

GASTRIC BYPASS SURGERY

by Mayo Clinic Staff

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Weight-loss (bariatric) surgeries change your digestive system, often limiting the amount of food you can eat. These surgeries help you lose weight and can lower your risk of medical problems associated with obesity.

Gastric bypass is the most frequently performed bariatric surgery in the United States. Many surgeons prefer gastric bypass surgery because it generally has fewer complications than other weight-loss surgeries. Gastric bypass surgery can provide long-term, consistent weight loss if you exercise and eat a healthy diet.

Gastric bypass isn't for everyone, however. It's a major procedure that has risks and side effects and requires permanent changes in your lifestyle. Before deciding to have gastric bypass surgery, it's important to understand what's involved and what lifestyle changes you must make. In large part, the success of the surgery is up to you.

Why it's done

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Generally, gastric bypass surgery is for people who are unable to achieve or maintain a healthy weight through diet and exercise, are severely overweight, and who have health problems as a result. Gastric bypass surgery could be an option for you if:

- Your body mass index (BMI) is 40 or higher (extreme obesity)
- Your BMI is 35 to 39.9 (obesity), and you have a serious weight-related health problem, such as diabetes or high blood pressure

Gastric bypass surgery doesn't replace the need for following a healthy diet and getting exercise. In fact, the success of the surgery depends in part on your commitment to following the guidelines given to you about diet and exercise. As you consider weight-loss surgery, make sure that you exercise, change your eating habits and adjust any other lifestyle factors that have contributed to your excess weight.

Here are some types of gastric bypass surgery:

- **Roux-en-Y (roo-en-y).** This is the preferred method of performing gastric bypass surgery. In Roux-en-Y, your stomach is stapled to create a small pouch and a passage for food to go around (bypass) a section of your small intestine.

- **Biliopancreatic diversion with duodenal switch.** In this procedure, the surgeon removes about 80 percent of the stomach, forming a thin sleeve-like stomach. The valve that releases food to the small intestine remains (duodenal switch) along with a limited portion of the small intestine that normally connects to the stomach (duodenum). The surgery bypasses the majority of the intestine by connecting the end portion of the intestine to the duodenum near the stomach (biliopancreatic diversion). This weight-loss surgery is effective but has more risks, such as malnutrition and vitamin deficiencies, and requires close monitoring. It's generally used for people who have a body mass index greater than 50.

Other weight-loss surgery options include:

- **Lap-Band adjustable gastric banding (LAGB).** The surgeon uses an inflatable band to divide the stomach into two parts by wrapping the band around the upper part of your stomach. Pulling it tight like a belt, the surgeon creates a tiny channel between the two pouches that restricts the amount of food you can eat. The band keeps the opening from expanding and is designed to stay in place indefinitely. It can be adjusted or surgically removed if necessary. LAGB is a simpler procedure and has a lower complication rate when compared with more-involved procedures.

However, LAGB causes less weight loss and a slower rate of weight loss than does the Roux-en-Y gastric bypass. This surgery isn't recommended for people who have certain medical conditions, such as Crohn's disease, large hiatal hernias or a history of gastric ulcers.

- **Vertical banded gastroplasty.** This operation, also referred to as stomach stapling, divides the stomach into two parts — limiting space for food and forcing you to eat less. There is no bypass. Using a surgical stapler, the surgeon divides your stomach into upper and lower sections. The upper pouch is small and empties into the lower pouch — the rest of your stomach. Partly because it doesn't lead to adequate long-term weight loss, this weight-loss surgery isn't as popular.
- **Sleeve gastrectomy.** If your body mass index (BMI) is 50 or greater, your doctor may suggest a sleeve gastrectomy as an alternative to gastric bypass. The sleeve gastrectomy is the first part of the biliopancreatic diversion with duodenal switch that has recently been studied as a primary procedure for weight loss.

In this procedure, the structure of your stomach is changed to be shaped like a tube, which restricts the amount of calories your body absorbs. For some people, the sleeve gastrectomy is a "staged procedure" in order to lose some weight initially before the second stage, the biliopancreatic diversion.

Risks

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As with any major surgery, gastric bypass has risks such as bleeding, infection and reactions to the anesthesia. Possible complications of gastric bypass surgery include:

- Vitamin and mineral deficiency
- Dehydration
- Gallstones
- Bleeding stomach ulcer
- Hernia at the incision site
- Intolerance to certain foods
- Kidney stones
- Low blood sugar (hypoglycemia)

Possible rare, but serious risks specific to Roux-en-Y gastric bypass surgery include:

- **Death.** The risk varies depending on age, general health and other medical conditions. Talk to your doctor about the level of risk gastric bypass surgery may pose for you.
- **Blood clots in the legs.** Blood clots in the legs are more likely to occur in very overweight people. Blood clots can be dangerous. In some cases, they travel to the lungs and lodge in the lungs' arteries as a pulmonary embolism — a serious condition that damages lung tissue and can lead to death. Walking and using leg wraps that apply pressure can help reduce this risk of blood clots in the legs.
- **Leaking at one of the staple lines in the stomach.** This severe complication can be treated with antibiotics. Most cases heal with time. Sometimes, the leak can be serious enough to require emergency surgery.
- **Pneumonia.** Excess weight places extra stress on the chest cavity and lungs, creating an increased risk of developing pneumonia after the surgery.
- **Narrowing of the opening between the stomach and small intestine.** This rare complication may require either an outpatient procedure to pass a tube through your mouth to widen (dilate) the narrowed opening or corrective surgery that could require a brief hospital stay.
- **Dumping syndrome.** Gastric bypass can also cause dumping syndrome, a condition where stomach contents move too quickly through the small intestine causing nausea, vomiting, diarrhea, dizziness and sweating.

