



## Cholecystitis

Cholecystitis is inflammation of the gallbladder which typically occurs when the passage that connects the gallbladder to the bile duct is blocked. It may be acute (sudden inflammation that causes severe pain in the upper abdomen) or chronic (swelling and irritation that persists over time).

Your doctor may use abdominal ultrasound, abdominal CT, magnetic resonance cholangiopancreatography (MRCP) or hepatobiliary nuclear imaging to help diagnose your condition. Cholecystitis may be initially treated through fasting or medication.

However, because it may frequently recur, your physician may recommend your gallbladder be removed.



## What is cholecystitis?

Cholecystitis is inflammation of the gallbladder, the pear-shaped organ beneath the liver that serves as a storage reservoir for bile. When the gallbladder is inflamed, patients experience pain in the upper right or mid-portion of the abdomen.

A normal functioning gallbladder stores bile (which is made in the liver) and pushes it into the small intestines to help digest food. The main bile duct, which is also called common bile duct, connects the liver with the intestine and carries the bile. The gallbladder is connected to this main bile duct through a little side duct, called the cystic duct. Cholecystitis may occur when the cystic duct (the passage that connects the gallbladder to the bile duct) is blocked, typically by a gallstone causing bile to become trapped leading to inflammation of the gallbladder.

Types of cholecystitis may include:

- acute cholecystitis, a sudden inflammation of the gallbladder that causes severe pain in the upper abdomen. Pain can also spread between the shoulder blades. In severe cases the gallbladder may perforate, which means it develops a hole in its wall and the strong bile gets out into the abdominal cavity. This can be a life-threatening situation that requires immediate attention.
- chronic cholecystitis, swelling and irritation of the gallbladder that persists over time as a result of

repeated bouts of acute cholecystitis. Ultimately, damage to the gallbladder walls may cause the organ to thicken, shrink and lose its ability to properly function.

Additional symptoms of cholecystitis include:

- nausea
- vomiting
- fever
- pain in the abdomen that intensifies when taking a deep breath
- abdominal pain and cramping after meals (especially fatty foods)

## How is cholecystitis diagnosed and evaluated?

In addition to obtaining your medical history, your doctor may also order blood tests to determine whether an infection is present in the gallbladder. One or more of the following imaging tests may also be performed:

- **Abdominal ultrasound:** Ultrasound uses sound waves to produce pictures of the gallbladder and can also show some of the bile ducts. It is used to identify signs of inflammation or show that there may be blockage of bile flow.  
For information about ultrasound procedures performed on children, visit the [Pediatric abdominal ultrasound page](#)
- **Abdominal CT:** Computed tomography (CT) rapidly produces detailed pictures of the abdomen, including the liver, gallbladder, bile ducts and intestine to identify image findings associated with inflammation of the gallbladder or blockage of bile flow. See the [Safety page](#) for more information about CT.
- **Magnetic resonance cholangiopancreatography (MRCP):** MRCP is an MRI exam that produces detailed images of the liver, gallbladder, bile ducts, pancreas and pancreatic duct. It is the most powerful of the imaging tests for biliary (relating to bile) abnormalities and can identify gallstones, gallbladder or bile duct inflammation or blockage of the biliary system. See the [Safety page](#) for more information about magnetic resonance imaging.
- **Hepatobiliary nuclear imaging:** This is a type of nuclear medicine imaging that uses a radioactive tracer to help evaluate disorders that affect the liver, gallbladder and ducts that are part of the biliary system.

## How is cholecystitis treated?

To reduce inflammation in the gallbladder, initially, your physician may treat cholecystitis with:

- fasting, to rest the gallbladder.
- a special diet, to eliminate fat intake.
- medication, for pain management.
- antibiotics, if there is an infection.

However, because cholecystitis may recur frequently, your physician may recommend gallbladder removal using either:

- laparoscopic cholecystectomy, performed while the patient is under general anesthesia, where the surgeon uses the belly button and several small abdominal incisions to insert a laparoscope and instruments to view the inside of the abdominal cavity and remove the gallbladder, leaving behind a minimal scar.
- open cholecystectomy, performed while the patient is under general anesthesia. The gallbladder is removed through a surgical cut in the abdomen. See the Safety page for more information about anesthesia.

For patients who are high-risk surgical candidates, your physician may recommend endoscopic retrograde cholangiopancreatography (ERCP), percutaneous cholecystostomy or percutaneous transhepatic cholangiography (PTC).

- ERCP: ERCP is typically performed by a gastroenterologist, a doctor who specializes in abdominal disorders. The patient is most often sedated (medication is given to help calm the patient) and then a camera on a flexible tube is passed from the mouth through the stomach and into the beginning of the small bowel, called the duodenum. This is where the common bile duct meets the small intestine. The closure mechanism at the end of the bile duct can be examined and opened to allow passage of blocked bile and stones, if necessary. Doctors can also feed a small tube up the common bile duct, inject contrast material to better see the common bile duct and also may use a laser fiber to destroy small gallstones and/or use a basket or balloon to retrieve stones or stone fragments. All of this may be accomplished without any incisions in the abdomen. There is a small, but real risk of inflammation or injury to the pancreas as a complication of this procedure.
- Percutaneous cholecystostomy: Percutaneous cholecystostomy is a procedure in which a tube is placed through the skin directly into the gallbladder using imaging guidance (often ultrasound or CT) in order to allow the flow of congested or infected bile to the outside, so that inflammation of the gallbladder can be reduced. This procedure is typically done in patients who are too ill to undergo cholecystectomy and usually performed by an interventional radiologist.
- Percutaneous transhepatic cholangiography (PTC): A needle is advanced into the bile ducts using imaging to guide the needle into the correct ducts. Iodinated contrast material is injected and flows down the bile ducts helping to locate gallstones possibly causing blockage. Some stones can be removed during a PTC and others may be bypassed by leaving a catheter or small thin tube in place which allows bile to drain to the outside in order to decompress the bile ducts and allow the inflammation to be reduced. See the Biliary Interventions page for more information.

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