

## ***Gastric Sleeve Surgery***

### **Introduction**

Obesity is associated with many diseases such as diabetes, high blood pressure, heart problems and degeneration of the joints. These diseases and the obesity itself lead to an increased risk of premature death.

When dieting and exercising fail to help patients lose weight, surgery may help. Surgery to help patients lose weight is known as bariatric surgery. Gastric sleeve surgery is a type of bariatric surgery. Your health care providers may recommend that you undergo gastric sleeve surgery. The decision to have this surgery is yours.

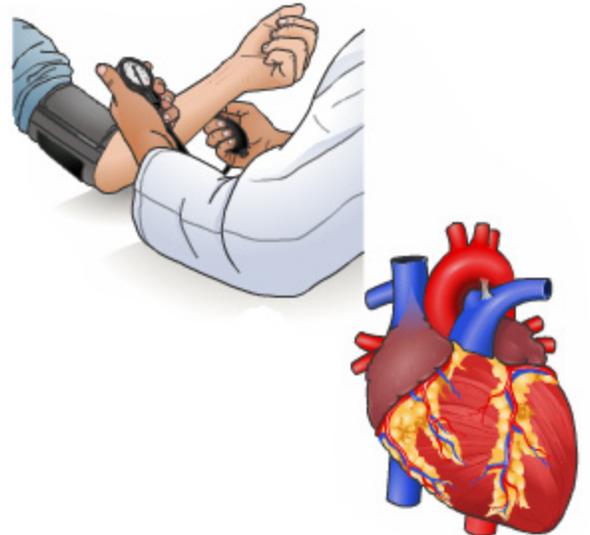


This reference summary explains the gastric sleeve surgery operation. It also discusses obesity, different treatment options, the benefits and risks of gastric sleeve surgery and what to expect.

### **Obesity**

Obesity is associated with many serious diseases that can lead to early death. These include:

- Diabetes.
- High blood pressure.
- Heart problems.
- Arthritis and degeneration of the joints.
- Sleep apnea, when breathing stops for short periods during sleep.



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Obesity may also cause a patient to develop low-self esteem. The patient may begin to withdraw from social situations and activities. This often leads to the patient living in solitude. Solitude settles in when it becomes more difficult for obese patients to move around and mix with other people outside the immediate family circle.

Obesity is becoming more common. Obesity is caused by:

- Genetic or hereditary factors.
- Sedentary lifestyle, with little or no exercise.
- Eating high calorie, non-nutritious foods commonly known as ‘junk food.’

Scientists have created a formula to tell if a person is obese or not. It is known as Body Mass Index or BMI.

To find your Body Mass Index in the metric system:

1. Divide your weight in kilograms by your height in meters.
2. Divide the result again by your height in meters.

$$\frac{\text{weight in kg}}{(\text{height in meters})^2}$$

For instance, a 2 meter-tall person with a weight of 100 kilograms has a BMI of 25.

To find your Body Mass Index in pounds:

1. Multiply your weight in pounds by 703.
2. Divide by your height in inches (1 foot = 12 inches).
3. Divide again by your height in inches.

$$\frac{\text{wt lbs X 703}}{(\text{height in inches})^2}$$

For instance, a 210 pound-person who is 70 inches tall has a BMI of about 30. The BMI formula relates the weight of the person to how tall he or she is. The BMI for normal weight ranges from 18.5 to 24.9.

Health care providers identify the following ranges of Body Mass Index:

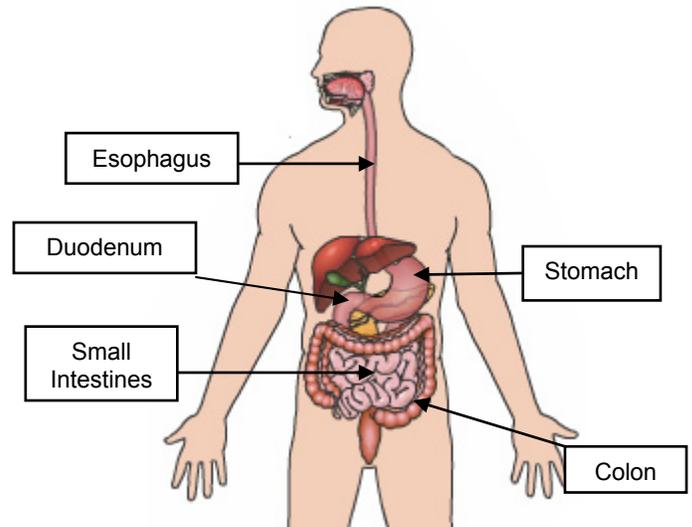
- Less than 18.5, the person is underweight.
- From 18.5 to 24.9, the person has normal weight.
- From 25 to 29.9, the person is overweight.
- Above 30, the person is obese.

