

# Medicine for Managers

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## Peptic Ulcer

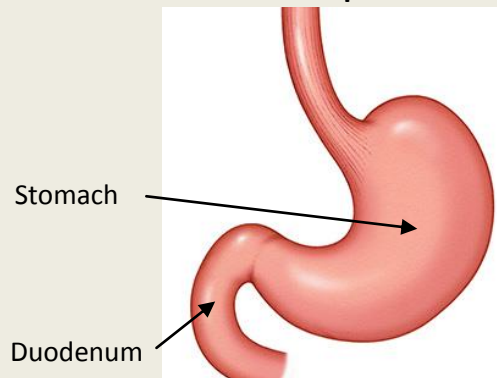
**A peptic ulcer is, as the name suggests, an area of damaged mucosa (lining) in the stomach or upper part of the duodenum. It forms as a result of a chemical burn due to the effects of acid and the enzyme pepsin in the stomach. About four times as many ulcers form in the duodenum as in the stomach, about 4% of gastric ulcers are malignant and one in ten ulcers produces no**

The classic picture of the ulcer sufferer is the overweight, dyspeptic, middle aged executive, stressed by work and popping antacid pills ten to the dozen.

It is certainly correct that stress may lead to dyspeptic symptoms but the common cause of ulceration is infection with the bacterium *Helicobacter pylori*, which is responsible for an estimated 85% of cases.

The remainder of cases are mainly the result of damage by drugs such as aspirin and anti-inflammatory agents, used in the treatment of arthritis, such as ibuprofen (Brufen) and diclofenac (Voltarol).

A few patients have other causes for ulceration. Some stomach ulcers are caused by cancer and debility through other illness may result in ulceration too.



The most common symptom of peptic ulcer is pain. The pain of a stomach ulcer typically starts immediately after eating as a result of the acid, stimulated by the arrival of food, making contact with the ulcer.

The pain of a duodenal ulcer may start 2-4 hours after food, when the stomach contents pass into the duodenum after the acid mixing and initial digestion is complete.

This distinction may help in the initial diagnosis but is not consistently reliable. The pain may take the form of heartburn or may be described as hunger pains because it can occur so long after eating. It is

aggravated by spicy and acidic foods and drinks. Other symptoms may include nausea and vomiting, indigestion, heartburn and loss of appetite.

The serious complication of peptic ulcer is bleeding when the ulcer erodes a blood vessel. The bleed may induce a sudden severe episode of abdominal pain or persistent nausea and vomiting.

The patient may vomit blood (haematemesis) which may be bright red but which more commonly has the appearance of coffee grounds. If the blood passes downwards through the small and large intestine it appears as melaena which are black tarry stools.

The appearance of blood in these forms is due to the action of acid and bowel contents on the blood. Other complications are perforation of the ulcer through the stomach or duodenal wall into the abdominal cavity, resulting in leakage of bowel contents and, if untreated, peritonitis.

The diagnosis of peptic ulcer can be provisionally made by the history and examination but is only confirmed by gastroscopy (proper name oesophago-gastro-duodenoscopy) which involves the passage of a fibre-optic viewer from the mouth to the duodenum to visualise the stomach and duodenum. This technique has virtually replaced the older investigation, the Barium meal, where radio-opaque liquid was swallowed and the stomach and duodenum were X-rayed to identify any defects in their walls. The gastroscopy has

the advantages that a camera is attached to record permanent images of the actual ulcer if present and biopsy forceps are also fitted to take biopsies of any lesion where cancer might be suspected.

Any patient with symptoms suggestive of peptic ulcer will have a stool test for the *Helicobacter pylori* organism. This involves testing a sample of faeces for the bacterial DNA which shows that the bacteria are present in the gut. Sometimes other tests may be done.

The *Helicobacter* organism, which was only discovered in 1982, has the ability to live in the gastric hydrochloric acid and is probably present in 10% of the population. However most people have no symptoms and it is not known why about 12-15% of the carriers become susceptible to peptic ulceration, although smoking does seem to increase the risk. In patients with mild upper intestinal symptoms a *Helicobacter* test may be undertaken before referral for gastroscopy and, if positive, the patient may be treated to eliminate the organism.

The treatment for *Helicobacter* is laid out in the British National Formulary and a number of eradication therapy options are available. They consist of an acid suppressant (proton pump inhibitor such as omeprazole, lansoprazole or esomeprazole) combined with two of three antibiotics (amoxicillin, clarithromycin and metronidazole) taken for seven days. If the treatment is not successful it can be repeated using a different combination of antibiotics.

For simple peptic ulcers, there are a variety of treatments. Lifestyle changes may reduce or eliminate the symptoms. These include stopping smoking, reducing tea and coffee intake avoiding spicy foods, limiting alcohol intake and losing weight.

If the individual uses any non-steroidal anti-inflammatory drugs such as ibuprofen, diclofenac or indomethacin, or low dose aspirin as prophylaxis, it may be necessary to change the type of treatment to avoid the drugs or to use an additional medication to minimise the risk of damage.

There are also a variety of pharmaceutical agents which may be used to treat the symptoms and the ulcers themselves. Antacids neutralise stomach acid and alginates form a protective coating on the stomach lining. These medications, which are purchasable at the pharmacy, are best taken when the symptoms occur. A group of drugs called H<sub>2</sub>-receptor blockers, first introduced in the mid-1970s, revolutionised the treatment of ulcers.

The commonly used gastrectomy operation (removal of the stomach) became almost obsolete with the arrival of cimetidine (Tagamet) and later ranitidine (Zantac). The drugs, which are still used for treatment of ulcers, block the action of histamine which stimulates acid production. In the late 1980s, the Protein Pump Inhibitors (PPIs) were launched.

These drugs block the actions of proteins called proton pumps which are also partly responsible for blocking the production of stomach acid, preventing further damage to

an ulcer allowing it to heal. Commonly used PPIs include omeprazole and lansoprazole.

For those of us who can remember when a treatment of peptic ulcer was still to insert a milk drip into the stomach to neutralise the acid, the modern medical developments for diagnosis and treatment have made a huge difference.

Elimination of symptoms and cure is now swift and effective and the distressed dyspeptic patient has largely become a thing of the past.

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