

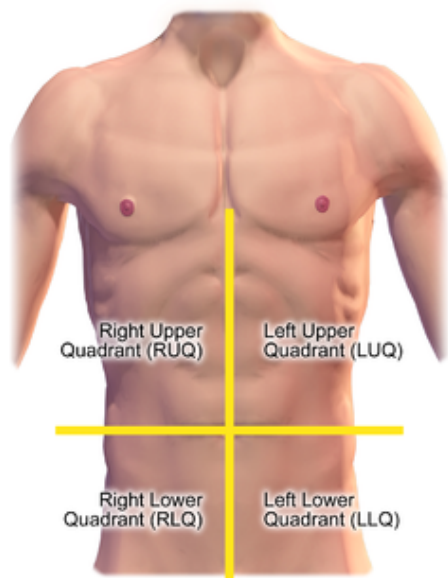
View this article online at: patient.info/signs-symptoms/right-upper-quadrant-pain-leaflet

Right upper quadrant pain

This leaflet looks at pains which can develop in the upper part of the tummy (abdomen/abdominal cavity) on your right-hand side. It deals with possible causes, how a diagnosis might be made and what the treatment might be.

Where is my right upper quadrant?

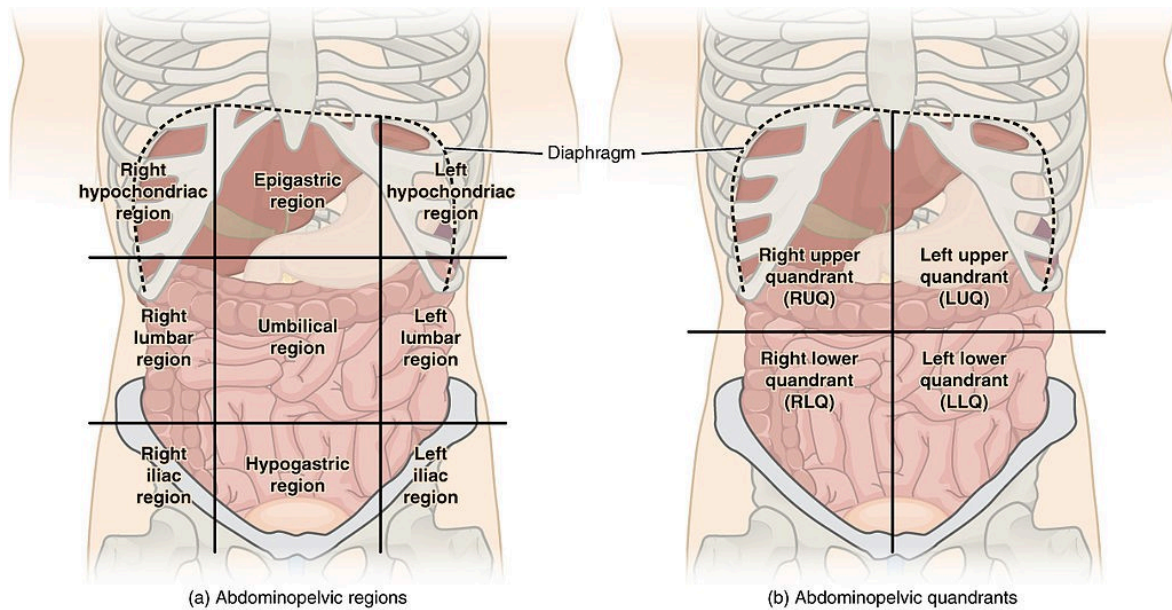
The right upper quadrant (RUQ) is a section of your tummy (abdomen). Look down at your tummy, and mentally divide the area from the bottom of your ribs down to your pubes into four quarters. The quarter on your right side closest to your ribs is your RUQ.



Abdominopelvic Quadrants

By Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436

Which organs are in my right upper quadrant?



OpenStax, CC BY 3.0, via Wikimedia Commons

The organs within your right upper quadrant are your:

- Liver.
- Gallbladder.
- Part of the pancreas.
- Duodenum and some other parts of your large and small bowel.
- Right kidney (at the back behind the other organs).

There are also the skin and nerves of that section.

What causes right upper quadrant pain?

Pain can come from any of the organs mentioned above, and these are the source for the most common causes. But the human body is never simple, so pain can also come from other areas of your body. This is called 'referred' pain. So this widens the possible options.

In adults, the most frequent causes of right upper quadrant pain are:

- [Gallstones.](#)
- [Kidney infections.](#)

- [Shingles](#).
- Peptic ulcers – [ulcers in the upper part of the guts](#).

Less common causes are discussed later in this leaflet.

