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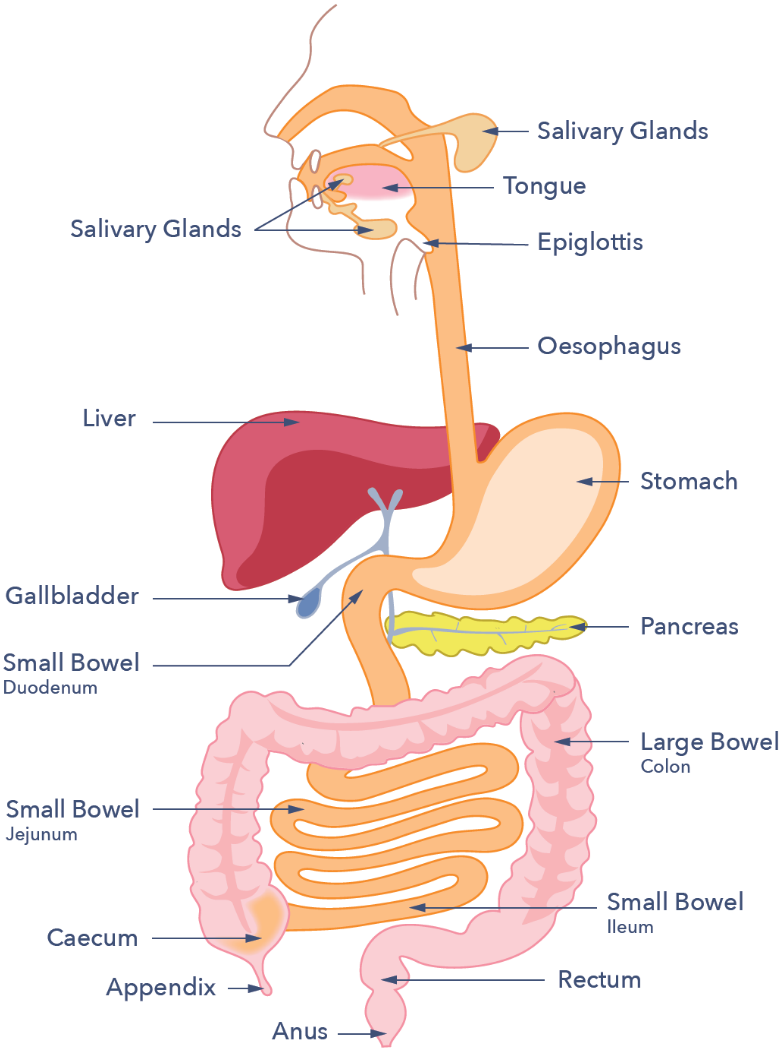
Patient Information Forum

Gastroparesis

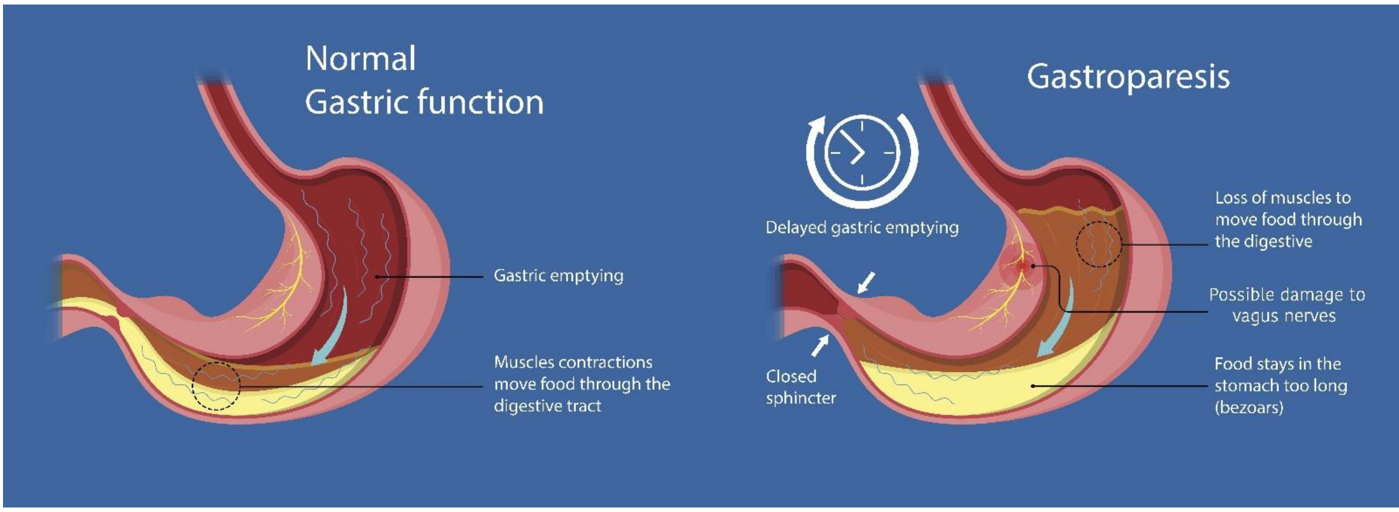
Guts UK is the charity for the digestive system. Funding research to fight diseases of the gut, liver and pancreas.