How you prepare

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- Before you have gastric bypass surgery, you'll go through an extensive screening process. Not everyone who wants gastric bypass is psychologically or medically ready for the surgical procedure.
- A team of professionals, including a physician, dietitian, psychologist and surgeon, advise whether the surgery is appropriate for you. This involves identifying which aspects of your health would be expected to improve after surgery, as well as what pre-existing conditions you have that might make gastric bypass surgery a risky option.

Surgery is recommended when the perceived benefits of surgery outweigh the recognized risks.

- Your willingness and ability to follow through with the recommendations made by your health care team and to carry out prescribed changes in your diet and exercise routine also help determine if gastric bypass surgery is right for you. The surgery may not be recommended or may be postponed if there's any sign that you aren't psychologically or medically ready for surgery.
- It's important to follow your doctor's directions in preparing for gastric bypass surgery. This includes restrictions on eating and drinking, starting a program of physical activity, and stopping the use of cigarettes.

What you can expect

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During the procedure

Each type of bariatric surgery has different steps, though most share similar procedures.

General anesthesia is used for gastric bypass surgery. This means you're unconscious during the surgery.

When a Roux-en-Y gastric bypass is performed, the surgeon staples your stomach across the top, sealing it off from the rest of your stomach. The resulting pouch is about the size of a walnut and can hold about an ounce of food. The pouch is physically separated from the rest of the stomach. Then, the surgeon cuts the small intestine and sews part of it directly onto the pouch.

This redirects food, bypassing most of your stomach and the first section of your small intestine, the duodenum (doo-o-DEE-num). Food enters directly into the second section of your small intestine, the jejunum (jay-JOO-num), limiting your ability to absorb calories. Even though food never enters the lower part of your stomach, the stomach stays healthy and continues to release digestive juices to mix with food in your small intestine.

Some surgeons perform this operation by using a laparoscope — a small, tubular instrument with a camera attached — through short incisions in the abdomen (laparoscopic gastric bypass). The tiny camera on the tip of the scope allows the surgeon to see inside your abdomen.

Compared with traditional "open" gastric bypass, the laparoscopic technique usually shortens your hospital stay and leads to a quicker recovery. Fewer wound-related problems also occur. Not everyone is a candidate for laparoscopic gastric bypass, however. Talk to your doctor about whether this approach is appropriate for you.

During surgery, a tube is passed through your nose into the upper stomach pouch. Occasionally, this tube stays in overnight. The tube is connected to a suction machine after surgery to keep the small stomach pouch empty so that the staple line can heal.

Gastric bypass surgery takes about four hours. After surgery, you awaken in a recovery room, where medical staff monitor you for any complications. Your hospital stay may last from three to five days.

After the procedure

You won't be allowed to eat for one to two days after the surgery so that your stomach can heal. Then, you'll follow a specific diet for about 12 weeks. The diet begins with liquids only, then ground-up or soft foods, and finally progresses to regular foods.

With your stomach pouch reduced to the size of a walnut, you'll need to eat very small meals throughout the day. In the first six months after surgery, eating too much or too fast may cause vomiting or an intense pain under your breastbone. The amount you can eat gradually increases, but you won't be able to return to your old eating habits.

You may experience one or more of the following changes as your body reacts to the rapid weight loss in the first three to six months:

- Body aches
- Feeling tired, as if you have the flu
- Feeling cold
- Dry skin
- Hair thinning and hair loss
- Mood changes

Within the first two years of surgery, you can expect to lose 50 to 60 percent of your excess weight. If you closely follow dietary and exercise recommendations, you can keep most of that weight off long term.

Results

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In addition to dramatic weight loss, gastric bypass surgery may improve or resolve the following conditions associated with obesity:

- Type 2 diabetes
- High blood pressure
- High blood cholesterol
- Obstructive sleep apnea
- Gastroesophageal reflux disease (GERD)

The improvements observed in type 2 diabetes, high blood pressure and high blood cholesterol may significantly decrease your risk of having a heart attack or stroke. Gastric bypass surgery can also improve your ability to get around, and improve your quality of life.

Surgery for weight reduction isn't a miracle procedure. It doesn't guarantee that you'll lose all of your excess weight or that you'll keep it off long term. Weight-loss success after gastric bypass surgery depends on your commitment to making lifelong changes in your eating and exercise habits. But the feeling of accomplishment as you lose weight and your improved health are significant benefits and are well worth your efforts.

Roux-en-Y gastric bypass surgery isn't considered to be reversible. While in theory it may be possible to reverse the changes in your digestive tract, it may be dangerous. If you're concerned about the reversibility of a gastric bypass procedure, talk to your doctor about your options.

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