

Stomach (Gastric) Ulcer

A stomach ulcer is usually caused by an infection with a germ (bacterium) called *Helicobacter pylori* (*H. pylori*). A 4- to 8-week course of acid-suppressing medication will allow the ulcer to heal. In addition, a one-week course of two antibiotics plus an acid-suppressing medicine will usually clear the *H. pylori* infection. This usually prevents the ulcer from returning (recurring) again. Anti-inflammatory medicines, used to treat conditions such as arthritis, sometimes cause stomach ulcers. If you need to continue with the anti-inflammatory medicine then you may need to take long-term acid-suppressing medication.

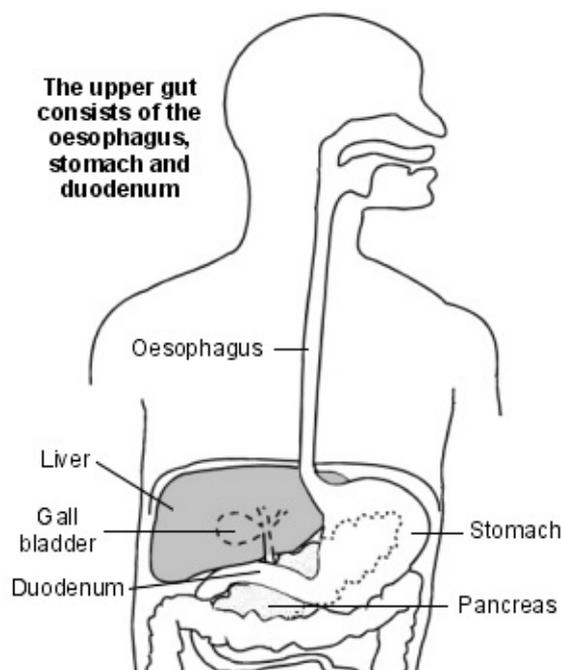
Understanding your gut and digestion

Food passes down the gullet (oesophagus) into the stomach. The stomach makes acid which is not essential, but helps to digest food. After being mixed in the stomach, food passes into the first part of the small intestine (the duodenum). In the duodenum and the rest of the small intestine, food mixes with chemicals called enzymes. The enzymes come from the pancreas and from cells lining the intestine. The enzymes break down (digest) the food which is taken up (absorbed) into the body.

Some terms explained

- **Peptic inflammation** is inflammation caused by stomach acid. Inflammation may be in the stomach; in the first part of the small intestine (the duodenum), as acid flows in with food; or in the lower gullet (oesophagus), if acid splashes up to cause 'reflux oesophagitis'.
- **Apeptic ulcer** is an ulcer caused by stomach acid. An ulcer occurs where the lining of the gut is damaged and the underlying tissue is exposed. If you could see inside your gut, an ulcer looks like a small, red crater on the inside lining of the gut.
- **Stomach ulcer** is one type of peptic ulcer. A stomach ulcer is sometimes called a gastric ulcer. (The most common type of peptic ulcer is a duodenal ulcer.) The rest of this leaflet deals only with stomach ulcers.

See separate leaflets called [Duodenal Ulcer](#), and [Acid Reflux and Oesophagitis](#).



What causes stomach ulcers?

Your stomach normally produces acid to help with the digestion of food and to kill germs (bacteria). This acid is corrosive, so some cells on the inside lining of the stomach and the first part of the small intestine (the duodenum) produce a natural mucous barrier. This protects the lining of the stomach and duodenum. There is normally a balance between the amount of acid that you make and the mucous defense barrier. An ulcer may develop if there is an alteration in this balance, allowing the acid to damage the lining of the stomach or duodenum. Causes of this include the following:

Infection with *Helicobacter pylori* (*H. pylori*)

Infection with *H. pylori* is the cause in about 8 in 10 cases of stomach ulcer. More than a quarter of people in the UK become infected with *H. pylori* at some stage in their life. Once you are infected, unless treated, the infection usually stays for the rest of your life. In many people it causes no problems and a number of these bacteria just live harmlessly in the lining of the stomach and duodenum. However, in some people this bacterium causes an inflammation in the lining of the stomach or duodenum. This causes the defence mucous barrier to be disrupted (and in some cases the amount of acid to be increased) which allows the acid to cause inflammation and ulcers.

Anti-inflammatory medicines - including aspirin

Anti-inflammatory medicines are sometimes called non-steroidal anti inflammatory drugs (NSAIDs). There are various types and brands. For example, aspirin, ibuprofen, diclofenac, etc. Many people take an anti-inflammatory drug for arthritis, muscular pains, etc. Aspirin is also used by many people to protect against blood clots forming. However, these medicines sometimes affect the mucous barrier of the stomach and allow acid to cause an ulcer. About 2 in 10 stomach ulcers are caused by anti-inflammatory medicines.

Other causes and factors

Other causes are rare. For example, some viral infections can cause a stomach ulcer. Crohn's disease may cause a stomach ulcer in addition to other problems of the gut. Stomach cancer may at first look similar to an ulcer. Stomach cancer is uncommon, but may need to be 'ruled out' if you are found to have a stomach ulcer.