Gastric sleeve surgery is recommended only for obese patients. It is not recommended for patients who are overweight. The next section discusses the different parts of the body that are involved in gastric sleeve surgery.

## Digestive System

Understanding the digestive system is essential to understanding gastric sleeve surgery. This section reviews the structure and function of the digestive system. Digestion means that the food we eat is broken down into very small parts that can then enter the blood stream.

After we chew and swallow our food, it moves down the esophagus to the stomach, where a strong acid continues the digestive process. The stomach can hold about 3 pints of food at one time.



Stomach contents move to the duodenum, the first segment of the small intestine. There it is mixed with special juices that come from the liver, called bile, and others that come from the pancreas. Bile and pancreatic juice speed up digestion. Most of the iron and calcium in the food we eat is absorbed in the duodenum.

Vitamin B12 is a very important vitamin for the health of the nerves. It can only be absorbed in the blood stream with the help of a special chemical made in the stomach.

The jejunum and ileum, the remaining two segments of the nearly 20 feet of small intestine, complete the absorption of almost all calories and nutrients. The food particles that cannot be digested in the small intestine are stored in the large intestine or colon where stools are formed. Stools are then defecated through the anus.

## Treatment Options

Health care professionals help obese patients lose weight through a variety of treatment options that include dieting, exercising, counseling, medications and surgery. Surgical options are considered last.

Various diets have been created for weight loss. Patients who are significantly overweight should only diet under the supervision of their health care provider.

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Exercise not only helps lose weight, but also tones the body and generally makes people feel better about themselves. Counseling may help people overcome personal challenges and can encourage healthy eating habits, body image and self-esteem.

Medications are also an option. However, some of these medications have possible negative side effects. Diet medications should only be taken under the supervision of your health care provider.

Several bariatric surgeries exist. There are many types of surgeries that can help with weight reduction. Some surgeries aim at making the stomach smaller. These are known as 'restrictive operations'. A gastric sleeve is such a type of surgery. It is not reversible. Other operations aim at bypassing most of the small intestines where nutrients are absorbed. These are known as 'malabsorptive operations'.



Not all patients are eligible for bariatric surgery. To be eligible, the patient should either:

- Have a body mass index (BMI) of 40 or more (this is about 100 pounds overweight); or
- Have a body mass index between 35 and 39.9 and a serious obesity-related disease. Such diseases include type 2 diabetes, heart disease, disease and /or sleep apnea.

After a patient is determined to be eligible for bariatric surgery, his or her health care provider will explain the risks and benefits of the procedure and what to expect after the procedure. The health care provider recommends bariatric surgery only after he or she determines that the patient understands the risks and lifestyle changes needed after the operation and is ready for such lifestyle changes.

## **Gastric Sleeve Surgery**

Gastric sleeve surgery is done under general anesthesia. This means that you will be put in a deep sleep and will not feel any pain.

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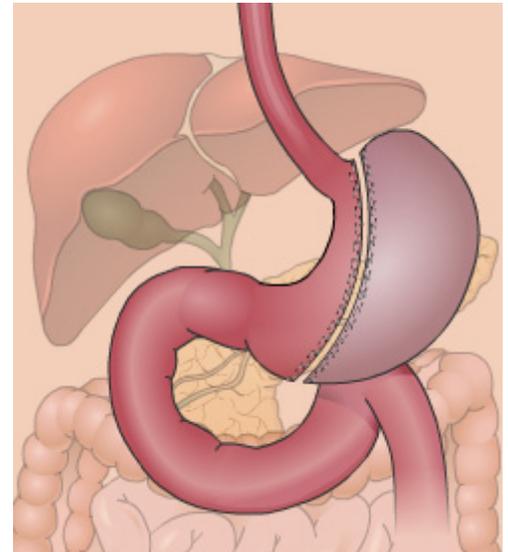
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This operation can either be done through a big incision in the abdomen or through a few small incisions in the abdomen with the help of scopes. When it is done through small incisions with the help of scopes it is called laparoscopic. The benefit of a laparoscopic operation is that the patient has less discomfort and tends to go home earlier.

Patients who have had multiple previous abdominal operations may not be candidates for a laparoscopic operation. The surgeon may also start the operation using the scope but then change to an open operation if she or he feels it is safer for the patient.

