

Diabetic patients: Ask your surgeon about reducing or stopping your diabetes medications when starting the Stage 2 Diet.

- Because the high-protein liquid diet has a very low glycemic index, you may be at risk of hypoglycemia, or low blood sugar.
- Symptoms of hypoglycemia include sweating, lightheadedness or dizziness, weakness, nausea or confusion.
- It is extremely important that you check your blood sugar before each meal and before bedtime during the pre-surgical two week liquid diet phase.
- Call the clinic at **434.200.2500** if your finger stick readings are ever below 70 mg/dL or consistently below 90mg/dL. Clinic office

hours are from 8 a.m. to 5 pm. After 5 pm, you will be redirected to the hospital operator who will notify our on-call staff.

- If your blood sugar is 70mg/dL or below, notify someone around you that your blood sugar is low, and eat a quick-fix source of sugar such a few pieces of hard candy or one tablespoon of honey. It is important to recheck your blood glucose in 15 minutes to make sure your blood glucose level is 70mg/dL or above. If it's still too low, another serving of a quick-fix food should be eaten. These steps should be repeated until the blood glucose level is 70mg/dL or above. A snack should be eaten once the quick-fix food has raised the blood glucose level to 70mg/dL or above.
- Because of the risk of hypoglycemia, it is important to carry and keep hard candy available in the case your blood sugar drops too low.

Patients with kidney disease: Talk to your surgeon about an individual, personalized plan for the pre-surgery liquid diet.

Lactose intolerant patients: Many patients report that they are lactose intolerant before surgery or become so after surgery. There are a number of lactose-free dairy options now available. Realize that most nutritional shakes or protein powders will be lactose-free. Learning how to read nutritional labels is helpful in determining which ones these are. Our bariatric registered dietitian can help you with this.

Other tips for two weeks before surgery

During your two-week pre-surgery liquid diet phase, we would recommend that you begin taking a chewable multivitamin once or twice daily and calcium citrate with Vitamin D two or three times daily. This allows you to get used to these before having the surgery. You will continue taking both the multivitamin and calcium citrate with Vitamin D for life after the surgery.

In your shopping (in-store or online), try to pick up samples of a number of different protein supplements. Try to have different flavors, brands and consistencies ready so that after surgery you can pick what you like.

Pick up some Gas-X chewable at the store. These may come in handy after the surgery, when gas can cause cramping and discomfort.

It is very important that you follow the diet. Two great rules to follow are: "NO CHEATING" and "RESPECT YOURSELF!" Being dishonest with yourself only hurts you in the long run.

Journaling, especially during this two week period of time will provide you with invaluable insight about yourself. Think about taking some "before" pictures to document your weight loss, and to remind you from where you have come.

The Day Before Surgery

This is a great time to look forward to your new, healthier life! Take some time today to be thankful for family, friends and blessings. Do some light exercise in the morning. Spend some time stretching, meditating or doing yoga. Be sure to stay well hydrated – drink plenty of fluids!

In the afternoon, you may have been given instructions to do a bowel cleanse with magnesium citrate. Drink the whole bottle at noon, and drink clear liquids for the rest of the day. If you did not receive instructions to complete a bowel cleanse, you have the option to continue the high protein liquid diet or switch to clear liquids for the rest of the day.

In the evening, you will drink 10 ounces of Gatorade or Powerade before bedtime. After midnight, NOTHING to eat is allowed, unless the anesthesiologist has instructed you to take some medications with a few sips of water. In the morning, you will drink the other 10 ounces of Gatorade or Powerade three hours prior to your assigned surgical time.

SECTION 4

Your Surgery And Hospital Stay

On The Morning Of Surgery

Arrive at Centra Lynchburg General Hospital and enter through the Terrace Level. If available, you may use valet parking if desired. You will enter the SurgiCare area where you will check in and the staff will prepare you for surgery.

Compression stockings will be placed around your legs. These will be worn while you are in the hospital except when you are up walking or sitting in a chair. Be sure these are inflating and deflating. If you notice that the compression stockings are not working or the machine is beeping, you can notify your nurse. You will be allowed to remove your clothes in privacy, and you will put on a hospital gown.

Your family and loved ones will wait in the waiting area during your surgery. The surgeon will talk with them at the end of your surgery. It is important for your family to know that your surgery does not begin when you leave the pre-surgery holding area. Time is spent to double-check your paperwork and your planned procedure, getting you into the operating room, positioning you on the operating bed and putting you to sleep. Then another check is done to be sure everyone agrees that we have the correct patient and the correct planned procedure.

What to bring

- CPAP Machine (if applicable)
- Medication list (accurate and complete)
- Comfortable clothing (easy to remove)
- Slippers if desired
- Undergarments
- Pajamas/sleeping attire (optional)
- Robe if desired
- Your own pillow (optional)
- Insurance card(s)
- Identification
- Unusual medications (ask first)
- Food journal

What NOT to bring

- Valuables or jewelry
- Large amounts of money
- Medications

Don't hesitate to ask any questions that you may have during this process. If something does not seem right, speak up and ask!

Anesthesia And Surgery

You will be put to sleep before surgery and monitored during surgery by an anesthesiologist (doctor) or a CRNA anesthetist (advanced practice nurse) under the direction of an anesthesiologist.

- With general anesthesia, your entire body is anesthetized. This means that you are asleep and unaware of your surroundings.
- You will not feel anything and you will not remember what occurred while you were asleep. Please do not worry that you will wake up during the surgical procedure. Your anesthesiologist will make sure that you wake up at the appropriate time.
- General anesthesia is given through your IV and by gases given through a mask or tube. When you go to sleep, it will only take a few moments. You may start to feel numb; sounds may seem louder; and you may feel lightheaded.
- A breathing tube will be inserted into your mouth and down your windpipe to protect your airway and help you breath after you are asleep. It will be removed as you wake up and are breathing well on your own.
- When you receive general anesthesia, an increased amount of secretions (mucus) can settle in the base of your lungs. It is extremely important that you take good deep breaths and cough after surgery to prevent pneumonia.

Risks regarding general anesthesia

You may have a sore throat or hoarseness for the first 24 hours after surgery because of the breathing tube. You may experience drowsiness, muscle aches and fatigue as a result of the residual effects of the anesthesia. These side effects are short lived.

Most people are not nauseated after surgery. However, anesthesia or surgery can make some people feel sick. Remember, other drugs which you may need such as pain medicine can make you nauseated, and this may not be related to anesthesia. Your nurse will have medications available if you feel nausea, so ask for this if needed.

Other rare occurrences include: blood pressure that is either low or high during surgery, irregular heartbeats, heart attack, breathing problems, muscle cramps and temporary or long term nerve injury because of positioning and allergic reactions to the medications. It is also possible to chip a tooth when the breathing tube is inserted. Your anesthesiologist will review risks with you on the day of surgery.

Recovery Room (PACU)

You will awake in the operating room, but you won't remember anything until you're in the recovery room or even in your room on the surgical ward. You may feel groggy, thirsty, tired, sick to your stomach or in pain. The nurses have medication to treat your pain or nausea. You won't be allowed to drink anything more than sips of water yet. Your heart rate, blood pressure and oxygen levels will be monitored as you awake from anesthesia. After one to four hours in the recovery room, you will be transferred to the surgical recovery ward.

Surgical Recovery Ward

For most patients, this will be a room on our surgical floor or Cardiovascular Pavilion, but some patients will recover initially in the Surgical/ Trauma Intensive Care Unit (STICU). The nurse will receive you and orient you to the new room, including:

- Nurse call bell system
- Bathroom
- Bed controls
- Television
- Nursing communication whiteboard
- Walking and activity tracking board

Your safety is important to us. Before getting out of bed for the first time, notify your nurse so that you can be assisted as you get up.

If you have sleep apnea, you will need to wear your CPAP or BiPAP **every time** you are sleeping or napping.

There is a plastic breathing exercise machine called an "incentive spirometer" that you should use every hour. You will notice that if your oxygen levels are low, some deep breathing exercises using this machine can cause an increase in the oxygen levels within 30-60 seconds.
You will need to get up to walk on the evening of surgery. At least two half-laps around the nursing unit is a minimum goal. Some patients are able to walk dozens of half-laps on the day of surgery. This helps to exercise your lungs and can help to prevent blood clots.

The nurses will be monitoring your ability to urinate. Most patients are able to empty their bladder after surgery, and we don't routinely use catheters (drainage tubes) in the bladder. Some patients, though, are more affected by the medications and pain from surgery, and their bladder may not want to work right away. The nurses will notify the doctor if you are unable to urinate after surgery.

You will need to ask for **pain medication** when you have pain. Pain medication is available on a certain schedule, but it won't be brought automatically. Pain control is important because it allows you to walk and breathe well, which helps in your safe recovery.

Some patients will have a post-surgery swallow

study scheduled to be done in the radiology department. Most patients, though, will proceed straight to taking liquids by mouth.

When you are fully awake, the nurses will start you on **Stage 2 bariatric liquids** to drink. At first, you will want to start slowly and see how your body handles the liquids you drink. The eventual goal for your fluid intake is at least 4 fluid ounces (120cc) per hour while awake. You may drink more than this if you are able. You may be able to do this right away, or you may not reach this goal until the following day or two. Four ounces doesn't seem like much, but you will be surprised how challenging it is to meet your fluid goal.

Remember: 4 ounces/hour x 16 waking hours/day = 64 ounces of fluid minimum that you require each day.

You will be given 1 ounce (30cc) medicine cups in the hospital to measure your fluid intake. Drinking four 30cc cups an hour is your goal while awake; if you can do more, that's great. The strict minimum volume requirement is meant to get you thinking in terms of "ounces of fluid volume", so that after you discharge home, you can easily estimate your fluid intake.

Discharge To Home

Showering

You may shower beginning the day after surgery. While showering, have your back toward the water. Use antibacterial soap and a washcloth to work up a good lather. Wring out the washcloth over the incision(s) and rinse using the same technique. DO NOT RUB OR PICK AT YOUR INCISIONS! You may take a bath after the surgeon gives the OK, typically after two weeks.

On leaving the hospital, you may still have some of the color-tinted surgical scrub on the skin of your abdomen. In some patients, this can cause a reaction if left in place for longer than a few days. You can use a small amount of rubbing alcohol on the tinted areas to remove the surgical scrub prep. DO NOT apply the alcohol to your incisions or the skin glue around them, or you may cause these to open up prematurely and delay healing.

Incisions

Your incisions may show bruising, swelling and moderate tenderness to the touch. If the incisions become red for some distance around the incision or open up and begin draining fluid, contact the clinic.

For the first month, it is important not to scratch, pick, or rub your incisions so that they can heal best. This includes avoiding pants whose waistband falls right on the incision, or (for women) underwire bras that may dig into the highest incision. Usually a sports bra (or two) can provide support without irritating the incision so much.

In a few days or weeks, the incisions will begin to itch. This is a sign of healing. If you're itching and also have a rash (redness or raised bumps around the incision or all over the abdomen), contact the clinic.

Over time, the incisions will change from a straight line (first month) to a raised, pinkish stripe (one to six months) to a darker red/maroon stripe (six to 18 months) until finally fading to slightly lighter than the surrounding skin. To minimize long-term formation of a prominent or obvious scar:

- You may apply vitamin E or Mederma ointment (both available over the counter) to the incisions beginning two weeks after surgery.
- AVOID SUN EXPOSURE on your incisions, including tanning beds or other UV radiation, which can make your incisions look much worse over the long term. If your abdomen is going to be exposed to the sun, either place an adhesive patch over the incisions or apply plenty of strong sunscreen to the incision areas.

Diet

You will leave the hospital on a Stage 2 dietary plan, which is an all-liquid, low-calorie, high-protein diet. Be sure to take in enough protein and fluids. The DIET STAGES section of your Weight Loss Surgery Guide contains more information about the details of your diet.