Gallstones and gallbladder problems

Gallstones don't necessarily cause any symptoms but when they get stuck in the bile duct they can give you pain. This is called biliary colic and is typically a severe crampy pain in the RUQ shortly after eating a fatty meal. An infection may ensue, called cholecystitis, which will give you a more persistent pain in the RUQ, with a [high temperature](#).

See the separate leaflets called [Gallstones and Bile](#) and [Cholecystitis](#) for more information.

Kidney stones and infections

Problems with the kidney tend to give you pain more around the right-hand side of the right upper quadrant, or in your back (loin), but the pain may spread and involve the front of the tummy (abdominal) area. Kidney stones can cause a severe pain (usually round the back) which occurs in spasms lasting from a few minutes to several hours.

There may also be blood in your wee. A kidney infection can cause pain anywhere along your urinary tract. So this could be anywhere from the loin in your back, around to the front, the RUQ, or down to the lower part of your tummy. It may be associated with a fever, pain when you wee, or going to the loo more frequently.

See the separate leaflets called [Kidney Infection \(Pyelonephritis\)](#) and [Kidney Stones](#) for more information.

Shingles

In some cases you can get the pain from shingles before the rash appears. You may have pain for a few days before a blistery rash appears. The pain tends to be quite sharp or burning, and you may feel not quite right in yourself. The RUQ is a common place for a shingles rash.

Other people find they continue to get a pain long after the rash of shingles has gone. This is called [postherpetic neuralgia](#).

See the separate leaflet called [Shingles \(Herpes Zoster\)](#) for more information.

Liver problems

The liver takes up a large part of your right upper quadrant but, in fact, it doesn't very often give you pain. Causes of pain from the liver include:

- Infection causing inflammation of the liver (hepatitis). This will usually result in jaundice and a fever and feeling generally unwell in addition to some pain in that area. Pain is not necessarily a feature. There are a number of types of hepatitis, including hepatitis A, [hepatitis B](#) and [hepatitis C](#).
- [Abscess](#). This is a collection of pus around the liver or under the ribs, causing pain, tenderness and fever.
- [Alcoholic liver disease](#). [Too much alcohol](#) can damage your liver, which may affect its function, turn your skin yellow and give you RUQ pain.
- [Liver cancer](#) - this can start in the liver or have spread from other cancers. Primary cancer in the liver is unusual. The liver may enlarge in certain blood cancers, such as lymphomas or [leukaemias](#), causing discomfort.

Gut problems

Several problems in your gut can give you pain in the right upper quadrant. For example:

- Duodenal ulcer. Pain typically comes on a couple of hours after eating and may be improved by taking [antacids](#). The level of pain can gradually build up over time, eventually becoming severe and may be associated with bringing up (vomiting) blood. This is an emergency and you should call an ambulance to go directly to hospital if this occurs. [See the separate leaflet called Duodenal Ulcer for more information.](#)
- Gastroenteritis. Infections in your gut tend to give you pain all over your tummy, or more in the middle; however, occasionally the pain may be in the RUQ area. It is usually associated with [diarrhoea](#) and/or being sick (vomiting). You may have a mild fever. [See the separate leaflet called Gastroenteritis for more information.](#)

- Indigestion (dyspepsia) can give you a pain in the upper part of your tummy, along with bloating and acid reflux. [See the separate leaflet called Indigestion \(Dyspepsia\) for more information.](#)
- Longer-term conditions such as Crohn's disease and ulcerative colitis can give rise to pain anywhere in the tummy at times. They usually cause loose stools, sometimes with blood. See the separate leaflets called [Crohn's Disease](#) and [Ulcerative Colitis](#) for more information.
- The right upper quadrant is not a common place for pain in irritable bowel syndrome, but in some people it may occur. Pain is usually on and off and accompanied by bloating and diarrhoea and/or constipation. [See the separate leaflet called Irritable Bowel Syndrome for more information.](#)

What causes right upper quadrant pain in pregnancy?

Any of the above conditions can cause pain in the right upper quadrant whether you are pregnant or not, so you should always be checked out. However, in pregnancy a common cause of discomfort is the pressure of the womb pressing on other organs, and pressing them into the diaphragm.

Also, problems with [indigestion](#) tend to be common in pregnancy, again at least partly due to the pressure on the stomach. [Urinary tract infections](#) are also more common in pregnancy.

What causes right upper quadrant pain in children?