During the operation, the surgeon finds the stomach and frees it from surrounding tissue. He or she will then permanently remove about 85% of the stomach, changing its shape from a pouch to a sleeve which explains the name of the operation.

This procedure makes the stomach smaller. The patient will lose weight because the part of the stomach that receives food from the esophagus becomes smaller causing the patient to eat less food and to feel full with a very small amount of food.



Rarely, a cholecystectomy (or gall bladder removal surgery) is performed to avoid the gallstones that may result from rapid weight loss. More commonly, patients take medications after the operation to dissolve possible gallstones.

After the operation is finished, the patient is allowed to wake up and is taken to the recovery room.

## Risks and Complications

Gastric sleeve surgery is a major abdominal operation, which includes certain risks and complications. The risks can be related to:

- Anesthesia.
- Surgery in general.
- The gastric sleeve surgery procedure.

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Common risks and side effects of general anesthesia include nausea, vomiting, problems with urination, cut lips, chipped teeth, sore throat and headache. More serious risks of general anesthesia include heart attacks, strokes and pneumonia. Your anesthesiologist will discuss these risks with you and ask you if you are allergic to certain medications.

Blood clots may form in the legs as you stay still during or after surgery. The blood clot can move to the lungs, causing pulmonary embolism, which can be fatal. Walking as soon as possible after surgery helps to prevent blood clots. Use of compressive leg stockings and blood thinners, such as enoxaparin and heparin, also help to prevent blood clots in the legs.



Like any other surgical procedure, gastric sleeve surgery includes the risks of scarring, bleeding, infection, leaking or blockage. The scar could be unsightly, especially for the open procedure where the incision is straight down the middle of your belly. It goes from the breastbone to above the belly button. For the laparoscopic procedure, the incisions are smaller, measuring about an inch each on both sides of the abdomen.

Significant bleeding may happen. You may need blood transfusions and possibly another operation. Although uncommon, infections may happen, which may be superficial or deep. Superficial infections may lead to delayed wound healing, which may require antibiotic treatment and daily dressing of the incision site until it heals. In some cases, another operation may be needed. Deep infections, known as peritonitis, may also require antibiotic treatment and/or another operation. They may also cause internal scarring.

Some risks are specific to the gastric sleeve surgery procedure. Risks specific to this operation include injuring internal organs, such as the liver, spleen, major arteries and veins. Such injuries may require another operation to repair the injured organ. They may also rarely cause death.

The staples used in the process of taking part of the stomach out may break down, leading to some stomach fluid leaking into the abdomen. This may require another operation.

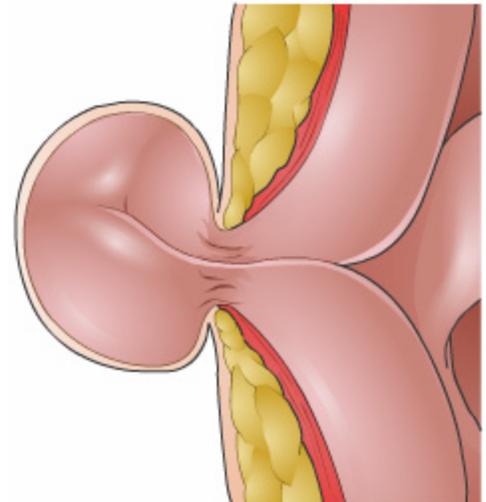
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Another unlikely complication is known as small bowel obstruction, or blockage of the intestines. This happens because internal scar tissue known as adhesions may develop and block the intestines. Signs of small bowel obstruction include nausea, vomiting and abdominal pain. An operation may be needed to open up the obstruction.

Hernias can happen. A hernia is when the muscle of the abdomen becomes weak because of the operation and the intestines bulge under the skin. Hernias may need to be repaired surgically.

Stricture is where the opening to or from the stomach becomes too narrow. This can cause nausea, vomiting, inability to swallow and food intolerance. Treatment for this rare complication includes not eating food by mouth and receiving nutrients and fluids through an IV line. Another surgery may be needed in some cases.



Hernia

Gastroesophageal reflux disease, or GERD, can happen or worsen after surgery. GERD happens when acid from the stomach comes up to the esophagus and sometimes into the mouth. This causes the feeling of heartburn.

There are no guarantees for any method, including surgery, to produce and maintain weight loss. Success is only possible with maximum cooperation and commitment to changing eating and exercising behavior. Medical follow-up is needed. Such cooperation and commitment must be carried out for the rest of your life.