Recovery

It may take six to eight weeks for you to begin to feel like yourself again. Fatigue occurs after every major surgery and the degree will vary from person to person. You probably will still tire easily for up to six months because your body is using a lot of energy to heal itself. Make it a point to rest when you feel tired. Refer to the ACTIVITY LIMITATIONS section of this patient guide for more information.

CPAP/Oxygen

If you are on CPAP or oxygen prior to surgery, you will need to continue to wear it after your surgery, especially for the first few weeks after surgery. At your six or 12 month follow-up visit, a consult for a repeat sleep study can be ordered. Some patients find that after a month or two, their weight loss causes the sleep apnea to be less severe, and so the CPAP feels like it is blowing "too strongly." You can discuss discontinuation of CPAP or a repeat sleep study if this is the case.

Medications

For the first month following weight loss surgery, ALL medications MUST be crushed or split or in liquid form. The only exception is the docusate (colace) stool softener gel-cap. You may take this whole, as-is. If you take the acid blocker omeprazole (Prilosec®), you can empty and sprinkle the capsule contents into your liquids. If crushing pills is distasteful because of the flavor, pills may be split into grains the size of Nerds® candy.

You will be instructed in your discharge instructions which home medications to continue and which to stop. Usually, all medications are continued except for blood thinners (temporarily stopped or replaced) and some or all diabetes medications.

Extended release and control release capsules and pills CANNOT be crushed. Be sure to check with your nurse, physician or local pharmacist if you are unsure whether a medication can be crushed or split.

After the first month you may resume taking normal pills and capsules. We still recommend chewable vitamins.

Pain medication

You may be given a prescription for Vicodin®, Lortab®, or Norco®. All tablets should be crushed or split.

Over-the-counter liquid or crushed acetaminophen (Tylenol®) may be used once the prescribed medication has been used up. Upon discharge from the hospital, you should taper off your pain medications. Seldom do patients continue to require strong pain medications more than seven days after surgery.

If you have pre-existing problems requiring prescribed opiate (narcotic) pain medication, you will need to continue seeing the appropriate provider. Narcotic prescriptions for pre-existing conditions will not be re-prescribed by our office.

Pain medications to avoid (gastric bypass only)

The following medications may cause an ulcer in your pouch: aspirin (including Excedrin® and BC Powder®, etc. which may contain aspirin), ibuprofen (Motrin®, Advil®), naproxen (Aleve®, Naprosyn®), ketorolac (Toradol®) and COX-2 inhibitors (Mobic®, Celebrex®). You should permanently avoid taking these and other medications which are classified as "non-steroidal anti-inflammatory drugs," or NSAIDs. These greatly increase the risk of ulcers after gastric bypass. If you are unsure of a medication, please check with your provider or pharmacist.

For the sleeve or SADI-S patients, these medications are not prohibited, but may be used cautiously according to directions.

Since acetaminophen (Tylenol®) is the only over-the-counter pain reliever that gastric bypass patients may use, a few words of caution are in order. Acetaminophen, even though it is widely available and non-prescription, can be a very toxic drug if used in excess. If a patient takes even just a little more than the recommended dose (found on the bottle), liver failure can result. Be absolutely sure that you do not use more than the manufacturer's recommended dose. If you have pain that is not relieved by the recommended dose, contact your physician to discuss alternatives.

Vitamins/calcium (for bypass and sleeve patients)

A chewable multivitamin (with iron, for women) should be taken once or twice daily. A chewable calcium citrate with Vitamin D supplement should be taken two to three times a day. Refer to the VITAMINS section of this Patient Guide for more information. SADI-S patients will receive vitamin recommendations related to this procedure.

Constipation

Some patients may experience occasional diarrhea related to certain foods. However, in the event that you should become constipated, it may be related to your use of narcotic pain medication. In this case, you may take Milk of Magnesia, 1 to 2 tablespoons every six hours as needed until your constipation resolves. If this does not alleviate your constipation in one to two days, please call the clinic at the telephone numbers given.

Gas/cramping

Some patients find that the change in their eating habits, combined with the new smaller stomach capacity, can easily result in bloating, abdominal cramping, "gassiness," belching or a feeling of a "bubble" that won't move up or down. This is typically temporary and related to the tissue swelling after surgery, which can take weeks to subside.

Many patients find that gas reducers, such as Gas-X® chewable can help to alleviate the cramping, and they help gas bubbles dissolve.

Follow-up appointments

Your first follow-up appointments will be scheduled at the time of your pre-op appointment or at the time you leave the hospital. If you need to be seen before the two-week follow-up, call the clinic and talk with the nurse.

Fasting pre-clinic labs should be drawn four to seven days prior to your scheduled appointments, except for the first (two week) post-operative visit. The labs will begin with your next (four week) visit.

Signs/symptoms of infection

Indicators of infection include redness, swelling or heat at your incision site, severe bloating in the abdomen after eating and increased soreness or pain at your incision site, fever greater than 101°F, excessive drainage from your incision (especially greenish/yellowish or brown in color and/or foul smelling drainage from your incision site).

Signs/symptoms of a leak or other serious problems

Signs of a leak or other serious problems include increased heart rate (>120 beats per minute), fever (above 101°F), increased respiratory rate (>30 breaths per minute), severe shoulder pain, chest pain, shortness of breath, extreme tiredness or fatigue, severe abdominal pain and excessive thirst. If you experience any of these symptoms, go to the nearest emergency department IMMEDIATELY and tell them you are a bariatric surgery patient.

Whom to call with concerns

A surgeon is on call 24/7 for bariatric surgery patients at Centra Lynchburg General Hospital. If you have a concern during the weekday, call the clinic at **434.200.2500** to speak with one of our clinic staff. If you have a serious concern at night or on a weekend or holiday, please call **434.200.2500** and our answering service will contact the on-call surgeon.

Activity limitations

After weight loss surgery, you should begin walking regularly as you are able. Refer to the EXERCISE section of this patient guide for more details on beginning a walking program.

For the first four weeks after laparoscopic weight loss surgery or eight weeks if you had an open procedure, heavy lifting and abdominal straining is prohibited.

Heavy lifting is anything greater than 15 pounds, or roughly one or two gallon jugs of milk. This includes children and animals. Abdominal straining includes sit-ups, weight lifting, push-ups, pull-ups, yoga, Pilates or crunches.

After four weeks, if your surgeon releases you, you may resume any level of activity that you can do comfortably. If it hurts to do something, your body is telling you to "stop, wait or ease up."

Driving

Patients are prohibited from driving or operating heavy machinery while in pain or while on narcotic (opiate) pain medications (Lortab®, Vicodin®, Percocet®, Norco®, Tylenol 3® etc.).

Narcotic medications can impair your reflexes and thinking, and pain prevents a driver from safely being able to react quickly to avoid a collision.

Patients are usually off of all narcotic pain medications by three to four days after surgery, and are usually pain-free by one to two weeks post-surgery.

Call your auto insurance company to see if they have additional driving restrictions after abdominal surgery.

Working

On average, patients request two weeks off from work. Some patients return to work three to four days after surgery, while others need four to six weeks to feel ready to return. In general, you may return to work when you are feeling up to it, as long as your occupation does not involve heavy lifting or straining. If a release letter from the surgeon is necessary, we would be glad to provide this.

Realize that after major surgery, you will get tired more quickly at first. It may be smart to return to work for half-days at first, to see how things go. Call the clinic if you have any questions.

The Rosemary & George Dawson Inn

The Rosemary and George Dawson Inn provides family-centered, home-like lodging and support services to patients and their family members who are receiving medical treatment in the Lynchburg area. The inn is named after retired CEO George Dawson and his wife, Rosemary, both of whom made invaluable contributions to healthcare in central Virginia.

The inn is located at 2012 Tate Springs Road in Lynchburg, diagonally across from Centra Lynchburg General Hospital, directly in front of the Centra Alan B. Pearson Regional Cancer Center and 3.3 miles from Centra Virginia Baptist Hospital.

The inn offers private guest rooms with queen size beds and full bath and television, use of free washer/dryer and kitchen facilities, a free mealeach day in the hospital café and free use

of the fitness center of the Centra Lynchburg General Hospital campus, among other amenities.

To learn about how to become a guest at the inn, visit dawsoninn.centrahealth.com or call 434.200.STAY (7829).

SECTION 5

Follow-Up Care

Home After Surgery: The First Two Weeks

As you leave the hospital, there are three things you need to be mindful of:

- Controlling pain
- Getting enough fluids and nutrients
- Staying active

Controlling pain

- Using pain medication to treat pain is not weakness. If you need pain medication, use it!
- Untreated pain causes unnecessary stress, and makes deep breathing and staying active more difficult.
- As your body recovers from surgery, you may only need the pain medication to help you sleep comfortably. After a night or two, you can safely stop the pain medication.
- There are some things you can do to manage pain even without medications: try some relaxing music, a warm (but not hot!) heating pad over the area of pain, a warm shower, a cup of warm or hot tea, or a massage of your shoulders by a loved one.
- If you find that you are taking pain medication to treat emotional pain, notify your surgeon so the appropriate referrals can be made for you.
- ***Gastric bypass patients only:*** from this point forward, unless directed by your doctor, use only over the counter acetaminophen (Tylenol®) as needed for routine aches and pains.

Getting enough fluids and nutrition

- Avoiding dehydration is extremely important in the first weeks after bariatric surgery.
- Swelling at the surgical area is the body's natural response to injury or surgery.
- Your pouch or sleeve is already designed to be small; add to that the swelling from surgery, and the space to hold food and liquids is even smaller. (Figure 4.)

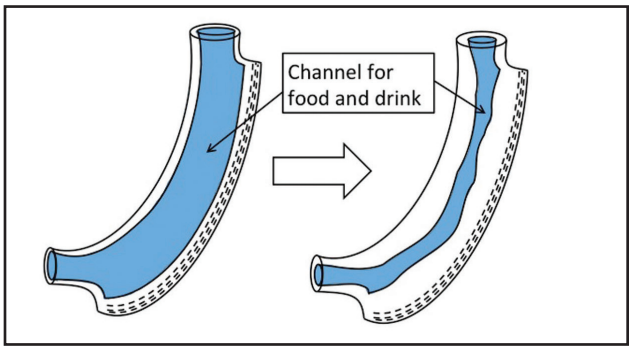


Figure 4. Swelling in the stomach after sleeve procedure

- A bottle for sipping liquids must be your CONSTANT COMPANION.
- If you forget, or put off, sipping liquids for even a couple of hours, you may not be able to catch back up easily. The fluids just do not go down in big swallows anymore.
- Remember the 1 ounce cups you sipped in the hospital, four during each hour? This is your **minimum** goal at home, too. If you can do more, super!

Gentle activity

Walking is the best way to keep active right after surgery. It prevents blood clots and starts conditioning your body for the more intense exercise.

Medications

All of your medications for the first month will need to be crushed or split into small pieces, except the stool softener gelcap. Your acid blocker capsule (if prescribed) can be opened and the granules emptied into food or drink. Call the clinic with any questions or concerns.

After Surgery: Weeks Two To Four

At this point, pain control is usually not much of an issue for most patients. While you may still have some soreness, it is usually manageable without medication. If you've stayed hydrated up to this point, you have likely formed some good habits of sipping fluids all day, and you can start to think about other things besides just drinking fluids.

Stage 3 diet

After your two week post-surgery visit with the surgeon, but not before, you will likely be allowed to begin eating pureed foods. As described in the DIET STAGES section of this patient guide, Stage 3 includes food pureed in a blender or food processor.

It also includes foods that are already puree consistency, such as low fat cottage cheese, yogurt with small bits of crushed fruit in it, oatmeal or Cream of Wheat®. For the texture, think of "guacamole without chunks."

Introduce one new food at a time, so that if something makes you sick, you can pinpoint that food and avoid it for now. Journaling this information is important.

Do not give up on that food; just postpone it, because some foods that you cannot tolerate now may be just fine in a few months.