What are the symptoms of a stomach ulcer?

- **Pain** in the upper tummy (abdomen) just below the breastbone (sternum) is the common symptom. It usually comes and goes. It may be eased if you take antacid tablets. Sometimes food makes the pain worse. The pain may wake you from sleep.
- **Other symptoms** which may occur include bloating, retching, and feeling sick. You may feel particularly 'full' after a meal.
- **Complications** develop in some cases, and can be serious. These include:
 - Bleeding ulcer. This can range from a 'trickle' to a life-threatening bleed.
 - Perforation. This is where the ulcer goes right through (perforates) the wall of the stomach. Food and acid in the stomach then leak into the abdominal cavity. This usually causes severe pain and is a medical emergency.

What tests may be done?

- **Gastroscopy (endoscopy)** is the test that can confirm a stomach ulcer. In this test a doctor looks inside your stomach by passing a thin, flexible telescope down your gullet (oesophagus). They can see any inflammation or ulcers.
- **A test to detect the *H. pylori* germ (bacterium)** is usually done if you have a stomach ulcer. If *H. pylori* is found then it is likely to be the cause of the ulcer. Briefly, it can be detected in a sample of stools (faeces), or in a 'breath test', or from a blood test, or from a biopsy sample taken during an endoscopy. See separate leaflet called **Helicobacter Pylori and Stomach Pain** for more details.
- **Small samples (biopsies)** are usually taken of the tissue in and around the ulcer during endoscopy. These are sent to the laboratory to be looked at under the microscope. This checks for cancer (which is ruled out as the cause of the ulcer in most cases).

What are the treatments for a stomach ulcer?

Acid-suppressing medication

A 4- to 8-week course of a medicine that greatly reduces the amount of acid that your stomach makes is usually advised. The most commonly used medicine is a proton pump inhibitor (PPI). PPIs are a group (class) of medicines that work on the cells that line the stomach, reducing the production of acid. They include esomeprazole, lansoprazole, omeprazole, pantoprazole and rabeprazole, and come in various brand names. Sometimes another class of medicines called H2 blockers is used. H2 blockers work in a different way on the cells that line the stomach, reducing the production of acid. They include cimetidine, famotidine, nizatidine and ranitidine, and come in various brand names. As the amount of acid is greatly reduced, the ulcer usually heals. However, this is not the end of the story.

If your ulcer was caused by *H. pylori*

Most stomach ulcers are caused by infection with *H. pylori*. Therefore, a main part of the treatment is to clear this infection. If this infection is not cleared, the ulcer is likely to return once you stop taking acid-suppressing medication. **Two antibiotics are needed to clear *H. pylori*.** In addition, you need to take an acid-suppressing medicine to reduce the acid in the stomach. This is needed to allow the antibiotics to work well. You need to take this 'combination therapy' (sometimes called 'triple therapy') for a week. One course of combination therapy clears *H. pylori* infection in up to 9 in 10 cases. If *H. pylori* is cleared, the chance of a stomach ulcer returning is greatly reduced. However, in a small number of people *H. pylori* infection returns at some stage in the future.

If your ulcer was caused by an anti-inflammatory medicine

If possible, you should stop the anti-inflammatory medicine. This allows the ulcer to heal. You will also normally be prescribed an acid-suppressing medicine for several weeks. This stops the stomach from making acid and allows the ulcer to heal. However, in many cases the anti-inflammatory medicine is needed to ease symptoms of arthritis or other painful conditions, or aspirin is needed to protect against blood clots. In these situations, one option is to take an acid-suppressing medicine each day indefinitely. This reduces the amount of acid made by the stomach, and greatly reduces the chance of an ulcer forming again.

Treatment for other uncommon causes

Treatment depends on the underlying cause.

Surgery

In the past, surgery was commonly needed to treat a stomach ulcer. This was before it was discovered that *H. pylori* was the cause of most stomach ulcers, and before modern acid-suppressing medicines became available. Surgery is now usually only needed if a complication of a stomach ulcer develops, such as severe bleeding or a hole (perforation).

After treatment

A repeat gastroscopy (endoscopy) is usually advised a few weeks after treatment has finished. This is mainly to check that the ulcer has healed. It is also to be doubly certain that the 'ulcer' was not due to stomach cancer. If your ulcer was caused by *H. pylori* then a test to check that *H. pylori* has gone is usually advised. This is done at least four weeks after the course of combination therapy has finished. In most cases, the test is 'negative' meaning that the infection has gone. If it has not gone then a repeat course of combination therapy with a different set of antibiotics may be advised.

Further reading & references

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- Holster IL, Kuipers EJ; Update on the endoscopic management of peptic ulcer bleeding. *Curr Gastroenterol Rep*. 2011 Dec;13(6):525-31.
- **Dyspepsia and gastro**oesophageal reflux disease: Investigation and management of dyspepsia - symptoms suggestive of **gastro**oesophageal reflux disease - or both; NICE Clinical Guideline (Sept 2014)

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