THE DIGESTIVE SYSTEM



OVERVIEW

THIS FACTSHEET IS ABOUT GASTROPARESIS



This factsheet helps to explain the symptoms of gastroparesis and what causes them. It will help you to identify when it is a problem needing your doctor to investigate it. The information also highlights what treatments are available to help reduce symptoms.

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Gastroparesis is a condition that affects the stomach. The name means stomach (gastro) paralysis (paresis). Gastroparesis is a chronic (long-term) disorder. In gastroparesis, the stomach does not empty its contents in the usual way. There is no obstruction or structural abnormality that causes the symptoms. Nerves that tell the stomach to empty are not effective, so the stomach is too slow in moving food through. Gastroparesis can affect people of all ages, but it is most often diagnosed in people aged 18 to 39. It is more common in adults, than children and the diagnosis is given to females twice as often as males. The number of people diagnosed is 14 per 100,000 people in the UK, which is rare.

Diabetes related gastroparesis is more common in people of black and hispanic ethnicity. While gastroparesis where the cause is unknown is more common in people of white ethnicity.

CAUSES

WHAT ARE THE CAUSES OF GASTROPARESIS?

In adults the most common cause of gastroparesis is diabetes. When diabetes is difficult to manage, it can cause high blood sugar levels. High blood sugar levels can damage the stomach nerves over time. Diabetic gastroparesis is the name for this type of gastroparesis. It affects 13 out of every 1,000 people with diabetes. Gastroparesis is more common in people with type 1 diabetes. But it can occur in people with type 2 diabetes as well.

In many people, the cause of gastroparesis is unknown, which is called idiopathic gastroparesis. This is the next commonest type of gastroparesis after diabetic gastroparesis.

Gastroparesis can also occur for a variety of other reasons. These include:

Neurological conditions:

- Multiple sclerosis.
- Parkinson’s disease.
- Amyloidosis.

Connective tissue conditions, such as diffuse systemic sclerosis.

It can also happen after surgery, for example:

- Oesophagus (gullet) surgery.
- Acid reflux surgery (known as fundoplication).
- Gastric bypass surgery.
- Partial gastric resection (removal of part of the stomach).

- Surgery to cut the vagus nerve - a treatment for stomach ulcers (vagotomy).
- Lung surgery or pancreatic surgery.

It is possible but not proven that gastroparesis may follow gastrointestinal infections.

Medicines can cause gastroparesis, particularly opioid based medicines.

Idiopathic gastroparesis is the most common cause of gastroparesis in children. In 7 out of 10 children, the diagnosis is idiopathic gastroparesis. Medication is the second most common cause. Medication-related gastroparesis affects 9 out of every 50 children with gastroparesis. A diagnosis of diabetic gastroparesis is given to 1 in every 25 children with diabetes. Gastroparesis affects more school-aged children, as well as male infants and female adolescents.

There is evidence that people who have eating disorders can experience delayed gastric emptying. If you suspect an eating disorder, please discuss this with your doctor.

There is a big overlap between gastroparesis and a condition called functional dyspepsia. It is not always possible to tell them apart, as the symptoms can be very similar. Functional dyspepsia has less nausea and vomiting and more pain symptoms than gastroparesis. For some people, symptoms can fluctuate between gastroparesis and functional dyspepsia.

