

GALLSTONES

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Gallstones

Gallstones are stone-like objects that form in the gallbladder or bile ducts. Gallstones can be tiny (the size of a grain of sand), or may be as large as a golf ball. Depending on the symptoms, people who have gallstones may not need treatment, or they may need to take medication or have surgery to remove their gallbladder. If the stones are in the bile ducts, they usually need to be removed by endoscopy.

What is the gallbladder?

The gallbladder is an organ that resembles a small pear. It is located under the liver on the right side of the abdomen. The function of the gallbladder is to store and dispense bile, a fluid that is produced by the liver and helps digest fats in the foods you eat. Bile is made up of several substances, including bilirubin and cholesterol.

The gallbladder is connected to the liver and the intestine by a group of ducts, including the hepatic duct, the cystic duct, and the common bile duct. When you eat, the gallbladder sends bile through the common bile duct into the intestine to help you digest food, particularly fatty foods.

What are the complications of gallstones?

Gallstones can block the ducts and hinder the flow of bile from the liver or gallbladder to the intestine. This blockage can cause bloating, nausea, vomiting, and pain in your abdomen, shoulder, back, or chest.

Gallstones can also cause the gallbladder or bile ducts to become infected. A blockage in the common bile duct can cause jaundice (yellowing of your skin or eyes) or can irritate the pancreas.

How do gallstones form?



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There are two types of gallstones: pigment stones (made up of bilirubin) and cholesterol stones (made up of cholesterol). Most gallstones are cholesterol stones.

Cholesterol gallstones can form when there is too much cholesterol or bilirubin in the bile. Gallstones can also develop if the gallbladder does not completely empty itself of bile.

Pigment gallstones may form in people who have certain conditions, such as cirrhosis of the liver or blood disorders.

Who is at risk for gallstones?

The following have an increased risk for developing gallstones:

- Women
- People over the age of 40
- People who have a family history of gallstones (relatives who have the disease)
- People who are overweight or obese
- People who lose a great deal of weight in a short period of time
- People who have diabetes
- People with Crohn's disease
- People whose diet is high in fat and cholesterol
- People who take drugs that lower cholesterol
- Americans Indians and people of Mexican descent

What are the symptoms of gallstones?

In many cases, people who have gallstones do not have any symptoms. These gallstones are known as “silent stones.”

The main symptom of gallstones is pain, which can last from several minutes to several hours. Pain can occur when gallstones move from the gallbladder into one of the ducts (the hepatic duct, the cystic duct, and the common bile duct). Gallstones that migrate can cause conditions such as acute cholecystitis (inflammation of the gallbladder), cholangitis (infection and inflammation of the bile ducts), and pancreatitis (inflammation of the pancreas).

The pain may be located in the upper part of the abdomen, between the shoulder blades, or under the right shoulder.

Other symptoms of gallstones include:

- Sweating
- Vomiting
- Fever

- A yellow tint to the skin (jaundice)

How are gallstones diagnosed?

The most commonly used test to detect gallstones is ultrasound. Ultrasound is a procedure that transmits high-frequency sound waves through body tissues. The echoes are recorded and transformed into video or photographic images of the internal structures of the body.

Other tests that may help in the diagnosis of gallstones include the following:

- Computed tomography (CAT scan).
- Endoscopic retrograde cholangiopancreatography (ERCP) In this test, an endoscope—a flexible tube with a light and a camera attached—is inserted into the patient’s mouth, down the throat, and into the stomach and small intestine. A dye is injected to allow the bile ducts to stand out. If there are gallstones in the bile duct, they can be removed by the endoscope.
- Magnetic resonance cholangiopancreatography (MRCP): In MRCP, the bile ducts are examined with magnetic resonance imaging (MRI), a test that uses a large magnet, radio waves, and a computer to produce very clear images of parts of the body. Unlike ERCP, MRCP can only diagnose gallstones; it cannot be used to treat gallstones.
- Endoscopic ultrasound (EUS): This procedure combines endoscopy with ultrasound. In EUS, a small ultrasound transducer is installed on the tip of an endoscope and inserted into the patient’s mouth. Because the EUS transducer can get close to the gallbladder and bile ducts, the images obtained with EUS can be more accurate and detailed than images provided by traditional ultrasound.

How are gallstones treated?

In most cases, if you have gallstones in the gallbladder but no symptoms (silent stones), you probably do not need treatment.

If you have symptoms such as pain, you will probably need to be treated. The treatment that is used most often for gallstones is surgery to remove the gallbladder, which is known as a cholecystectomy. In the vast majority (90%) of cases, this surgery is performed laparoscopically.

Laparoscopic cholecystectomy is known as a “minimally invasive” procedure because it uses several small incisions instead of one large one. A laparoscope, a narrow tube with a camera, is inserted through one incision. The camera allows your doctor to see your gallbladder on a TV screen. Your gallbladder is then removed through another small incision.

If the patient has certain complications associated with gallstones—such as inflammation, infection, major scarring from a previous surgery, a bleeding disorder, or a condition that would make it difficult to see through the laparoscope—the surgeon may have to remove the gallbladder with an open cholecystectomy through an incision in the abdomen. This procedure requires a longer hospital stay (3-5 days).

If there are gallstones in the bile duct, they need to be removed in most cases even if you do not have any symptoms. This is done most commonly with the endoscopic retrograde cholangiopancreatography (ERCP) procedure.

Can I digest food without a gallbladder?

You don't need a gallbladder in order to digest food properly. If your gallbladder is removed, bile will flow directly from your liver through the hepatic duct and the common bile duct to the small intestine. After the surgery, you will probably have to go to the bathroom more frequently, and you may have softer stools for a short time.

Non-surgical treatment

If a patient is unable to undergo surgery, the doctor can prescribe certain drugs to dissolve the gallstones. The drugs are made from bile acid and are used to treat cholesterol stones only.

The two drugs used for treatment are ursodiol (Actigall®) and chenodiol (Chenix®). Patients usually have to take these drugs for months or even years in order to dissolve the gallstones. In many cases, gallstones may recur within five years in people who take these drugs.

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