Exercise

You are still limited to no heavy lifting or abdominal exercises (crunches, sit-ups, yoga or Pilates), but cardio-type exercise is unlimited, as long as it doesn't hurt and you don't "overdo it" to the point of dehydration or exhaustion.

Keep a bottle of water or Crystal Lite® with you, sipping constantly during exercise, so that you don't become dehydrated. Remember, you won't be able to gulp or "guzzle" fluids after exercise to make up for the fluids you lost while exercising.

Involve your family in your exercise program, if possible. You are setting a new course for your family, and maybe your spouse, kids or siblings will see this as the first time they began a healthy lifestyle, thanks to you!

Build into your schedule a time for exercise **every day,** and don't let yourself give excuses for not exercising. Even though exercise is the last thing you may want to do when you feel tired, remember that exercise leads to more energy down the road.

Work

If you work outside the home, you may be starting back to work now, depending on your condition and your surgeon's recommendation. Consider starting slowly, with half-days at first, if your employer allows. Remember that you will tire out more quickly.

Emotions

During this time, your body is going through BIG changes. Your emotions can range from giddy with excitement to extreme disappointment with set-backs. Stay calm, remember to exercise and find support in family, friends and the clinic. This too, shall pass!

After Surgery: One Month To Three Months

Healthy eating

Your surgeon likely moved you from Stage 3 to Stage 4 foods at your four week visit.

- You can now take solid pills or capsules of your prescription medications, without crushing or splitting them.
- Stage 4 is regular food, but not like most Americans think of "regular." To many of your friends, this means fast food, or high-calorie processed foods. A package that you open and heat up, or one with ingredients that you don't have in your kitchen, is a processed food. Most of packaged foods in the center of the grocery store are processed foods and are almost never as good as food that your prepare yourself using what you buy around the edges of the store: vegetables, fruits, dairy, meats and whole grains.
- Get into the habit of preparing your own meals at home. This might be a new experience for you! Remember, if you make your food, you know what is in it. And surprisingly, studies show that we tend to eat fewer calories when we prepare our own food. You might just learn some great new skills with this new lifestyle of yours!
- Don't know where to start? Check out YouTube! (Or have a family member show you how to do that). There are lots of great, healthy recipe ideas, and you can learn how to prepare them with instructional videos. As your confidence builds, you can try more new things using the skills you learn on simple recipes.
- Visit www.TheWorldAccordingToEggface.blogspot.com to see a lot of healthy eating ideas for bariatric surgery patients.

Meal size is still very small.

- Remember, your stomach capacity is

somewhere between 1 and 4 ounces.
- Try to eat a small amount of a variety of foods. If one food doesn't sit well with you, put that food aside in your mind, and wait a few months to try it again. Many patients will have problems with certain foods for awhile after weight loss surgery. These include steak and tougher red meats, white meat chicken (chicken breast), pork loin or chops, and rice, pasta and breads. The last three you can do without, since you're trying to lose weight and those tend to make us gain weight. For the meats, think about trying these after a few months. Meats that tend to go well at first include ground beef, ground turkey and the dark meat of chicken or turkey, as well as most types of fish or shrimp.
- Learn "moist cooking" techniques to keep meats tender, like slow cooking in the crock-pot, braising or rotisserie.

Meals should also be slow.
- Start thinking of mealtimes as an opportunity to share, laugh, talk and enjoy the company of friends or family.
- We tend to eat less food, and more slowly, when we have a conversation. Your body needs some time to send the "I'm full" signals to the brain.
- Over time, you will learn by looking at a portion of food whether it will be too much (and cause vomiting) or just right.
- Taking plenty of time for meals, plus recognizing the "just-right" portion size, will help you to avoid becoming nauseated or vomiting. It may take some time for you to figure out the right size and speed for meals. Your sensation of fullness will also change depending on the type of food, time of day, and on different days. Don't get frustrated – it's a learning process.
- When you feel satisfied, and think that one more bite might be too much, DO NOT take that one extra bite. You will learn to regret that extra bite.

Exercise

- When your surgeon gives you the go-ahead to return to full, unrestricted exercise and it does not hurt, the sky is the limit. This is your time to shine with exercise!
- Don't try to make huge leaps in the amount or intensity of exercise just yet.
- Aim for a steady increase in the intensity, time, and distance in your exercise.

For younger patients who have worked up to two miles or more of fast walking, you may consider trying a modified form of what runners call the "Galloway Technique." Try jogging slowly for a minute, then walking for five. Repeat this cycle for your walk. This allows you to catch your breath, but pushes you into the next level of exercise intensity. Over time, you can steadily increase the time spent jogging (jog two minutes, then walk for three. Then jog four minutes, and walk for a minute, etc.) Be sure you have a good pair of supportive walking/jogging shoes.

You can also start trying "cross-training," combining weights/toning exercise with cardio, alternating days or doing some of each on the same day. Other ways of changing up your exercise program include: spinning or cycling, yoga, Zumba, swimming laps, Pilates or circuit training. Some patients may enjoy racquetball, basketball or other ways of burning calories that are fun.

It is important to add some form of regular strength training to your cardio exercise, to prevent loss of muscle mass and hopefully to build more muscle than before. Muscle tissue has a faster metabolism than fat tissue, so it works to keep you healthy even when you're not exercising. A good rule is two thirds cardio exercise, one third strengthening exercise.

After Surgery: Three To Six Months

Healthy eating

During the growing season, your local farmer's market may be a great place to find healthy, fresh options to include in your diet. Don't be afraid to try new things! Remember to always keep vegetables and fruits, meats, and whole grains at the core of your new, healthy diet. For vegetables and fruits, fresh and frozen are best, dried or dehydrated are next best, and canned vegetables or fruits are the least nutritious, but are still better than junk foods.

Weight loss community support network

Stay engaged in a weight loss support group either locally or online; you can be assured that whatever you are going through, someone else has experienced the same thing!

Make friends, swap email and phone contacts, and stay involved in each other's lives. Find "accountability partners" with whom you can honestly share your struggles and successes. This will spur you on to success!

Hair loss

Most patients will experience some hair thinning or hair loss between three and nine months after surgery period.

DON'T PANIC.

After surgery, when your calorie intake dropped and weight loss happened quickly, some of your body's hair cells temporarily took a break in producing hair. Weeks later, the hair from those hair follicles began to fall out, and now it is more noticeable to you. Almost nobody but you will notice that your hair is thinning, but when your brush collects handfuls of hair and the shower drain is full of hair, it can seem like a LOT!

Be patient. In almost all patients, this process stops by nine to 12 months and usually reverses completely after that.

This may be a good time to get some reassurance from your experienced weight loss surgery friends who are not bald, but who are rather very healthy one or more years out from surgery.

There are some things you can do to keep hair loss from being aggravated:

- Be sure you're getting at least 60 to 80 grams of protein per day in your food.
- Take your multivitamin twice daily.
- Some patients are very convinced that biotin, selenium and/or zinc supplements help minimize hair loss. Others have found a "hair, skin, and nails" vitamin that they feel helps. There is not much scientific data on whether they help much, but if you use these over-the-counter supplements as directed on the bottle, the risk of adverse effects is very low.

After Surgery: Six To 12 Months

Relationships and stress

Minimizing stress is important in keeping your weight under control. Often, by this time in your weight loss journey, you've lost a significant amount of weight and it has changed the way you relate to people at work and at home. You may have more confidence in your relationships. Others may be treating you differently. Sometimes you're getting along better, but sometimes a relationship may be worse because of the way the other person is acting or the way you're treating them. We understand, and our mental health team is here to help you anytime along your weight loss journey. Contact the clinic, and we can get you scheduled anytime to talk over the things that may be stressing you.

Extra skin and infections

Some patients, after losing a lot of weight, find that they have extra skin that tends to get yeast infections underneath or just stays moist and irritated. The most common areas for this are the lower abdomen and bellybutton, and under the breasts. The key to managing this is keeping the area clean and dry. Cornstarch, talcum powder and anti-fungal powders can help with drying the area out. Also, spandex "shapewear" can sometimes help flatten the skin fold so it does not hang over on itself.

Weight plateaus

The most rapid period of weight loss is during the first six months after surgery.

- Some patients get discouraged after six, nine or 12 months now that weight loss doesn't come as easy as it did before. Not to worry – as long as you're still eating healthy and sticking with a fitness program, there is more weight loss to come. It is just a little slower now.
- Occasionally, some people will worry when the scales show no change over a few days, or when their weight goes up and down by a few pounds but doesn't seem to move downward in a definite way. One rule of thumb is this: we're looking for a trend, not worrying about the day-to-day (or hour-to-hour) changes.
- Daily changes in weight are normal (up to 3 to 5 pounds up or down in one day). Daily weight can vary depending on hydration, bowel habits, menstrual cycles and salt intake.

When you see a trend of no change for two or more weeks, it may be wise to examine your lifestyle for clues about why you're at a plateau.

Have you been eating properly?

Your eating habits are the biggest influence on your weight. You've been working hard for many months on this weight loss plan. Some patients "slip" and go back to comforting snack foods or sweets. Sometimes we just forget how intense we have to be about eating well to keep our weight under control.

- Look back at one of your journals to see how you were eating before and after surgery – you may find that you've strayed pretty far from those healthy habits.
- Maybe a visit to the dietitian can help identify some eating habits that are causing poor weight loss.

Other people may have expanded their body's capacity for food by consistently "stuffing" themselves at mealtimes, resulting in a pouch or sleeve that is stretched out to hold more food at each meal.

- In this case, it is advisable to work with the dietitian, surgeon and/or psychologist to identify reasons for overeating and to plan tips for avoiding this.

Whatever the cause, you must be honest with yourself, your medical providers, and if you have one, your accountability partner.

Are you at an exercise plateau?

- The body gets more efficient at an exercise when you have done it regularly. We call this "conditioning," and it's the reason why training for a race or event works: the body gets more efficient at doing the same thing.
- Conditioning has great benefits for cardiovascular (heart) health, but it also has a downside for you: the same exercise routine burns fewer calories the more times you do it.
- Because of this, it becomes necessary for you to either:
  - Change your routine to include different workouts
  - Do the same activity harder, faster or longer
- Some patients find that registering for a community fitness event like a 5-K (5 kilometer, or 3.1 mile) or 10-K run/walk can keep them motivated to train hard.

After Surgery: One To Two Years

Weight loss support groups

Even though your clinic visits are now only once a year, make a point to try to attend weight loss surgery support groups on a regular basis. Although you may not be "in need" of the pointers and encouragement you hear, someone else needs your story to motivate and guide them! Many new patients, both pre-and post-surgery, are looking to you for your experience and mentorship in their journey toward a new, healthy weight. So come on out and share – YOU are the experienced veteran now! You may not feel like a role model because you're not perfect; that's OK – nobody is. Being around a group of people who are all striving to do their best can be very encouraging.

Staying fit

Remember, while the surgery might "hit the reset button" on your weight for a year or so, it's the habits of healthy eating and exercise that you build that will last you for the rest of your life. Don't let up now!

Don't think of your exercise program as "something to do until I get thinner." Everybody has to exercise to stay fit and healthy. No exceptions. Remember back before you lost weight, how you would have loved to be able to exercise like other people? Well, don't let this golden opportunity slip away. Your joints may hurt, but not as bad as before surgery. You may be out of breath, but not as bad as before the surgery. So go do it!

Vitamins

Remember, the twice daily multivitamin and two to three times a day calcium citrate with Vitamin D are not just for the first year – they are for life! Weight loss surgery patients, especially women, can be susceptible to osteoporosis (thinning of the bones). This can lead to hip and back fractures, which can land a person in a nursing home or rehab facility. This is not the active life you may have imagined for yourself, so let's prevent the osteoporosis by taking your calcium citrate.