Similar symptoms can also happen in other conditions such as:

- Gastro-oesophageal reflux disease.
- Cyclical vomiting syndrome.
- Chronic functional nausea and vomiting.
- Rumination syndrome.

People with gastroparesis are more likely to have slow movement of the small bowel and slow transit constipation.

SYMPTOMS

WHAT ARE THE USUAL SYMPTOMS?

Symptoms include:

- Nausea (feeling sick).
- Vomiting (being sick).
- Abdominal pain.
- Feeling full after few mouthfuls of a normal sized meal (early satiety).
- An inability to finish a meal.
- Bloating.
- Belching.

It is possible that people can become dehydrated due to being sick. Some people can experience malnutrition and weight loss. Heartburn can also occur, due to delayed stomach emptying. Symptoms can range from mild to severe. The symptoms would usually be present for three months or more.

DIAGNOSIS

HOW IS GASTROPARESIS DIAGNOSED?

When the doctor suspects gastroparesis, you will be referred for tests to see how well your stomach is emptying.

- **A gastroscopy** (a camera inserted into the stomach with a thin tube) is usually performed first. This is to exclude other causes for symptoms. In gastroparesis the result would usually be normal.

- **Abdominal x-rays.** If the doctor suspects a small bowel obstruction, it is ruled out by an abdominal x-ray[3]. This test result would be normal in gastroparesis.

- **Breath testing.** For this test, you would consume a solid or liquid food that contains a substance that your body absorbs in the small bowel. Eventually, the substance can be detected in your breath. Several samples of your breath are collected over a few hours and the amount of the substance detected can tell the doctor how quickly your stomach empties. This is done by comparing the amount detected to the result expected for someone with normal gastric emptying.

- **Gastric emptying scintigraphy (GES).** The doctor will request this test to see how your stomach is emptying. The nuclear medicine department usually does this test. The doctor or nurse will ask you to consume a solid meal (usually scrambled egg with bread). This contains a small amount of a radioactive substance, called an isotope. The isotope has a very short half-life, so it disappears from the body rapidly. External cameras called gamma cameras track the progress of the meal.
  If any of the following applies to you, please discuss this with the person performing your test:

    - You cannot tolerate a solid meal.
    - Your doctor has diagnosed a food allergy to egg or wheat.
    - You have coeliac disease.
    - You follow a specific diet for religious reasons.

  Some medicines affect the results of the test. These should be stopped before doing the test. Some examples are opioid based medications such as codeine, tramadol, morphine, buprenorphine, tapentadol and fentanyl. Do not stop your medicine without discussing it with your doctor first.

  This test can also show abnormalities when people have a diagnosis of functional dyspepsia. There is not an exact relationship between the test results and symptoms. So, an abnormal GES result does not always mean you will have gastroparesis.

HOW CAN GASTROPARESIS AFFECT YOU?

Nausea (feeling sick) with associated vomiting (being sick) is common. Bloating, abdominal pain are also common. In people with diabetic and idiopathic gastroparesis other symptoms can also occur. Examples of these are heartburn with bloating, feeling full soon after starting a meal, plus food regurgitation. Pain is more often experienced with people diagnosed with idiopathic gastroparesis. You may feel full very fast during eating and be unable to finish eating a normal size meal. Symptoms can also happen between meals and some people report having symptoms during the night. Usually, symptoms occur in combination and not in isolation.

Children experience symptoms of being sick, abdominal pain, weight loss and feeling full soon after starting a meal. The symptoms also Include feeling very full after eating a normal sized meal.

Weight loss can occur, so nutrition support is essential to try and prevent further weight loss. Severe symptoms that result in dehydration and severe malnutrition may need a hospital stay.

You may feel that you have a food intolerance, but this is not usually the case. The stomach is a muscular organ, and its movement is a physical action. Slow movement of the stomach causes the symptoms of gastroparesis. It is not a food intolerance, so elimination diets do not generally help. Avoid cutting out foods such as wheat and dairy. Removing full food groups from your diet can lead to malnutrition. See below for dietary advice which may be helpful.

Long term symptoms can affect quality of life and mood. If you are feeling low in mood because of your symptoms, you should discuss this with your doctor.

TREATMENT

WHAT TREATMENT IS AVAILABLE FOR GASTROPARESIS?

