

Diabetes and Gastroparesis

What is gastroparesis?

Gastroparesis [gas-troh-pah-REE-sis] is a condition in which food moves too slowly through the stomach and intestines. It can cause uncomfortable symptoms and make it harder to manage blood glucose and absorb nutrients. It can also cause dangerous blockages in the stomach or intestines.

What causes gastroparesis?

It is often caused by damage to the **vagus** [VAY-gus] **nerve**. This nerve controls the muscles of the stomach wall. When the muscles don't contract as they should, food can't move out of the stomach and into the small intestine.

In people with diabetes, the usual cause of vagus nerve damage is high blood glucose over a long period of time.

What are the symptoms?

Many symptoms of gastroparesis arise because the stomach takes such a long time to empty and the intestines move food more slowly. These symptoms may include:

- Heartburn or reflux (stomach acid backing up into your throat)
- Feeling full when you've just started eating, or feeling bloated
- Nausea and vomiting
- Lack of appetite
- Weight loss
- Stomach cramps or spasms
- Irregular glucose levels (since food enters and is absorbed by the small intestine at an unpredictable rate)



Out of every 100 people with type 1 or type 2 diabetes, about 12 will have gastropareis.

How is gastroparesis diagnosed?

Your healthcare provider may order a test to measure the time it takes for your stomach to empty. There are several different tests used to do this.

A barium [BARE-ee-um] swallow test is a type of imaging test. Barium is a harmless chemical that is easy to see on x-rays. Before the test, you eat or drink something that contains barium. X-rays can then show how the material moves through your digestive tract and help locate problems.

A manometry [man-NAHM-eh-tree] test measures pressure. This test is used to check muscle and nerve activity in the stomach and upper small intestine. It helps your doctor understand how fast the stomach is emptied.

In addition to these tests, you may need an **ultrasound** or **endoscopy** [en-DOSS-cuh-pee] exam to look for problems with your gallbladder, pancreas, or stomach lining.

How is gastroparesis treated?

Gastroparesis can't be cured, but it can be managed. Bood glucose control is key. Unfortunately, gastroparesis can make blood glucose control difficult. For extra help with your diabetes and gastroparesis management, your provider may suggest:

- A change in your insulin regimen. To help regulate your blood glucose levels, you may need to:
 - Start taking insulin
 - Change the type of insulin you take
 - Change the frequency or time you take insulin

For example, taking insulin more often throughout the day or after meals can help your body cope with slower food absorption.

- **Oral medications**. Your healthcare provider may prescribe medication to control your nausea or improve stomach emptying.
- A visit to a registered dietitian. Changes to your meal plan may help ease symptoms and better manage your blood glucose. A dietitian may offer specific suggestions for you in addition to the general tips listed in the section at right.

If your gastroparesis is severe, your provider may recommend other treatments. Possibilities include:

- Surgery on the lower part of your stomach
- A temporary or permanent feeding tube
- Injections
- An implantable device to help the stomach empty

How can I reduce symptoms?

These practices may ease the discomfort of gastroparesis.

- Eat liquid meals. Liquid meals may make you less uncomfortable than solid food, especially later in the day. Blending, pureeing, or thoroughly chewing solid foods can also help.
- Eat smaller meals more often. Many healthcare providers recommend 6 small meals a day, rather than 3 larger ones. This allows your stomach to empty more quickly.
- **Sit up during meals,** and for at least an hour after eating.
- Walk after eating. This helps food move through the gut.
- Avoid high-fat foods. Fat slows digestion. Since your stomach is already emptying too slowly, high-fat foods can make the problem worse.
- Avoid habits that produce gas. You may have more gas when you drink carbonated beverages, chew gum, use sugar-free products containing sugar alcohols (sorbitol, mannitol, xylitol), or eat gas-producing vegetables, such as dried beans, broccoli, onions, or cabbage.
- Limit high-fiber foods. Too much fiber can contribute to gas, cramping, and bloating. It may also contribute to formation of bezoars. See below. Once your symptoms have eased, you can carefully add some fiber back into your diet.
- Avoid foods that can cause bezoars. A bezoar [BEE-zore] is a hardened mass of undigested food in your stomach. They're dangerous because they can block the passage of food through the gut. Foods that increase your risk of bezoars include oranges, apples, berries, figs, coconut, green beans, broccoli, brussels sprouts, sauerkraut, potato skins, and legumes, such as lentils, peas, and peanuts.

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