

Diabetes: *Gastroparesis*

What is gastroparesis?

Gastroparesis is a condition in which food moves too slowly through the stomach and intestines. It can bring uncomfortable symptoms and make it harder to manage blood glucose and absorb nutrients. It can even cause dangerous blockages in the small intestine.

This handout explains the causes and symptoms of gastroparesis and how you can work with your healthcare provider to diagnose and manage it.

What causes it?

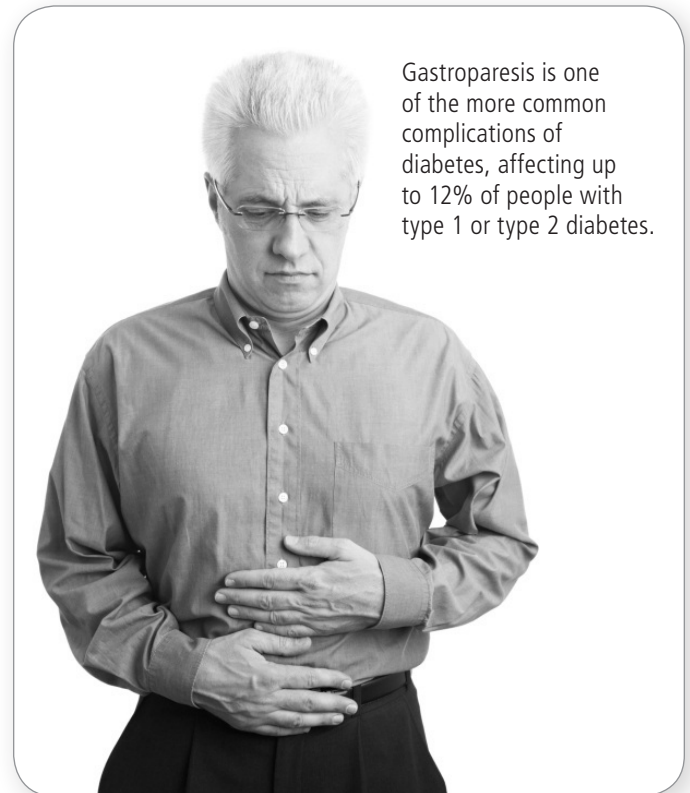
Gastroparesis is often caused by damage to the nerve that controls the muscles of the stomach wall (the **vagus nerve**). The muscles don't contract as they should to move food out of the stomach and into the small intestine.

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 stem from the abnormal slowness of digestion. Because the stomach takes such a long time to empty and the intestines move food slowly, a person with gastroparesis can have these symptoms:

- Heartburn or reflux (stomach acid backing up into your throat)
- Feeling full when you've just started eating (early satiety), 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



Gastroparesis is one of the more common complications of diabetes, affecting up to 12% of people with type 1 or type 2 diabetes.

How is gastroparesis diagnosed?

To confirm a diagnosis of gastroparesis, 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. Most tests require you to eat or drink something that contains a tiny amount of radiation. X-rays can then pick up the radioactive signal and track how the material moves through your digestive tract. Another type of test, called **manometry**, measures stomach emptying in a different way. In manometry, a small tube is passed into your stomach, where it measures muscle and nerve activity to gauge the rate of digestion.

In addition to these tests, your healthcare provider may suggest an ultrasound or endoscopy to look for problems with the gallbladder, pancreas, or stomach lining.

How is it treated?

Gastroparesis can't be cured, but it can be managed. Good diabetes control is key — but 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 or change the frequency or time you take it. (For example, taking insulin before a meal or more often throughout the day can help your body cope with irregular 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 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, or injections or an implantable device to improve stomach emptying.

What can I do to reduce symptoms?

These practices may ease the discomfort of gastroparesis.

- **Take 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 throughout the day.** 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 for a short while after eating** to help 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.
- **Avoid large amounts of 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** 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.