In young children it is often quite difficult for them to show exactly where the pain is. If this is the case, the range of options widens to almost any cause of tummy ache. In children common causes include:

- [Constipation.](#)
- [Anxiety.](#)
- [Gastroenteritis.](#)

- **Mesenteric adenitis.** In children with infections such as colds, glands within the tummy commonly become inflamed giving them tummy ache.
- **Appendicitis.** Usually this gives pain in the *lower* right part of the tummy. However, often the pain of appendicitis starts in the middle of the tummy, around the tummy button. And if a child can't show you exactly where the pain is, or if the appendix has burst (ruptured), appendicitis may be a possible diagnosis to consider.
- **Pneumonia.** Infections of the lower parts of the lungs may cause pain in the tummy area.

What are the other possible causes?

As well as the more common causes already described, there are many other conditions which occasionally cause right upper quadrant pain.

These include:

- **Heart attack (myocardial infarction).** Heart attacks normally present with chest pain, radiating to the left arm, or a tightness in the chest. Occasionally they can cause pain in the RUQ. Usually you would feel unwell in yourself if you were having a heart attack - for example, feel sweaty or breathless.
- **Pneumonia.** This is an infection in the lung and normally gives you **cough**, and a high temperature (fever), with or without breathlessness and pain in your chest. However, if the infection is in the lower part of your right lung, you may feel the pain in your RUQ. Other types of chest infections such as **pleurisy** can also sometimes give you a pain so low in your chest that it feels as if it is in your tummy (abdomen).
- **Problems with the pancreas.** This includes **pancreatitis** and **cancer of the pancreas**. Usually problems with the pancreas give you pain more in the middle of your upper tummy, which radiates to your back between your shoulder blades. But occasionally it can cause a pain on the right side.
- A serious complication of **type 1 diabetes**, called diabetic ketoacidosis. This makes you very unwell generally, but occasionally tummy pain can be one of the symptoms.

- In a condition called [Addison's disease](#), a complication called an Addisonian crisis occasionally can give you tummy pain. Again you would be unwell in other ways other than the pain.
- Rare complications of pregnancy affecting the liver.
- Pain radiating from problems with the spine. If nerves are being irritated or squashed, pain in any of the areas that nerve supplies can occur. Sometimes spinal problems cause pains in the tummy area.
- Pain which is referred from problems in the pelvis, which is below the tummy. This might include conditions such as infections ([pelvic inflammatory disease](#)) or [ovarian cysts](#). Again the pain in the RUQ would usually be accompanied by one or more typical symptoms of these conditions.
- Budd-Chiari syndrome is a rare condition where the veins in the liver become blocked.

These listed causes are not exhaustive, and many other conditions occasionally cause pain in the right upper quadrant.

Should I see a doctor for upper right abdominal pain?

Yes, if you have a pain which doesn't settle, you will probably need to see a health professional to help work out the cause. See a doctor urgently if:

- Your skin has turned yellow (this is called [jaundice](#)).
- Your wee has gone darker and your poo lighter (this suggests a blockage in the tubes around your liver and gallbladder).
- Your pain is very severe.
- You have recently lost weight without trying.
- You are bringing up (vomiting) blood, or have blood in your poo (including a very dark coloured poo which can be caused by old blood from high up in the gut).
- You have a high temperature with shaking ([rigors](#)).
- You feel out of breath.

How is right upper quadrant pain diagnosed?

The doctor will be able to get a reasonable idea of the reason for the pain by asking you some questions and physically examining you. They may be able to find the cause simply from doing so. For example, if they find the typical rash of shingles, you will need no further tests to find the cause. If they find a liver enlargement (unusual) this suggests the problem is in the liver.

If examination is normal, that already rules out quite a few possible diagnoses. The doctor will certainly need to feel your tummy (abdomen) in the area you have the pain, but may also need to examine other parts too, such as the rest of your tummy and your chest.

Are tests needed?

You may be asked to provide a sample of urine, to check the colour and to rule out kidney problems.. You may then have to have further tests, depending on their suspicions at this stage. These may be done urgently or in due course, again depending on their suspicions and how much pain you are in.

Possible tests might include [blood tests to check the function of your liver](#), rule out any inflammation or infection in your system, and check for [anaemia](#), [an ultrasound scan to look for common conditions such as gallstones](#), and a look into your stomach and upper bowel with a camera ([endoscopy](#)) and other scans and 'scopes'.

What are the next steps?

This depends on what has been discovered so far through the tests above. More specific tests may be needed depending on where it is thought the pain is coming from. If your pain is thought to be coming from your guts, you are likely to have some type of [endoscopy](#), which is an examination of the inside of your guts with a camera.

A more specific type called [endoscopic retrograde cholangiopancreatography \(ERCP\)](#) can examine the tubes around your gallbladder and pancreas. In some cases special [radio-isotope scans](#) may be used. These show up certain organs and tissues by using a small dose of a radioactive chemical.