Gastroparesis can improve for some people in time (at least 12 months). This is particularly the case for those with gastroparesis after an infection. The likely future situation for this group of people with gastroparesis is slightly better.

MANAGEMENT OF HIGH BLOOD SUGARS. Keeping blood sugars normal is important for people diagnosed with diabetic gastroparesis.

The NICE Guidelines for people with type 1 diabetes suggest consideration of continuous subcutaneous insulin infusion (CSII or insulin pump) therapy. Discuss this with your diabetes team.

STOPPING MEDICINES CAUSING GASTROPARESIS. People who take opioid-based medicines can have a much lower quality of life. These medicines are **not** effective for treating long-term chronic pain. They can be a cause of increasing levels of belly pain and other digestive symptoms. Opioids do not help with chronic pain in relation to gastroparesis as they are known to slow things down even more. Your doctor may suggest you stop taking them. This may be challenging to do but your doctor will discuss with you what alternative options might be available to help. Do not stop taking any medicine without discussing this with your doctor this should be a decision between you and your healthcare provider.

DIET

Dietary modification may help control symptoms, but there is no 'gastroparesis' diet. Chewing food well is important to help achieve a better food texture. This promotes stomach emptying.

An important consideration is to avoid tough fibrous food. For example, raw vegetables, citrus fruits, celery, pumpkin, grapes, prunes and raisins. Tough fibres are slow to empty from the stomach and may form a compact indigestible mass called a bezoar.

Avoidance of carbonated or fizzy drinks may help reduce symptoms of bloating. Ask your doctor for a referral to a dietitian if you are considering any dietary changes.

As large meals are often poorly tolerated, having six small meals or, alternatively, three small meals and three snacks can be helpful to reduce symptoms and maintain weight.

Some people with more severe symptoms may need to change the texture of their diet to a smooth or liquid diet, but it is strongly advised that this is done with the help of a trained and registered dietitian (https://www.bda.uk.com/about-dietetics/what-is-dietitian/dietitian-ornutritionist.html). This is to ensure the diet still provides all the essential nutrients that are needed for health.

Lower fat diets can also help reduce symptoms. But low-fat diets could make malnutrition worse. You should request a referral to a dietitian if you are thinking about trying this choice.

Dietitians may offer you nutrition drinks. The drinks help you get the calories and nutrients you need without you having to eat solid meals. Some people use nutrition drinks in combination with solid food to maintain weight. Ask your doctor for a referral to a dietitian.

ANTI-SICKNESS MEDICINES. These types of medicines generally work by increasing the speed in which the stomach empties. By doing so, they can reduce symptoms, including nausea. An example is domperidone. Domperidone can cause problems with the heart rhythm in susceptible people. If you are known to have a heart problem, it best to avoid this medicine. In other people, a heart trace (ECG) can be used to check on the heart and help select people at least risk to have this medication. They should, if possible, only be used from time to time or otherwise with careful monitoring.

NEWER MEDICINES. Your doctor may consider trying prucalopride. Prucalopride is not listed in the doctor's medicines guide (the British National Formulary) for treating gastroparesis. This is known as unlicensed or off-label use of a medicine. When there are few choices, your doctor might decide that a trial of a newer medicine is in your best interests. You should ask your doctor about possible risks and benefits of the medicine as there can be side effects. Research of these medications for gastroparesis treatment is continuing.

OTHER TREATMENTS WITH LIMITED RESEARCH EVIDENCE WHICH MAY BE CONSIDERED IN CAREFULLY SELECTED INDIVIDUALS

There are several more intrusive treatments that some people with gastroparesis have tried. But currently the research evidence to support their use is very limited. With more invasive approaches, the risks of side effects and harms may be greater. So these treatments need careful consideration. These treatment approaches include:

- Injection of the botulinum toxin (BOTOX).
- Gastro per-oral endoscopic myotomy (G-POEM).
- Gastric Electrical Stimulation (GES or gastric pacemaker).

These treatments are not widely available. They need more research before it is possible to recommend them on a routine basis.

BOTULINUM TOXIN

This treatment involves injecting a toxin into the stomach wall using an endoscope. This can provide some symptom improvement for a small number of people. The result of treatment is usually only temporary.