Plastic surgery

After reaching a stable weight, some patients may find that they have "extra skin" particularly in the abdomen, breasts, arms and legs. This extra skin may be insignificant for some people, not affecting daily activity or self-esteem. But for others, extra skin can make exercise difficult, can be unsightly and affect body image, or can make personal hygiene difficult in hard-to-reach places. Our team of highly trained plastic surgeons are available and ready to help if excess skin is causing problems. Although such surgery is only occasionally covered by insurance, you may wish to at least have a consultation, and financing options may be available to you. Speak with your surgeon or another provider if you desire a referral.

After Surgery: Year Two And Beyond

Community change

Be an advocate for healthy living in your community. You've seen firsthand how devastating obesity can be in your life. Don't let the next generation fall victim to this.

Challenge your local schools to serve healthier, fresh, local produce instead of canned or high-calorie foods. Be a supporter of community health and fitness efforts and lead the way to a healthy, fit lifestyle!

Consider joining the Obesity Action Coalition, a non-profit group that advocates for patients with obesity and their access to medical care. Find out more at www.obesityaction.org.

Support groups

Stay involved in your weight loss surgery support groups, even if you move out of the area. Check with local hospitals and health systems to see if there are any near you. These are usually not restricted to patients from that program, but are open to anyone. Not only do the new patients or fresh post-surgery patients need to hear your perspective on lifelong healthy living, but you also will benefit from the long-term accountability that a strong support group provides.

Staying well

For some patients, after a year or two, it may be tempting to think,
"I'm normal, just like everyone else."
"I can do what all my friends do, eat like my friends, because I'm cured of obesity!"
"I don't need those vitamins... besides, I can never remember them anyway and I still feel OK."
"I don't need to exercise any more – I'm at my goal weight."

It is important to realize that weight is a lifelong struggle and while the surgery may help for a while, temptation will come. Hunger may creep back. Dropping your exercise habit means the pounds can creep back slowly. Vitamin deficiencies can appear gradually. Ignoring it won't make it better. You need to make your follow-up visit with the bariatric surgery program a priority. Mark it on your calendar. You're going to have to work hard, life-long, to maintain what you've earned. Don't let yourself slack off.

Pregnancy After Bariatric Surgery

For women of childbearing age, a question of particular interest is “Can I get pregnant after bariatric surgery? Is it safe?”

First, it is recommended that you avoid getting pregnant for at least 18 months after surgery. This gives your body time to reach your new lower weight, and time for your nutrition to be very stable. You wouldn’t want to put your baby at risk for poor nutrition while in the womb. Also, women who get pregnant soon after bariatric surgery often find that their weight loss is not as successful.

Many patients find that their fertility increases after surgery, and so we recommend at least one very effective method of birth control (barriers such as condoms and spermicide, or IUD) or even two methods (like birth control pills plus condoms). Don’t rely on the fact that “I’ve never been able to get pregnant, so it won’t happen now, either”, because infertility related to extra weight may reverse quickly after surgery.

If you and your spouse decide that pregnancy is right for you, discuss with your bariatric surgeon and your women’s health provider first, to be sure both of them agree that your nutrition and health is appropriate for pregnancy. Overall, pregnancy after weight loss surgery can be done safely, by taking steps to minimize risks to your body and

to the developing fetus. Studies demonstrate a decreased risk of pregnancy-induced hypertension (high blood pressure) and a decreased risk for gestational diabetes. For best outcomes, discuss your options with your surgeon and obstetrician.

SECTION 6

Nutrition Guide

Nutrition Guide

Close adherence to the recommendations in this Weight Loss Surgery Guide is essential for long-term health and success. It is essential that you take a multivitamin supplement (women should take one with iron) twice a day and calcium citrate with Vitamin D three times a day for the rest of your life in order to achieve optimal post-operative nutrition.

In the period right before and after surgery, you will need to make sure you are getting enough protein to ensure proper nutrition and healing. This can be achieved using protein shakes, and/or adding protein powder to other liquids.

Pre-surgery Preparation: Two-Week Liquid Diet

For the two weeks before surgery, your surgeon will recommend some form of a high-protein, low-calorie liquid diet. There may be some special situations in which the surgeon recommends a longer or shorter period, or some special changes to this plan, but most patients will do exactly this.

The purpose of the pre-surgery liquid diet is to shrink the liver down to make surgery safer. Patients with severe obesity can have a much enlarged liver because of fat that is stored in the liver. This makes the liver very fragile and prone to bleeding during surgery, and it also in some cases can make the surgery impossible to perform because the liver is so large that we cannot reach the stomach with our instruments.

Remember, each patient will be weighed on the day of surgery to be sure they have lost some weight on the liquid diet. If the weight is the same or higher than at the preoperative visit, the surgery will be canceled. If you lose less than 10 pounds, we will see how large the liver is during the surgery and we may have to stop the surgery if it is too large and not safe to proceed.

Two-week liquid diet recommendations

- Protein drinks (Premier Protein, Core Power Light, Isopure, EAS Light, etc.)
- No Sugar Added Carnation Instant Breakfast
- Unflavored protein powder (to mix with other liquids) (Unjury and Genepro are two good choices)
- Skim or lowfat milk (or lactose-free milk if lactose intolerant) (Fairlife or Carbmaster)
- Low fat/no sugar added yogurt (NO chunks)
- Crystal Lite or sugar-free drink mix
- Sugar-free popsicles
- Low fat/sugar-free pudding or Jell-O
- Low fat cream soups (NO chunks)

Vitamin requirements

Start using these now:

- Chewable multivitamin
- Chewable calcium citrate with Vitamin D

You may feel like “I’m constantly drinking fluids! There is no way I could get dehydrated.” Actually, because your weight is coming down fairly rapidly, your body is in a state called “ketosis,” and your fluid needs actually increase, so be sure you stay hydrated by drinking plenty of water along with the other liquids you’re drinking. If you’re hungry, it may be because you are not getting enough protein, or it may be more of an emotional “hunger” for solid foods that you miss.

For patients with diabetes, kidney disease, and lactose intolerance, refer back to the “Two Weeks Before Surgery” section for special instructions on these conditions.

During this time, use a blender and strainer and you will already be familiar with how you will have to eat during the two weeks after surgery when you leave the hospital.

After surgery, the post-operative diets are separated into Stages 1, 2, 3 and 4. Most patients go directly to Stage 2 after surgery.

Stage 1 Diet: Sugar-Free Clear Liquids

This stage is generally only used in the hospital for some special situations, such as after revisional surgery or reoperation, for a brief time.

Stage 2 Diet: High Protein, Low Calorie Full Liquids

You will begin this diet two weeks before your scheduled date of surgery and you will continue this diet for the first two weeks after surgery. Variety is important. Avoid buying a lot of one thing because your tastes may change with surgery. Use the suggested websites for recipe ideas and journal the recipes you like and personally create. A suggested shopping list is below.

- Blender and strainer
- Protein drinks (Premier Protein®, Core Power Light®, EAS AdvantEdge® or EAS Light®, Isopure Zero Carb®, Unjury®)
- Unflavored protein powder such as Unjury® to mix with other liquids
- Lowfat broth (chicken or beef)
- Low-fat or skim milk (or lactose-free milk if lactose intolerant)
- A variety of yogurt. Look for fewer ingredients and less sugar. Examples: Chobani® or other brands of Greek yogurts without chunks (honey, vanilla, lemon zest, plain, blood orange or key lime), Dannon Light and Fit® carb & sugar control
- Variety of Crystal Lite® or sugar-free drink mixes
- Sugar-free popsicles
- Sugar-free pudding or Jell-O® (98% fat free)
- Low-fat strained cream soups (No chunks)
- Zero-calorie sweeteners – use as little as possible: Aspartame (Nutra-Sweet® or Equal®), Sucralose (Splenda®), Stevia extract (Truvia®) or monkfruit

The more variety you include in this time period, the better. Each of the items above have some benefit. The yogurts give you both protein and good bacteria to replenish the bacteria in your gut that probably got killed when you received antibiotics for surgery. The broths and soups (especially homemade) give you necessary salts like potassium, sodium, calcium and magnesium. The protein shakes give you protein, something very few of the other liquids contain. Water, of course, hydrates you so that your body is functioning at its best.

Some patients really find that they like a particular protein shake during this time, and they focus on only drinking that shake and maybe a few other things. This may work OK, but it may not. You may be missing out on other important nutrients as described above.

You have several goals as you begin this diet. Think PROTEIN, FLUIDS, CALORIES and JOURNAL IT!

Protein

- Females: 60 to 70 grams per day, minimum
- Males: 70 to 80 grams per day, minimum

Protein is important because it helps build lean body mass and promotes healing after surgery. This is a minimum goal. If you do not have kidney disease, you may have up to 50 percent more protein than this.
Patients who do not get enough protein nutrition after surgery may suffer from fatigue, low energy, wound healing problems and may see excessive hair loss and dry, flaky skin and nail changes three to six months later.

Fluids

- All liquids count toward your fluid goal, including protein shakes.
- 48 to 64 ounces per day initially after surgery
- Increase to 64 to 96 ounces daily of low sugar, caffeine free fluid per day.
- Adequate fluid is required to prevent dehydration; after surgery you will sip - not gulp - liquids.
- All fluids in the first month should be caffeine free or else you risk becoming dehydrated.
- Carry a bottle of fluids with you everywhere after surgery. Fluids should be your constant companion.

Calories

- You'll be around 600-1000 kcal per day, but don't get too worried about this number.
- Focus more on eating healthy things and getting plenty of proteins and healthy fats, while avoiding sugars.
- The dietitian may give you more specific instructions about calories.

Journal it!

- Write down everything you eat and drink during the day; this will help you form good habits and stay on track. It will also help you determine if you are getting enough protein and fluid.
- There are various websites and apps that can help you track your calorie intake:
  - www.LoseIt.com
  - www.SparkPeople.com
  - www.MyFitnessPal.com
  - www.Baritastic.com

Stage 2 Liquid Recipes

Orange Creamsicle

2 scoops vanilla flavored protein powder
1 cup ice
4 ounces cold water
¼ tsp sugar-free orange gelatin powder
¼ tsp vanilla extract

- Place cold water into blender first.
- Add 2 scoops protein powder, sugar-free orange gelatin powder and vanilla extract.
- Place lid onto top of blender and blend for 15-20 seconds.
- Add ice and blend for an additional 30-45 seconds.
- Serve chilled.

Peppermint Patty

2 scoops chocolate flavored protein powder
1 cup ice
4 ounces cold water
¼ tsp peppermint extract

- Place cold water into blender first.
- Add 2 scoops protein powder and peppermint extract.
- Place lid onto top of blender and blend for 15-20 seconds.
- Add ice and blend for an additional 30-45 seconds.
- Serve chilled.

Overview Of Dietary Stages

Stage 1 – A clear liquid, sugar-free diet

- This essentially just provides hydration during the initial post-operative period.
- Usually only for special situations.

Stage 2 – A full liquid, low sugar, high protein diet

- High in protein, low in calories. NO chunks.
- Provides all the essential requirements for the first two postoperative weeks.
- Patients go home from the hospital on the Stage 2 diet.

Stage 3 – A low sugar, high protein pureed diet

- The surgeon will instruct the patient when to start this stage.
- Usually started at the two-week post-surgery visit.
- Food may be pureed in a blender or food processor.
- Starting solid food too early after surgery may lead to obstruction, vomiting or even a leak from the suture line!

Stage 4 – A healthy regular diet

- Three small meals and two to three small snacks per day, ensuring 60-80 grams of protein per day.
- Meats are an excellent protein source, and should be baked, grilled or sautéed, not fried.
- Freshest possible fruits and vegetables (fresh is better than frozen, which is better than canned).
- Whole grains and fiber.
- No fast food! Avoid processed or prepackaged foods.
- This is your long-term, healthy dietary plan.

Stage 2 Liquid Recipes

Vanilla Cherry Smoothie

2 scoops vanilla flavored protein powder
1 cup ice
4 ounces cold water
¼ tsp sugar-free cherry gelatin powder
¼ tsp vanilla extract

- Place cold water into blender first.
- Add 2 scoops protein powder, sugar-free cherry gelatin powder, and vanilla extract.
- Place lid onto top of blender and blend for 15-20 seconds.
- Add ice and blend for an additional 30-45 seconds.
- Serve chilled.