## After the Operation

You may spend 1-2 nights on a monitored unit before you are ready to go home. You may also have a Foley Catheter which drains urine from your bladder. The day after surgery, your surgeon may take an X-ray of the stomach to make sure that there is no leak or blockage.

During your health care facility stay, it is very important to remain active and walk in the halls. This will help prevent blood clots, pneumonia and constipation. During your health care facility stay, you will also have a small machine to help with your breathing. It is called an incentive spirometer. It helps to prevent pneumonia, lung collapse and other breathing problems. Coughing and deep breathing can also be helpful.

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As soon as your surgeon allows you to eat, you will have a liquid diet the first two weeks followed by two weeks of mushy or pureed foods. Because the stomach is made smaller, which can accommodate 2-4 oz, by gastric sleeve surgery, you cannot eat large amounts of food.

You will have to take a multivitamin daily and possibly other nutritional supplements including iron and calcium along with other medications that your health care provider or nutritionist deems appropriate.



Weight loss surgery is considered successful when 50% of excess weight is lost and the loss is sustained up to 5 years. For example, a patient who is 200 pounds overweight should lose at least 100 pounds and should be able to maintain this loss for the following 5 years.

Estimated weight loss in the first 2 years after a gastric sleeve surgery is approximately 50% to 70% of excess body weight. Though some patients may gain some weight in subsequent years, many patients maintain a weight loss of 60 to 70 percent of their excess weight.

## Healing at Home

As you go home, you need to do half an hour of activity every day. You need to walk for the first month. After this, speak to your surgeon about other activities you can do.

You will be discharged on a full liquid diet for the first two weeks, followed by two weeks of mushy or pureed foods. Your meals should be high in protein to help with the healing process.

You may vomit if you eat too fast, too much, or drink fluids with meals. Keep a food diary to help find the reason for vomiting. Eat and drink very slowly. Do not drink fluids 30 minutes to 1 hour before or after meals.

Consume sugar free, carbonation free, decaffeinated beverages only.



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Alcoholic beverage intake is discouraged as you may be more sensitive to it after surgery. If you do drink alcohol, do so in moderation and only on special occasions.

To allow your body to heal, you should follow these rules:

- No strenuous activity or lifting until approved by your surgeon. Do not lift anything more than 10 pounds.
- No driving until approved by your surgeon.
- Do not cover your incisions in water for 2 weeks. No using sit-down baths or hot tubs for 2 weeks.

The incision will be held together with sutures. Call your health care provider if your incision becomes red, hot, or swollen. Call if you notice any drainage from the incision, or more pain in the abdomen. Also call if you have a fever greater than 101 degrees F.

Your health care provider will prescribe medicine and vitamins for you. Take them every day for the rest of your life. Discuss with your health care provider any prescription and over-the-counter medication you are currently taking. Some over-the-counter medications can cause bleeding or an ulcer.



Serious problems can happen if you do not take your vitamins and minerals every day. You need calcium for strong bones, iron for healthy blood and vitamin B12 for healthy nerves. If you do not take vitamin and mineral pills, you could have health problems. If you feel dizzy or weak, call your health care provider.

Constipation can be common after surgery. It is necessary to take a stool softener for the first month. Drinking plenty of water and exercising also helps. You may have an ulcer, which can be treated with an anti-ulcer medication. If you have severe nausea or pain while eating, call your health care provider.

You will need to schedule regular follow-up visits. Annual checkups are also scheduled during which your blood is tested to make sure you do not have a vitamin deficiency.

You must not get pregnant for the first year after your gastric sleeve surgery. Pregnancy is dangerous to you and to your baby.

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## Conclusion

Obesity causes many serious diseases such as diabetes, high blood pressure, heart problems and degeneration of the joints.

When dieting and exercising fail, bariatric surgery may help patients lose weight. Gastric sleeve surgery is a major abdominal surgery with risks and complications. You should know about them to help detect them early in case they happen.

Gastric sleeve surgery is usually very successful. Most patients lose weight quickly and continue to lose weight for 18 to 24 months after the procedure. With bariatric procedures many patients maintain a weight loss of 60 to 70 percent of their excess weight.

Gastric sleeve surgery is not a guarantee that the patient will maintain the weight loss. Long-term success is only possible with the patient's full commitment to changing eating habits and exercising regularly.

If you have any questions about this operation, contact your health care provider. Topics to ask about include:

- How the surgery works as a tool for weight loss.
- Potential complications.
- Expected outcomes.
- How you should utilize this new tool for long term success and safety.



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