G-POEM

This treatment involves an endoscopy (gastroscopy.) The endoscope is used to cut a muscle in the stomach to help the stomach empty. The risks of the procedure are:

- Belly pain.
- Infection.
- Stomach ulcers.
- Tears in the lining of the stomach.

Gastric Electrical Stimulation

This treatment involves implanting a battery-operated device in the skin of the belly. Leads attach the device to the bottom of the stomach where electrical impulses stimulate emptying. The risks of this treatment are:

- The device could move.
- You could develop an infection.
- The device could wear a hole in the belly wall.

Treatment may not be available in all areas of the UK, the NHS does not routinely fund this option.

TUBE FEEDING. If you are drinking nutritional drinks and finding you are still losing weight, your doctor may consider tube feeding. This involves a tube inserted through the nose into the stomach. When an oral diet is not tolerated, the feed is given at a very slow rate to help tolerance.

Sometimes people may have a feeding tube inserted using an endoscope. An example is a naso-jejunal tube. The endoscope attaches to the tube in the mouth, it is then pulled down the digestive tract into the small bowel. The top end of the tube is then passed back through the nose. Thereby the feed bypasses the problematic area, the stomach. These tubes can also be inserted using X-rays to guide the placement.

Sometimes doctors use more permanent tubes that use surgery to place the tube. Your doctor would need proof that previous tube feeding was successful before thinking about surgery.

You will be asked to spend a few days in the hospital for placement of the tube. The doctors will also check whether tube feeding helps you maintain your nutrition. You and/or a carer will then be given training to learn how to provide the feed at home.

Feeding into a vein: This route of feeding is not usually required in people with gastroparesis, as the small bowel is working. There would need to be evidence of small bowel intestinal failure to support use of this high-risk feeding option. The risks of feeding into a vein (TPN) include:

- An infection or clot in the blood.
- Liver disease.
- Kidney damage.
- Low blood sugars.

DOES GASTROPARESIS NEED TO BE MONITORED AND, IF SO, HOW?

Your doctor will check your symptoms and weight to see if your treatment is working. Other options can be tried in situations where moderate to severe symptoms are continuing.

If you need a feeding tube, this is usually suitable (with training) for home feeding. A community dietitian will follow up to alter the feed as necessary. You are usually provided with a 24-hour emergency contact number in case of equipment problems. Usually, home tube feeding companies also have a contact for specialist nutrition nurses. The nurses can advise on equipment problems though may not be available as a 24-hour service.

SUPPORT

For artificial feeding information and support please click here.

If you suspect you have an eating disorder, for information and support please click here.

WHAT TO ASK YOUR DOCTOR:

- Are there any medications that can cause these symptoms and if so, what alternatives can I try?
- What treatments are available to my situation and what are the benefits and drawbacks of them?
- Can I be referred to a dietitian to help me with my diet?
- Can I see a diabetes specialist to help me with my diabetes control?
- Can I talk to someone about my feelings with having to manage my symptoms?

RESEARCH

WHAT MORE RESEARCH NEEDS TO BE DONE ON GASTROPARESIS?

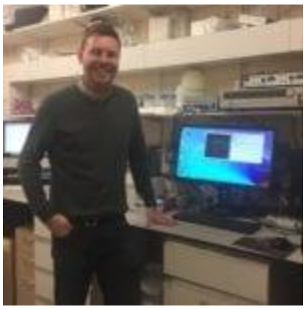
Further research to help understand and treat gastroparesis is crucial.

Guts UK is the only UK charity funding research and providing crucial information for the digestive system top to tail; the gut, liver and pancreas.

Our guts have been underfunded, undervalued and underrepresented for decades. In the UK alone, millions suffer from digestive diseases and often have little or no treatment options. Guts UK exists to change that.

Join us today; help us get to grips with guts and change the lives of millions of people in the UK by supporting our work today.

GUTS UK-FUNDED GASTROPARESIS RESEARCH



Guts UK is proud to have funded stem cell research into gastroparesis. We funded Dr Conor McCann at University College London, as he explored whether it is possible to replace damaged nerve cells by transplanting new 'donor' stem cells into the relevant part of the gut. Though the research is still in it's early stages, the results were hopeful and the research has continued in other centres worldwide. Your kindness enables us to fund research working towards earlier diagnoses, kinder treatments and ultimately, a cure. Support Guts UK today. Thank you.

References available on request.

www.gutscharity.org.uk