High Protein Cream Soup

1 can (10 ¾ oz) 98% fat free condensed cream soup
8 ounces skim milk
2 scoops unflavored protein powder

- Combine one can 98% fat free condensed cream soup and 8 ounces skim milk in a medium saucepan, stir and bring to a boil.
- Take off heat and strain out any chunks of food.
- Allow to cool to 130 degrees or less and add two scoops unflavored protein powder.
- Mix well.
- Makes 2 servings.

Yogurt Shake

4 ounces fat free or lowfat yogurt
4 ounces fat free or lowfat milk
1 scoop unflavored protein powder
1 Tbsp any flavor sugar free syrup, sugar free flavoring packets, or sugar-free gelatin.

- Place wet ingredients into blender first followed by protein powder & flavoring.
- Place lid onto top of blender and blend for 15-20 seconds.

When choosing protein shake supplements at the store

1. Read labels. Look for supplements with:
   - At least 15 grams of protein per 8 ounce (1 cup) serving
   - Less than 20 grams total carbohydrate per 8 ounce serving
   - Less than 5 grams fat per 8 ounce serving
2. Do not choose any of the following supplements. They are too high in sugars and carbohydrates:
   - Regular Carnation Instant Breakfast®
   - Ensure® or Boost®

Tips for Stage 2 liquids

- The Stage 2 liquid plan doesn't have "meal times." Instead, you should look at it as **"one long liquid meal, all day long." All the liquids** you consume count toward your fluid goal. All the protein you consume counts toward your protein goals. For example, if in a 24-hour period, you had:
  - 2 protein shakes, 16 oz each, 24 g protein each
  - 1 greek yogurt, 8 oz, 10 g protein
  - 1 water bottle flavored with Crystal Lite, 18 oz, 0 g protein
  - 1 sugar-free popsicle, 4 oz, 0 g protein, and
  - 1 cup tomato soup with unflavored protein powder, 8 oz, 10 g protein

Your **FLUID TOTAL** is: 16 + 16 + 8 + 18 + 4 + 8 oz = 70 oz fluid – **GOOD!**

Your PROTEIN TOTAL is: 24 + 24 + 10 + 0 + 0 + 10 g = 68 grams protein – **GOOD!**

...but it's a good thing you added protein powder to your soup, or you would have fallen short!

- Get creative with your protein drinks! You won't drink it if you don't like it.
  - Try www.bariatriceating.com or www.unjury.com for protein drink recipes and ideas.
  - Use unflavored protein powder. This can be added to most foods including soups, yogurts and beverages.
  - If you mix the protein powder by the directions and it is still too thick, keep adding skim milk or water to dilute more. Do not just give it up and throw away. Next time you use it, just use less powder. Some protein is better than none.
  - Plain yogurt (lowfat or nonfat) can be added to shakes to increase protein and creaminess.

- Freeze skim milk in ice cube trays. Blend these “milk cubes” with your shake to make it cold and slushy. This also adds protein without making your shake too watery.
- Turn an ordinary protein shake into a vanilla or mocha latte by adding 1 teaspoon of decaffeinated instant coffee to a vanilla or chocolate shake.
- If you find that you do not tolerate milk, you can use fat free Lactaid® milk or soy milk to add protein to your shake.

- Avoid flavored soy or almond milk (i.e vanilla, chocolate, etc.) because they contain large amounts of added sugar.
- After surgery, if you find that you have become lactose intolerant (meaning that when you drink milk you get crampy, gassy, or diarrhea), try a lactose free milk or a lactase supplement before eliminating dairy from your diet. Dairy is a great source of protein, calcium and vitamin D.
- Avoid sugar alcohols (like sorbitol, in most “diet” ice creams). Half of the calories from sugar alcohols are absorbed and too much can cause diarrhea.
- Avoid foods that are high in sugars and added fats.These will cause Dumping Syndrome in some patients, and weight gain in most.
- Take your chewable multivitamin (women should take one with iron) one or two times daily and **chewable calcium citrate with vitamin D** two or three times daily.
  - You should be taking a total of 1200 1500 mg of calcium citrate daily, along with the vitamin D that comes in it.
  - Divide this total amount into two or three doses per day; your body cannot absorb all 1500 mg at once!
  - **ALWAYS** take a close look at the bottle to be sure you’ve gotten calcium citrate, (not calcium carbonate), and to be sure what the dose is (some are 250 mg each, some are 500 mg each).
- If you have questions about what you should be drinking for nutrition, or what vitamins you should be taking, contact the Weight Loss clinic or the registered dietitian.

Stage 3 Diet: High Protein, Low Carb Pureed Foods

After your first follow-up appointment, your physician may advance you to Stage 3. During Stage 3, everything is blended to an applesauce or “paste” consistency (like guacamole without chunks). You should still drink plenty of liquids. Your medications are still to be crushed or split into small pieces. You will continue this stage until your surgeon or dietician gives you new instructions. You are in the process of moving from Stage 2 (liquid and protein “meal” lasts all day) to Stage 4 (after your next visit, you’ll be eating solid food meals with healthy snacks in-between). This is the in-between time. You may be doing mostly liquids all day with five to eight pureed “meals” throughout.

Goals

- To help you continue to get good nutrition for weight control and healing
- To decrease the chance of complications or side effects of surgery

Beverage guidelines

- Drink 64 ounces or more of liquids per day, of low-sugar, low-fats liquids
- Keep a bottle of fluids with you **everywhere, all day.**
- About half of what you drink should be high-protein drinks and/or strained cream soups with extra protein powder added.
- About half of what you drink should be sugar-free liquids, such as:
  - Water
  - Decaf coffee or tea without sugar
  - Sugar-free, noncarbonated drinks
  - Crystal Lite® or sugar free Kool-Aid®
  - Diet V-8 Splash®
  - V-8 vegetable juice with added protein
  - Sugar-free popsicles
  - Broths
- DO NOT drink liquids with a meal or for an hour after a meal. This may cause dumping syndrome in some cases by pushing foods through too fast, or it may cause you not to

get adequate nutrition with meals by filling up on liquids.

- DO NOT drink alcohol. It has no nutrients, is high in calories, and it is dehydrating.
- DO NOT drink carbonated (fizzy) drinks. The bubbles may give you gas or cause bloating and pain. Maybe in a few months you can try sparkling water. Avoid soda, even diet soda, if you want to keep your weight off.
- Remember, all fluids in the first month should be caffeine-free to avoid dehydration.

Meal guidelines

- Stop eating at the first feeling of fullness
- All foods must be blended, pureed, or already the consistency of oatmeal or applesauce.
- Take **30 minutes or more** to eat each "meal"
- At this stage, you may be eating six to eight small "meals" per day, with fluids in between
- Eat foods in this order:
  1. Have protein foods such as pureed meat, fish, poultry, dairy and eggs
  2. Eat vegetables and fruit (pureed or whipped)
  3. Have pureed wholegrain cold cereal or oatmeal if not satisfied with protein, vegetables or fruit.

Vitamins and mineral supplements

- Take one chewable multivitamin once or twice daily (women should take one with iron).
- Take 1,200 to 1,500 milligrams (mg) of calcium citrate with vitamin D each day. Split it into two or three doses of 500-600 mg each, because your body can't absorb it all at once.
- Don't quit taking your vitamins and minerals, no matter how good you feel. This is for life.
- Your doctor or dietitian will reinforce these habits with you at your visits.
- Vitamins for the SADI-S procedure are: "Bariatric fusion ADEK" multivitamins (two chewables twice a day) AND Bariatric fusion Calcium Citrate Chews (one chew twice a day).

Dumping syndrome

Dumping syndrome is a condition where food that is high in calories (sweets or very fatty foods) does not stay in the stomach for very long. Instead, it is "dumped" into the small intestine. This can make you feel weak, dizzy, flushed or sweaty, feel like your heart is pounding, and later may cause diarrhea or cramping. This is unpleasant, and is a reminder that the food that you ate is not a healthy one for you.

To avoid dumping:

- Do not eat or drink foods or drinks made with sugar
- Avoid high-fat or greasy foods
- Do not drink liquids with a meal or for one hour afterward
- Know the ingredients that are in the foods you eat!

Sample One-Day Stage 3 Menu

8 am	4 to 6 tablespoons cooked cream of wheat, with 2 tablespoons skim milk to thin it; one chewable multivitamin tablet.
9 am	1 cup skim milk - Sip slowly; have 2 ounces every 15 minutes. One chewable calcium with Vitamin D tablet.
10 am	Sip continuously from your 16 ounce bottle of water or zero-calorie fluids.
11 am	3 tablespoons cottage cheese and 1 tablespoon pureed peaches.
Noon	1 cup sugar-free lemonade. Sip slowly; have 2 ounces every 15 minutes.
1 pm	2 to 3 tablespoons pureed chicken with broccoli, 2 tablespoons pureed green beans, 2 tablespoons no-sugar-added applesauce.
2 pm	Sip continuously from your 16 ounce bottle of water or zero-calorie fluids. One chewable calcium tablet.
3 pm	1 cup liquid protein drink. Sip slowly; have 2 ounces every 15 minutes.
5 pm	6 tablespoons sugar-free instant pudding made with one scoop of protein powder.
6 pm	2 to 3 tablespoons pureed turkey with spinach, 2 tablespoons pureed carrots, 2 tablespoons mashed sweet potato and one chewable multivitamin tablet.
7 pm	1 cup skim milk—Sip slowly; have 2 ounces every 15 minutes.
8 pm	3 tablespoons low fat, small curd cottage cheese and 3 tablespoons applesauce with sprinkle of cinnamon; one chewable calcium tablet (if prescribed).
9 pm	1 cup high-protein cream of chicken soup.
10 pm	Sip continuously from your 16 ounce bottle of water or zero-calorie fluids.

Remember

- Take 30 or more minutes to eat each “meal.”
- At mealtimes, always eat protein (meat, eggs, dish, poultry, or yogurt) first.
- Do not drink liquids with meals.
- Wait at least one hour after a meal to start drinking liquids. Aim for 64 ounces
- (6-8 cups) daily.
- Stop eating or drinking when you are full.
- Do not drink alcohol.
- Sip, don’t gulp.

Stage 3: Pureed Food Recipes

Chicken Tacos

1 tsp canola oil or coconut oil
½ lb boneless, skinless, chicken breast, cut into small cubes
½ tsp taco seasoning
2 Tbsp shredded reduced fat sharp cheddar cheese
1 tsp light sour cream
2 tsp mild taco sauce

- In a medium sauté pan, heat oil over medium high heat.
- Add chicken and taco seasoning; mix.
- Cook for 5 to 7 minutes or until chicken reaches 165 degrees.
- Place chicken and cheese into mini food chopper or food processor and puree for 20 seconds. Using a rubber spatula, scrape down the sides of the bowl and puree for 20 seconds or until smooth.
- Garnish with sour cream and taco sauce.

Nutrition Facts: Serves 4, Serving Size: ¼ cup
Calories 110; Protein 19 g; Fat 3.5 g;
Carbohydrates 1 g

Cheesy Refried Beans

¼ cup canned vegetarian refried beans
2 Tbsp shredded reduced fat sharp cheddar cheese
1 Tbsp mild taco sauce

- Put the refried beans in a small microwaveable bowl.
- Sprinkle the cheese on top of the refried beans; sprinkle taco sauce over top of cheese.
- Microwave uncovered for 45 seconds or until hot.

Nutrition Facts: Serves 1, Serving Size: ¼ cup
Calories 70 ; Protein 7 g; Fat 1 g;
Carbohydrates 10 g

No-Noodle Cheese Lasagna

¾ cup fat free or 2% cottage cheese
¼ cup marinara or spaghetti sauce
¼ tsp oregano
¼ tsp basil
2 egg whites

- Mix together well and bake at 350 degrees for 30 minutes.

