

Epigastric pain

What is the epigastrium?

The epigastrium is the area of central abdomen lying below the sternum and above the umbilicus. There are a number of common causes of pain in that area and, as ever, accurate diagnosis depends on good history taking and examination.

Assessment^[1]

History

Nature of the pain - establish:

- The length of time it has been going on.
- Whether it is constant or intermittent.
- Whether it is a sharp stabbing pain or a gripey colicky pain.
- Whether it is worse at any particular time of day.
- If it is better or worse in any particular position.
- If it is worsened or improved by eating.
- If there are associated features such as nausea or vomiting, weight loss, change in bowel habit.

Other medical factors:

- Pregnancy.
- Alcohol.
- Stress.
- Obesity.

Examination

Start with a general assessment of the patient: are they acutely unwell or in obvious severe pain? Routine observations such as temperature, pulse and blood pressure are often helpful.

Abdominal examination:

- Check for tenderness, including rebound tenderness which might indicate peritonitis.
- Check for masses including hernias. [Epigastric hernias](#) are common and can strangulate.
- Look for any signs of liver disease such as [jaundice](#), [ascites](#) or spider angiomas.

Causes of epigastric pain (aetiology) ^[1]

Gastric acid is responsible for much epigastric pain

- [Gastro-oesophageal reflux disease](#) (GORD) can cause epigastric pain as well as burning pain in the chest, a feeling of liquid coming up into the back of the throat and a persistent irritating cough. Many factors contribute to it, including:
 - Obesity.
 - Gastric irritants, such as alcohol, smoking and caffeine.
 - Pregnancy.
 - [Hiatus hernia](#).
 - Stress.
- [Gastritis](#) is a common cause of epigastric pain. It is often worse after eating and will generally improve with [proton pump inhibitors](#). Test for the presence of [Helicobacter pylori](#).
- [Peptic ulcer](#) tends to cause acute or chronic gnawing or burning pain. This may be improved by food if caused by a duodenal ulcer, and worsened by food if a gastric ulcer. Typically the pain is worse at night.

Life-threatening causes of epigastric pain

- **Peritonitis** – acute pain with signs of shock and tenderness (possibly rebound). This may be exacerbated by coughing. The abdomen may feel 'rigid'.
- **Ruptured aortic aneurysm** – acute pain which radiates to the back or groin. The patient may be in cardiovascular collapse. A mass is felt swelling and contracting with the pulse.
- **Pre-eclampsia** – epigastric pain is very significant, especially if severe or associated with vomiting.

Other 'surgical' causes of epigastric pain

- **Pancreatic cancer** – this should be considered in anyone with unexplained epigastric pain, especially with weight loss or new onset diabetes.
- **Pancreatitis** – acute pain which radiates to the back. It is usually accompanied by vomiting. The pain may be relieved by sitting forward. Signs vary, but include jaundice, tachycardia, abdominal rigidity, tenderness, and discolouration around the umbilicus or flanks.
- **Gastrointestinal obstruction** – acute colicky pain. Vomiting brings relief. Accompanied by distension and 'tinkling bowel sounds'.
- **Gallbladder disease** – acute constant pain with vomiting, fever, local tenderness and rigidity. It may be possible to palpate a gallbladder mass.
- **Gastric carcinoma** – be suspicious particularly in male patients who are over 55 years old and who smoke. Advanced cases may also have weight loss, vomiting, palpable mass/nodes, hepatomegaly, vomiting and dysphagia.
- **Renal colic** typically causes unilateral loin pain radiating to the suprapubic area, but sometimes the pain can be experienced elsewhere.

Other causes of epigastric pain

[Irritable bowel syndrome](#) – by definition the pain has been present for at least six months and is associated with bloating and alteration in stool frequency or consistency. Examination is usually normal or there may be mild tenderness/distension.

[Lactose intolerance](#) can cause pain, bloating and nausea.

Referred pain – this may be from the heart in [myocardial infarction](#); also from pleural disease or spinal nerves.

[Shingles](#) – this may cause an intense pain which is more in the skin than the deeper tissues, but patients may find it hard to distinguish. The pain may occur a couple of days before the typical vesicular rash becomes visible.

Epigastric pain in children^[2]

Abdominal pain in children can be caused by some of the same causes as in adults; however, there are some differences. Functional dyspepsia is common in children of all ages. However thorough assessment and consideration of investigations and/or specialist referral are essential if there is any indication of possible organic disease.

Abdominal migraine

[Migraine](#) in adults is primarily a headache condition, although it is often associated with vomiting and other symptoms. [Migraine in children](#) can be a primarily abdominal condition, presenting with abdominal pain with or without nausea and vomiting and often no headache at all.

Clues in the history include family history of migraine, episodic nature with complete remission after several hours, and maybe migraine triggers such as cheese, chocolate or tiredness with loss of routine.

Mesenteric adenitis

Mesenteric adenitis is quite a common cause of abdominal pain in children. It can occur in adults but is more unusual. It is caused by painful swelling of abdominal lymph nodes associated with an infection, generally a viral [upper respiratory tract infection](#).

Recurrent abdominal pain

Recurrent abdominal pain, also called 'nonspecific abdominal pain of childhood' is a common cause of pain in children between 5 and 14 years, most commonly girls. Investigations will reveal no obvious cause but the pain is certainly real. It generally responds well to regular painkillers and generally resolves by itself.

Urinary tract infection

Urinary tract infection can cause abdominal pain which does not fit the pattern we would expect with a similar infection in an adult. If you have not found any other cause for the pain it may be worth sending an MSU.

Investigations^[1]

Testing for *H. pylori* may be helpful.

Blood tests may be useful:

- FBC.
- ESR/CRP.
- U&Es.
- LFTs.
- Amylase.
- Clotting.

You may wish to consider imaging:

- Abdominal ultrasound will look for gallstones, as well as liver and renal problems.
- CXR if you suspect referred pleural pain.
- Abdominal X-ray may reveal bowel obstruction, constipation or kidney stones.
- Computerised tomography (CT) scan.

Endoscopy may be useful, especially for gastro-oesophageal causes of epigastric pain.

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