If you might have a kidney problem, you might have a specialised form of [computerised tomography \(CT\) scan](#), with a dye injected to highlight your urinary tract.

A [chest X-ray](#) might be needed to rule out a problem in your lungs, such as infection. If the pain is thought to come from the nerves around your spine, a [magnetic resonance imaging \(MRI\) scan](#) may be helpful. An MRI of the affected area of your tummy may also be useful in some cases.

It is very unlikely that you would need ALL these tests. You are likely to need a few tests only. For example, if [gallstones](#) are found on the ultrasound scan, you would need no other tests.

What if no cause is found after tests?

Obviously if any serious cause has been ruled out, this is a relief, but doesn't settle the pain. There are so many possible causes that multiple tests may be needed for your doctor to be sure that they have ruled out all serious causes.

In some cases when tests are normal, a condition called sphincter of Oddi dysfunction may be diagnosed. The sphincter of Oddi is a tight muscle band which controls the flow of a substance called bile which helps your digestion. It is located in one of the tubes around your liver and gallbladder.

Even after having the gallbladder removed (a cholecystectomy), some people continue to get a pain which feels much like gallstone pain. There may not be anything to find on scans, etc, and sometimes this pain is put down to sphincter of Oddi problems.

Treatment for right upper quadrant pain

There is no single answer to this until you know what the cause of your pain is. See the relevant leaflet for the condition you are diagnosed with.

Treatments for a few of the common causes of right upper quadrant pain are briefly discussed below.

- **Gallstones.** In some cases symptoms are not very troublesome and can be managed by sticking to a low-fat diet only. Many people choose to have their gallbladder removed, in an operation called a cholecystectomy. This can usually be done by keyhole (**laparoscopic**) surgery.
- **Cholecystitis** is treated initially with **antibiotics**, usually in hospital via injections or a drip (intravenous antibiotics). Once the infection has been treated, a cholecystectomy is usually advised.
- **Shingles.** The pain and rash settle on their own in time, but some people may be advised to take an **antiviral tablet** to help reduce the risk of long-term nerve pain after shingles.
- **Kidney infections** are treated with antibiotics. Mild infections can be treated with antibiotics at home. If you are very unwell you may need admission to hospital for intravenous antibiotics and fluids.
- **Kidney stones.** Small kidney stones pass on their own eventually, in which case you will need to drink plenty of fluids and take strong painkillers. Larger kidney stones may need one of a number of procedures done to break them up or remove them altogether.
- A **duodenal ulcer** is usually treated with **acid-suppressing medication**, as is **indigestion**.

What is the outlook?

Again, outlook (prognosis) depends entirely on the cause of the pain. Some conditions settle very quickly on their own (for example, **gastroenteritis**) or with the help of antibiotics (for example, a **kidney infection**).

Others, such as **gallstones**, can be cured with treatment. Some, such as **postherpetic neuralgia** and sphincter of Oddi problems, rumble on for a long time. Your doctor should be able to give you an idea of the outlook once a diagnosis has become clear.

Further reading

- **Kim JS;** Acute abdominal pain in children. *Pediatr Gastroenterol Hepatol Nutr.* 2013 Dec;16(4):219–24. doi: 10.5223/pghn.2013.16.4.219. Epub 2013 Dec 31.

- [Ahmed F, Fogel EL](#); Right upper quadrant pain and a normal abdominal ultrasound. Clin Gastroenterol Hepatol. 2008 Nov;6(11):1198–201. doi: 10.1016/j.cgh.2008.06.020.
- [Cartwright SL, Knudson MP](#); Diagnostic imaging of acute abdominal pain in adults. Am Fam Physician. 2015 Apr 1;91(7):452–9.
- [Gallstones](#); NICE CKS, June 2024 (UK access only)
- [Rehman S, Singh KK, Sajid MS](#); Role of laparoscopic cholecystectomy in the management of chronic right upper quadrant pain due to biliary dyskinesia: a systematic review and meta-analysis. Transl Gastroenterol Hepatol. 2019 Sep 23;4:71. doi: 10.21037/tgh.2019.08.10. eCollection 2019.
- [Cholecystitis - acute](#); NICE CKS, July 2021 (UK access only)

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Egton Medical Information Systems Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our [conditions](#).

Authored by:	Peer Reviewed by: Dr Colin Tidy, MRCP	
Originally Published: 19/11/2023	Next review date: 10/07/2023	Document ID: doc_29408

View this article online at: patient.info/signs-symptoms/right-upper-quadrant-pain-leaflet

Discuss Right upper quadrant pain and find more trusted resources at [Patient](#).



To find out more visit www.patientaccess.com
or download the app



Follow us