Nutrition Facts: Serves 2, Serving Size: ½ cup
Nutrition Facts will vary based on ingredients used.

Stage 4 Diet: Regular Healthy Foods

At your four-week follow-up visit, your surgeon may advance you to a Stage 4 diet.

Goals

- Long-term maintenance of healthy weight
- Adequate long-term nutrition
- A wide variety of healthy foods
- Avoiding restaurant food, pre-made processed foods, and junk foods

Meal guidelines

- Chew, chew, and chew! You cannot over-chew your food.
- Drink, drink, drink! Sip, don't gulp. Do not drink while eating or for one hour after. But the rest of the day, sipping fluids is your constant need.
- Do not drink alcohol.
- Stop eating when you feel satisfied. Don't wait until your get "full" or "stuffed". If you keep eating, you may vomit. You may also stretch your stomach, which can keep you from losing weight. To listen to your body and understand the "satisfied" signal, you will need to learn to eat slowly.
- Get enough **protein.** At meals, always eat protein first. Liquid protein supplements are now only "as needed." You may choose to replace one meal or snack with a protein drink or bar.
- Plan and eat three meals per day, with a healthy, protein-rich snack inbetween each meal, so you are basically eating about five to six times per day.

- If you try to only eat the standard "breakfast, lunch, dinner" you will become **too hungry,** and your nutrition may not be ideal.
- Take your chewable multivitamin one or two times per day and your chewable calcium citrate with vitamin D two or three times per day **every day.**

Recommended foods

High-protein foods

- Tuna (packed in water, not vegetable oil)
- Fish, shrimp, crab, and scallops (avoid fried versions)
- Chicken or turkey (go for dark meat, which is more tender and moist), cooked to be tender and cut into small pieces
- Pork or beef, cooked to be tender and cut into small pieces
- Deli meats
- Yogurt – lowfat, low in sugar (especially Greek yogurt, which has more protein)
- Lowfat cottage cheese
- Lowfat cheese
- Eggs
- Beans and lentils

Other healthy choices

- Cooked vegetables without tough peels
- Fruits (avoid fruit juice, which is just a processed sugar drink)
- Oatmeal (NOT instant) or Cream of Wheat, with added protein from milk or protein powder

Foods not recommended until three to six months after surgery

Tough or "sticky" foods

- White meat chicken, lean pork, and steak (these tend to get "stuck" and may cause nausea or vomiting.
- Sticky rice
- Spaghetti or other pasta (**always** choose whole-wheat pasta, or even better, use shredded zucchini or spaghetti squash)
- Dried fruits such as raisins, prunes or dried apples

Crunchy foods

- Granola or Kashi cereals (careful – some of these are very high in sugars and calories)
- Raw or tough vegetables (some patients have trouble early on with salad, but some do not)
- Nuts and popcorn
- Chips (made from flax, corn, quinoa or millet) in very small amounts. Crackers and potato chips are never recommended.

Some of these foods may always cause you problems – only time will tell if you can eat them without difficulty.

Foods OK in VERY SMALL AMOUNTS

- Bacon and sausage
- Butter
- Cheese
- Oil
- Whole milk for coffee or tea

Foods NOT recommended – these are powerful "weight gain" foods

High-calorie foods

- Packaged, ready-to-eat meals or snacks (even if they say "Healthy" or "100-Calorie pack")
- Juice, soda or alcohol
- Fast food

Foods high in simple carbohydrates

- Crackers, cookies and breakfast cereal
- Instant oatmeal
- Breads (except high-protein flatbreads) including sandwich bread, french bread, fluffy pizza dough, etc.
- Sweets (ice cream, cakes, pies and other regular desserts)
- Coffee "creamers" – use milk and a little Splenda instead

Foods high in fats or unhealthy kinds of fats

- Margarine, Crisco or "butter substitutes"
- Regular mayonnaise, sour cream, cream cheese (choose the lowfat or nonfat versions)
- Gravy

Healthy Eating Tip Summary

1. Do not drink liquids with meals. You may drink liquids right before the meal. Then wait one hour after meals before resuming fluids to prevent pouch stretching and vomiting.

2. Eat five or six small, protein rich meals per day at regular times, sitting down. Eat slowly, savoring the taste, rather than the amount of food. Do not eat when feeling rushed or stressed because this may cause stomach upset.

3. Avoid eating alone. Mealtime should be a shared experience, a time to talk with family or friends. Talk between each bite; this makes it easier to eat more slowly.

4. Stop eating when feeling full or if feeling any discomfort. Listen to your body!

5. Always cut food into small pieces and chew food (especially meats) very well to prevent blockage. If food should become stuck, try a teaspoon of Adolf's Meat Tenderizer® in a small glass of warm water and sip slowly.

6. Concentrate on eating protein-rich foods such as fish and seafood, lowfat dairy, eggs and poultry. At mealtime, eat protein foods first before any other food.

7. One or two healthy snacks per day is appropriate; "grazing" throughout the day on junk is not.

8. Suggestions for healthy snacks: unsalted nuts, fruit, low fat or non-fat unsweetened yogurt, low fat or fat free cottage cheese, protein bars or shakes.

9. Avoid sweets, candy, chocolates, fried foods, fatty or greasy foods and high-sugar beverages to prevent the unpleasant effects of dumping syndrome. For dessert, have a small square of dark chocolate with some cheese or fruit.

10. Sip liquids slowly, all day long, except at mealtime, to total six to 10 8-ounce cups per day to avoid dehydration.

11. Say goodbye to alcohol intake. It is high in calories, may lead to poor judgment, and the effects may be felt much more quickly after bariatric surgery.

12. Take a chewable multivitamin supplement one or two times daily (women should take one with iron), and chewable calcium citrate with Vitamin D two or three times a day, every day.

13. Some patients may find that drinking through a straw causes them to swallow more air, causing bloating or abdominal pain. Avoid straws if you find this to be true.

14. Use a small "salad plate" for meals, so you don't over fill your plate.

15. Ask for a "To Go" box at the beginning of a restaurant meal and put most of it away for later. Make restaurants a rare treat, not a regular event.

16. When at a restaurant, ask your waiter not to bring a bread basket to your table.

Nutritional Expectations

Eating habits after surgery

- Your eating habits will change – stay flexible!
- Early on, your focus is on meeting your fluid and protein requirements.
- Later, your focus is on your long-term nutrition and health.

Listening to your body

- Your ability to eat and drink will be limited, so be patient.
- The size of the stomach pouch is about 1-2 ounces (2-4 tablespoons) for the gastric bypass and about 3-4 ounces (6-8 tablespoons) for the sleeve gastrectomy and SADI-S.
- You may find that you are able to eat more of one type of food than another.
- Do not be surprised if your tastes change after surgery. Foods that you enjoyed before may not seem appetizing after surgery and vice versa.

One of the changes that patients often talk about is the concept of "wasting food." After surgery, your eyes and head still work the same as they did before surgery. However, your new stomach pouch is much smaller and you will be satisfied with much less. It is important that you listen to your body's signals of fullness, rather than letting your eyes guide you when you still see food left on your plate. You are going to have to be OK with leaving food on your plate. This is not wasting; you are looking out for your health!

Balanced, healthy meals

It is common to see some differences between bariatric surgery programs related to nutrition. There are many options and preferences for eating after surgery. However, most bariatric surgeons and dietitians agree that protein plays an important role in maintaining health and feeling satisfied.

- A diet (eating plan) of 600-1,000 calories per day, with a **minimum** of 60 to 80 grams of protein, is your goal in the first few weeks.
- Protein drinks or shakes can help you meet your daily protein needs, at least right after surgery. There are many to choose from.
- Look for protein drinks that are low calorie, low in sugar, and that taste good. Your physician or dietitian may adjust your calorie intake as you move through the dietary stages and increase your physical activity.

Protein keeps us feeling full for a longer period of time and it is the core component of our diet after weight loss surgery, but it is not our only source of nutrition. Our body requires us to make healthy food choices with the right amounts of fats, proteins and carbohydrates.

Take this time to **clear out all the junk food and processed high-calorie foods** from your home. You don't need this temptation hanging around after surgery. Your home has to be a **"safe zone."** If your family protests, stay strong. Remind everyone that those foods are a part of what got you into this situation, and your family needs to support you every step of the way in weight loss. They may even benefit from eating healthier along with you!

To maintain a healthy weight and to prevent weight gain, you must develop and keep healthy eating habits. This is why keeping a food and exercise journal is extremely important.

Be aware of how much food you can tolerate at one time and make healthy food choices to ensure that you get the best nutrition in the small amount of food that you can eat.

A remarkable effect of weight loss surgery is the change in attitudes toward eating. You can begin to "eat to live" – no longer "live to eat."

Vitamins

An internet search of “weight loss nutrition” will show all sorts of vitamin and nutritional supplements that people are trying to sell you. We will try to help make sense of some of this for you. Beyond what we’ve listed here, the rest is your choice. Be careful to choose vitamins and supplements only from trusted and respected retailers. Remember that we recommend **CHEWABLE** vitamins and calcium, so that your body has the best chance at absorbing the vitamins and minerals.

Required vitamins for all bariatric surgery patients

- Multivitamin (women should take one with iron) – one or two times daily
  - Be sure to take this separate from your calcium supplement
  - This has many essential minerals and vitamins such as folic acid, thiamine, copper, manganese and zinc.

- Calcium citrate with vitamin D – two or three times daily
  - 500-600 mg of calcium per tablet, for daily goal of 1,200-1,500 mg of calcium.
  - Prevents bone thinning (osteoporosis)
  - Be careful not to get calcium carbonate (not absorbed well by the body). Look at the label on the back to see what kind of calcium it is.
  - Look closely at the label on your calcium to see the dose needed to get 1,200 to 1,500 mg of calcium per day. Sometimes the serving size may be two tabs for 500, so you would need to take two tabs three times per day, or three tabs twice per day.
  - Your body cannot absorb 1,200-1,500 mg of calcium in one dose. This is why you need to divide your daily intake into two or three doses throughout the day.

There are a few ways to monitor whether your body is getting enough calcium. One of those ways is NOT the calcium level that comes with your lab work. Here’s why. The lab test for calcium measures the calcium in your blood. ONLY 1 percent of your body’s calcium is found in your blood. Ninety-nine percent of your body’s calcium is in the bones. The body will work very hard to keep the blood level of calcium in the normal range.Therefore, even if the body is severely deficient in calcium, the blood level of calcium won’t change.

Two of the ways we can check if the body’s calcium is adequate are:

1. Bone density testing (DEXA scan). This X-ray test is usually not done more frequently than every two years. It involves radiation exposure (like all X-rays) and is expensive.
2. Parathyroid hormone (PTH) testing. This is how we track bone health in our bariatric patients. We do this test along with your lab work. There are a few other conditions that can raise the PTH level, but generally, when we see a mild to moderately elevated PTH level, it tells us that your body is eating away at your bones to get enough calcium for daily needs.

Occasionally required vitamins

- **Iron**
  - Only take additional iron supplements if instructed by your doctor.
  - Available over the counter as ferrous fumarate, ferrous gluconate and ferrous sulfate.
  - May cause constipation – use a stool softener or fiber supplement!
  - If you are unsure of a medication, please ask your provider or pharmacist for assistance.
  - Cooking in a cast iron skillet can also help raise iron levels.

- **Vitamin B12**
  - For some gastric bypass, sleeve gastrectomy or SADI-S patients who become B12 deficient
  - Used in metabolism in every cell in the body
  - Easiest way for most bypass patients is the B12 sublingual (under the tongue) – a once-a-day, under-the-tongue pill that dissolves directly into the bloodstream. Available over the counter.
  - A vitamin B12 tablet or capsule that you swallow will not be absorbed by the body after gastric bypass.
  - If sublingual B12 is not effective, some patients will require once-a-month shoulder injection by a doctor.
  - Vitamin B12 deficiency can result in permanent, irreversible nerve damage, not just fatigue.
  - The only way you know if your body is deficient is if you come to your regular bariatric follow-up appointments and have your lab studies drawn.

- **Biotin (vitamin B7)**
  - Another over the counter vitamin supplement that some believe may help prevent or treat hair loss.

- **Vitamin D**
  - An extra D supplement may be recommended for some patients whose Vitamin D levels are too low even with the calcium citrate + Vitamin D.
  - Most of the time, a low vitamin D level tells us that you're not taking your calcium citrate with D. Oops! Better start!
  - Vitamin D help calcium be taken up in the intestine and in keeping bones strong.
  - Vitamin D3 (most commonly recommended) is available over the counter.
  - Fifteen minutes of sun exposure twice a week can also help boost Vitamin D levels.

- **Selenium**
  - An essential mineral
  - Believed by some to prevent or treat hair loss.

- **Zinc**
  - Also believed by some to prevent or treat hair loss.
  - ADEK vitamins are needed in different concentration for the SADI-S patient. We will recommend different vitamins for these patients.

Beyond these individual vitamins, there are **so many other** necessary vitamins, minerals, flavonoids and other microscopic nutrients in healthy food. There is no pill or supplement that can take the place of good, healthy, clean food.

Notes

SECTION 7

Fitness

Importance Of Exercise

Patients after weight loss surgery are only consuming 600-1000 calories a day at first, maybe increasing over time to 1200-1500 calories per day. This would result in outstanding weight loss, **except...**

The body has a remarkable ability to compensate.

Our bodies are very good at maintaining themselves. They will try to **prevent change.** The medical word for this is homeostasis. When the amount of calories we eat goes down, our body attempts to lower our metabolism to match the new amount of calories. This is why weight loss is **so difficult** – the body is working against all your efforts. After weight loss surgery, the body knows that there is a sudden loss of food calories, so it tries to reduce the amount of energy it burns in doing everyday activities. Our body thinks there is a famine, and it is trying to survive the food shortage! Because of this, weight loss goes slower than we might think, and you can feel fatigued and tire more easily. You might also feel cold – this is a sign of a metabolism that has slowed down.

And although it is the opposite of what you might think, the solution to feeling "tired" is....EXERCISE!

Exercise must become a part of your daily routine.

How to get started

Hopefully, even before surgery, you began an exercise program. Why? Because medical studies have shown that patients having heart or abdominal surgery are more likely to avoid complications and leave the hospital earlier, if they are doing an exercise program before surgery. After surgery, exercise is also important, to help you live a long, healthy life and keep your weight under control. Who wants to lose weight but still be unhealthy? Not us!

Use this first year after surgery to build healthy habits of exercise that will last you a lifetime! Right after surgery, the most common way to start exercising is by **walking.** For the first month, you will be limited to "cardio" exercise, which is basically non-weight exercise that raises your heart rate and gets you breathing hard. Cardio exercises include walking and/or jogging on a treadmill, elliptical

or stair-climbing. While you are in the hospital, challenge yourself to see how many times you can circle the post-surgical unit! Be sure to record the number of laps around the unit you do complete on your Walking and Fluids Chart displayed in your room. Your surgeon will refer to this while seeing you in the hospital.

After you go home, pledge to do a daily or twice daily walk. At first, it may only be down to the end of the driveway and back. With time, you will see your stamina and energy level increase, and you may be able to walk around the block. By two weeks after surgery, you should be walking at least a few blocks, and many patients are up to a mile or two! By one month, you may be in the half-mile to four-mile range.

Whatever level of fitness you're at, be sure you're always pushing yourself. These numbers are a rough guide, not a limit on your fitness activity. Your weight loss team will then work with you on an individual exercise program.

Many times we hear a patient say "I don't need an exercise program, because I walk a lot every day at work," or "I'm moving all day long!" While these are great parts of an active lifestyle, nothing replaces dedicated time spent for the sole purpose of staying healthy through exercise.

A minimum of 30 to 60 minutes of exercise, four to six times a week, should be your ultimate goal.

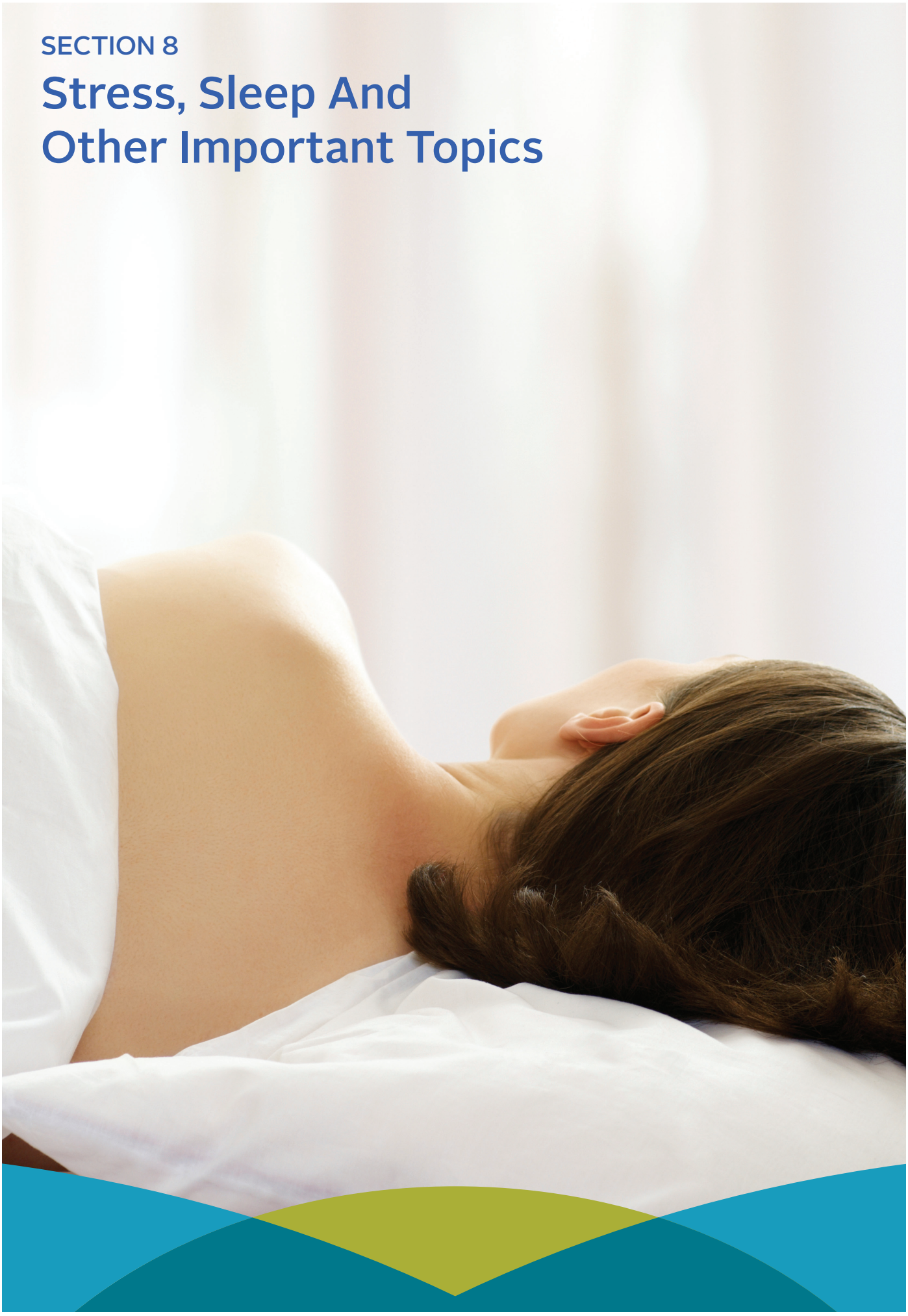
Olympic athletes don't stay in world-class shape just by "staying on their feet at work." Remember, while you may find a million reasons not to exercise, it comes down to you to take charge of your life and make it a PRIORITY!

Exercise tips

- Don't try to do too much, too soon. Start gradually!
- After the first month or two, don't settle for an easy routine. You always have to push yourself to do a little more, a little faster, or a little farther.
- Your exercise program should have both cardio and weights.
- Cardio exercise is aerobic exercise that makes you breathe hard and sweat, like walking, running, swimming, elliptical machine, etc.
- Weight training is just that: lifting heavy things to improve strength and build muscle.
- A good mix is two-thirds cardio, one-third strength training. Men tend to like strength training more, so they have to make an effort to do more cardio. Women tend to like cardio exercise, and so they have to make special effort to do some strengthening.
- The best exercise program is the one that you will do. Don't choose something that you hate, or one that is too hard right away. If you don't like it, you won't do it.
- For painful knees, low-impact cardio exercises include walking, elliptical machine, stationary bike or swimming laps.
- Involve your family or friends in exercise. Change the path your family's weight is on by teaching your children how to avoid obesity and its medical consequences!
- Some people find that a personal trainer can be a good motivator and worthwhile investment. Not everyone needs one though, so don't worry if this is an expense you can't afford. You may find it helpful to make two or three appointments with a trainer to show you how to use the equipment in the gym.
- Weight lifting (strength training) keeps you from losing muscle along with the fat. Muscle is like a fat-vacuuming machine in the body – muscle tissue loves to burn calories!
- Good strength training exercises include weight machines, free weights like dumbbells or kettle bells, Cross Fit, P90X and Pilates.

SECTION 8

Stress, Sleep And Other Important Topics



Stress

How do we keep the weight off that we have lost after surgery? How do we avoid regaining weight like the 30 percent of patients who do that? To learn that, it's important to understand **why** people re-gain weight after surgery.

The answer is**: life happens.**

The same stressful situations will continue to be there even after you've gone through surgery. If you had a rocky relationship with a spouse, child, parent, or in-law, it will still be rocky when you've lost weight. If your work is stressful before surgery, it will still be stressful afterward. Don't expect that surgery will fix it. Surgery and weight loss will make some things easier, but you're going to have to learn ways to deal with the rest in order to keep your weight under control. Because stress is a major factor in weight gain.

Our mental health provider is available if you need to talk. Your pastor or spiritual leader could be another resource. If you see a therapist or counselor, you should continue to see that person – they're important in helping you learn how to deal with tough situations. Sometimes after surgery the relationship issues or other stressful situations get worse, not better. Don't hesitate to contact these helpers to talk over what is going on.

Our bariatric surgery support group meetings are another place to find the support and encouragement of others who have gone through (or are still going through) the same kinds of situations that you are.

Dealing With Negativity

Telling family, friends, and co-workers about bariatric surgery can be a challenge. Although your loved ones' reactions to your decision are usually positive, at times, some people may react with concern, confusion or even downright negativity. This is not unusual, you should expect it.

Often, it helps for those people to learn more about what bariatric surgery is, why a patient is choosing bariatric surgery, for whom it is right and how bariatric surgery helps with long-term weight management. Sometimes your family, friends and co-workers may not even know how to ask honest questions about bariatric surgery. When they try, it can sometimes feel hurtful or intrusive.

How do I deal with this?

- First, decide: Who are the people that are important to you, who could be supportive if they understood the importance of the surgery?

For people who aren't really that important to you, it is fine to thank them for their input and move on.

For people who are important in your life, it may be useful to listen to their worries and concerns. You can express your appreciation for their concern and then decide the best way to help them understand you. A few options include:

1. Explain your reasons for considering surgery and how you have weighed the risks involved.
2. Invite these people to our support groups, seminars, or any of your appointments with our team.
3. Ask the person to go over some of your written materials, or to look at websites that helped you make your decision.
4. Let the person know how much their support means to you, even if they have concerns about your decision.

- Second, if your confidence is shaken, talk to our team about your concerns. We certainly want you to be clear in your own mind that you have made the best decision for you.

- Third, it is certainly within your rights, if you need, let the person know that you prefer not to talk about the subject of weight loss anymore.

- Finally, you always have the option, if it makes sense, to decrease contact for a while with people that consistently give you a hard time about your decision.

Practicing what to say

It is often helpful to practice how to handle difficult conversations. Below are some negative comments that our patients sometimes hear. You can use the space below each one to think of how you might handle that type of comment or question.

"I know so-and-so who had weight loss surgery, and gained all the weight back."

"Weight loss surgery is the easy way out. Why don't you just eat healthier and exercise...you know, the right way?"

"I know so-and-so who had weight loss surgery 10 years ago and passed away from the surgery."

"You aren't even that overweight. Do you really qualify for surgery?"

"You look fine the way you are. You don't need weight loss surgery."

"I knew someone who had the surgery, and they lost so much weight that they looked sick."

Sleep

Another big factor in weight gain, besides stress, is poor sleep or not enough sleep. Especially in children, not getting enough sleep can be a major factor in excess weight gain.

The weight loss clinic may have tested you for sleep apnea, one of the major causes of sleep interruption. But if you don't have sleep apnea, or if yours is under control, you may still need to work on improving your sleep. Here are a few examples of what it may take to improve your sleep quality and prevent this important contributor to weight gain:

1. **Set a bedtime, and stick to it**...seven days a week. Irregular bedtimes are harmful because they make it difficult for our bodies to know when to rest. This is particularly difficult for swing shift workers or night shift workers. Discuss these special situations with your physician.

2. **Make the last hour before bed a "screen-free" hour.** No TV, iPad, smartphone or computer use for an hour before bed. These devices have been shown to keep us up later, but the light from these screens also has been shown to prevent us from achieving the deep stage of restful sleep as quickly. You may not even recognize that this is happening.

3. **Keep the bedroom calm and quiet.** Clean it up! Make it a peaceful retreat. Throw the TV and electronics out, and only use them in other rooms. Use lamps instead of overhead lighting to keep the mood calm.

4. **Use your bed for only three things: sleep, sex, and a little reading** before bedtime if you like. Don't eat in bed. Don't work on your computer in bed. Don't watch TV in bed. We want to train our bodies that "bed = sleep."

5. **Exercise regularly, but not for one to two hours before bed.** Exercise is great! One of its many benefits is improved sleep quality. Just don't do it too close to bedtime or you may have trouble getting to sleep.

6. **Avoid caffeine in the late afternoon or evening.** There is nothing wrong with caffeine in particular (unless your physician has recommended against it for other reasons). It's just not good too close the bedtime. Even if you think you can drink caffeine at night and sleep fine, it may be preventing you from getting to the deep REM stage of sleep.

7. **Have an outlet for your anxieties.** You might talk over your worries with a friend, your spouse/significant other, a pastor or a counselor. Having someone with whom you can talk helps to ease the weight of worries and can help you sleep better.

Notes

SECTION 9

Frequently Asked Questions (FAQs)

Frequently Asked Questions

What is the best weight loss surgery?

If there were one surgery that was the best, with the most weight loss, lowest risk and least side effects, there would not be any others. The reality, though, is that each of the operations we currently do have their pros and cons. The more you can educate yourself on each surgery, and the more insight you have into your own wishes and values, the easier it is for your surgeon to discuss and make a plan with you.

Will I ever eat normally again?

We do not perform weight loss surgery to make people dependent on protein shakes and vitamin mixes. You will return to eating solid food, at regular mealtimes, with a healthy snack between meals. The meals are smaller, no question. Now if, by "normal," you mean the standard American diet of fast food, packaged snack food and sugar-sweetened drinks or diet sodas, that kind of "normal" is a thing of the past for you. And good riddance!

I've heard about hair loss after weight loss surgery. Will I have that?

See the section on AFTER SURGERY – THREE TO SIX MONTHS for a more detailed discussion of hair loss. The quick answer is that most patients have some hair thinning or loss in the time frame of three to nine months after surgery, and in almost all cases, it stops and reverses after nine to 12 months. Any kind of rapid weight loss will cause the hair-producing cells (called "follicles") to go inactive. Surgeries that give greater weight loss have greater risk of hair thinning. On the other hand, surgeries that give less weight loss have less risk of hair thinning or loss.

What are the risks of weight loss surgery?

Weight loss surgery is major surgery and carries risk. This fact should not be minimized, but each patient should also remember that severe obesity also carries significant risk. The decision about which risk to take is highly personal, and only you can decide that. See the section on RISKS OF SURGERY.

I've read on the Internet about weight loss surgery, but I don't know what to believe. How do I make sense of it all?

The internet is full of information – good, bad and dangerous. Chat rooms or forums can be helpful in showing other patients' experiences, but remember that those patients are in a different program, with different surgeons, different expectations and different risk factors, all contributing to their ultimate result. Reputable major university surgical programs (such as the Mayo Clinic, Cleveland Clinic or others) will often have reliable information. Take what you read on the internet with a grain of salt, but don't let it discourage you from doing research. The more informed you can be the better!

I've heard some people can get kidney stones after weight loss surgery. Why would I want to take extra calcium? Doesn't that cause kidney stones?

The risk of osteoporosis (thinning of the bones) is significant after bariatric surgery, and we encourage our patients to take their supplemental calcium citrate. There is no evidence to suggest that this increases the risk of kidney stones. There is some research to suggest that kidney stones may form because there is not enough calcium in the diet. Some patients may have kidney stones that form after weight loss surgery because of certain compounds in their protein supplements, or from the changes in metabolism that occur after weight loss surgery.

Notes

SECTION 10

More Resources

More Resources

Where can you find out more about bariatric surgery? Here are some resources for learning more:

Websites:

www.obesityhelp.com
ObesityHelp is an internet forum for patients to share their experiences, learn about bariatric surgery, post their thoughts and before/after pictures, and even review their surgeon. We appreciate your reviews!

www.bariatricpal.com
Bariatric Pal is another patient-centered forum about bariatric surgery.

www.theworldaccordingtoeggface.blogspot.com
"The World According to Eggface" is a blog by a bariatric surgery patient, Michelle, who shares outstanding recipe and healthy food ideas for bariatric surgery patients. She walks the walk and has maintained excellent weight loss for many years after her surgery. Feel like your meal ideas are in a rut? This is the solution – very creative and tasty recipes in her "A Day in My Pouch" series. Also check out her Instagram account with Bento Box lunch ideas.

www.asmbs.org
The American Society for Metabolic and Bariatric Surgery helps to put good information in the hands of physicians and patients about bariatric surgery. The Patient Learning Center is a good resource.

www.obesityaction.org
The Obesity Action Coalition is a patient-centered organization that exists to advocate for patients with obesity – to promote understanding of the disease of obesity, to give balanced information about obesity treatments (not just surgery) and to work for access to health coverage for obesity treatment. Become a member!

www.myfitnesspal.com
My Fitness Pal is a food calorie and exercise tracker, and has an app that you can use on your smartphone to enter your food and exercise.

www.sparkpeople.com
Spark People is a free website with articles, food trackers, exercise challenges and a smartphone app that you can use to track your eating and exercise.

www.livestrong.com
LiveStrong has a constant stream of articles related to health, nutrition and fitness. It also has a paid app and several membership levels that you can use to track your fitness and eating goals.

Centra complies with applicable Federal civil rights laws and does not discriminate, exclude or treat people differently on the basis of age, race, ethnicity, color, national origin, religion, cul-ture, language, physical or mental disability, socioeconomic status, sex, sexual orientation or gender identity or expression.

Centra provides free aids and services to people with disabilities to communicate effectively with us, such as:

- Qualified sign language interpreters
- Written information in other formats (large print, audio, accessible electronic formats, other formats)
- Free language services to people whose primary language is not English, such as:
  - Qualified interpreters
  - Information written in other languages

If you believe that Centra has failed to provide these services or discriminated in another way on the basis of age, race, ethnicity, color, national origin, religion, culture, language, physical or mental disability, socioeconomic status, sex, sexual orientation, or gender identity or expression you can file a grievance with our Grievance Coordinator by mail or phone at:

Grievance Coordinator, 1901 Tate Springs Road, Lynchburg, VA 24501
Phone: 434.200.1557 / TYY number 711

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building, Washington, DC 20201
1.800.368.1019, 1.800.537.7697 (TDD)

Complaint forms are available at http://www.hhs.gov/ocr/office/file/index.html.

Language Assistance Services

English
ATTENTION: If you speak English, language assistance services, free of charge, are available to you. Call 1.434.200.3000 (TTY: 7.1.1).

Español (Spanish)
ATENCIÓN: Si habla español, tiene servicios de asistencia para idiomas, sin cargo, a su disposición. Llame al 1.434.200.3000 (TTY: 7.1.1).

한국어 (Korean)
주의: 한국어를 사용하시는 경우, 언어 지원 서비스를 무료로 이용하실 수 있습니다. 1.434.200.3000(TTY: 7.1.1)번으로 전화해 주십시오.

Tiếng Việt (Vietnamese)
CHÚ Ý: Nếu bạn nói Tiếng Việt, có các dịch vụ hỗ trợ ngôn ngữ miễn phí dành cho bạn. Gọi số 1.434.200.3000 (TTY: 7.1.1).

繁體中文 (Chinese)
注意：如果您使用繁體中文，您可以免費獲得語言援助服務。請致電 1.434.200.3000 (TTY: 7.1.1)。

العربية (Arabic)
ملحوظة: إذا كنت تتحدث العربية، فإن خدمات المساعدة اللغوية تتوفّر لك مجاناً. اتصل على الرقم 1.434.200.3000 (رقم هاتف الصم والبكم: 7.1.1).

Tagalog (Tagalog – Filipino)
ATENSIYON: Kung nagsasalita ka ng Tagalog, ang mga serbisyong tulong sa wika ay makukuha mo nang walang bayad. Tumawag sa 1.434.200.3000 (TTY: 7.1.1).

فارسی (Farsi)
بگیرید. اگر به زبان فارسی صحبت می کنید، خدمات کمک در زمینه زبان به طور رایگان در اختیار شما قرار دارد. با شماره 1.434.200.3000 (TTY: 7.1.1) تماس بگیرید.

አማርኛ (Amharic)
ማሳሰቢያ: አማርኛ የሚናገሩ ከሆነ፣ የቋንቋ እገዛ አገልግሎቶችን በነጻ ማግኘት ይችላሉ። በስልክ ቁጥር 1.434.200.3000 (TTY: 7.1.1) ይደውሉ።

اردو (Urdu)
توجہ دیں: اگر آپ اردو بولتے ہیں تو، آپ کے لیے زبان کی مدد کی خدمات مفت دستیاب ہیں. کال کریں 1.434.200.3000 (TTY: 7.1.1)۔

Français (French)
ATTENTION : Si vous parlez français, des services d'aide linguistique vous sont proposés gratuitement. Appelez le 1.434.200.3000 (ATS : 7.1.1).

Русский (Russian)
ВНИМАНИЕ: Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Звоните 1.434.200.3000 (телетайп: 7.1.1).

हिंदी (Hindi)
ध्यान दें: अगरआप अंग्रेजी बोलते हैं, आपके लिए भाषा सहायता सेवाएं, मुफ्त, उपलब्ध हैं| कॉल करें 1.434.200.3000 (TTY: 7.1.1).

Deutsch (German)
ACHTUNG: Wenn Sie Deutsch sprechen, stehen Ihnen kostenlos sprachliche Hilfsdienstleistungen zur Verfügung. Rufen Sie 1.434.200.3000 an (TTY: 7.1.1).

বাংলা (Bengali)
মনোযোগ দিন: আপনি যদি ইংরেজিতে কথা বলেন, তাহলে ভাষা সহায়তা পরিষেবাগুলি, বিনামূল্যে আপনার জন্য উপলব্ধ হবে। 1.434.200.3000 (TTY: 7.1.1) নম্বরে ফোন করুন।

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