

Gallstones



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St. Maarten Medical Center

What are Gallstones?

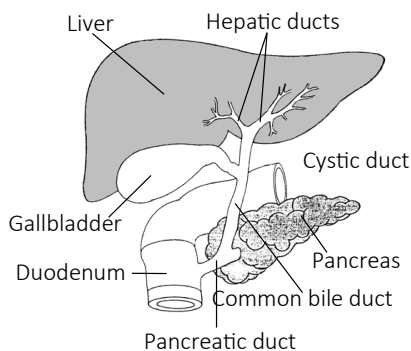
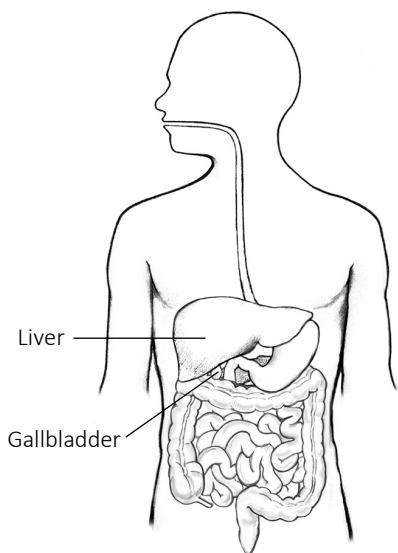
Gallstones are hard particles that develop in the gallbladder. The gallbladder is a small, pear-shaped organ located in the upper right abdomen, the area between the chest and hips, below the liver.

Gallstones can range in size from a grain of sand to a golf ball. The gallbladder can develop a single large gallstone, hundreds of tiny stones, or both small and large stones. Gallstones can cause sudden pain in the upper right abdomen. This pain, called a gallbladder attack or biliary colic, occurs when gallstones block the ducts of the biliary tract.

What is the Biliary Tract?

The biliary tract consists of the gallbladder and the bile ducts. The bile ducts carry bile and other digestive enzymes from the liver and pancreas to the duodenum—the first part of the small intestine.

The liver produces bile—a fluid that carries toxins and waste products out of the body and helps the body digest fats and the fat-soluble vitamins A, D, E, and K. Bile mostly consists of cholesterol, bile salts, and bilirubin.



Bilirubin, a reddish-yellow substance, forms when hemoglobin from red blood cells breaks down. Most bilirubin is excreted through bile.

What causes Gallstones?

Imbalances in the substances that make up bile cause gallstones. Gallstones may form if bile contains too much cholesterol, too much bilirubin, or not enough bile salts. Scientists do not fully understand why these imbalances occur. Gallstones also may form if the gallbladder does not empty completely or often enough.

The two types of gallstones are cholesterol and pigment stones:

- ◆ Cholesterol stones, usually yellow-green in color, consist primarily of hardened cholesterol.
- ◆ Pigment stones, dark in color, are made of bilirubin.



Who is at Risk for Gallstones?

Certain people have a higher risk of developing gallstones than others:

- ◆ Women are more likely to develop gallstones than men. Extra estrogen can increase cholesterol levels in bile and decrease gallbladder contractions, which may cause gallstones to form. Women may have extra estrogen due to pregnancy, hormone replacement therapy, or birth control pills.
- ◆ People over age 40 are more likely to develop gallstones than younger people.
- ◆ People with a family history of gallstones have a higher risk.

Other factors that affect a person's risk of gallstones include:

- ◆ Obesity
- ◆ Rapid weight loss
- ◆ Diet
- ◆ Certain intestinal diseases
- ◆ Metabolic syndrome, diabetes, and insulin resistance

What are the symptoms and complications of Gallstones?

Many people with gallstones do not have symptoms. Gallstones that do not cause symptoms are called asymptomatic, or silent, gallstones. Silent gallstones do not interfere with the function of the gallbladder, liver, or pancreas.

If gallstones block the bile ducts, pressure increases in the gallbladder, causing a gallbladder attack. The pain usually lasts from 1 to several hours.¹ Gallbladder attacks often follow heavy meals, and they usually occur in the evening or during the night.

Gallbladder attacks usually stop when gallstones move and no longer block the bile ducts. However, if any of the bile ducts remain blocked for more than a few hours, complications can occur. Complications include inflammation, or swelling, of the gallbladder and severe damage or infection of the gallbladder, bile ducts, or liver.



A gallstone that becomes lodged in the common bile duct near the duodenum and blocks the pancreatic duct can cause gallstone pancreatitis — inflammation of the pancreas. Left untreated, blockages of the bile ducts

or pancreatic duct can be fatal.

When Should you talk with your health care provider about Gallstones?

People who think they have had a gallbladder attack should notify their health care provider. Although these attacks usually resolve as gallstones move, complications can develop if the bile ducts remain blocked.

People with any of the following symptoms during or after a gallbladder attack should see a health care provider immediately:

- ◆ Abdominal pain lasting more than 5 hours,
- ◆ Nausea and vomiting,
- ◆ Fever—even a low-grade fever—or chills,
- ◆ Yellowish color of the skin or whites of the eyes, called jaundice,
- ◆ Tea-colored urine and light-colored stools.

These symptoms may be signs of serious infection or inflammation of the gallbladder, liver, or pancreas.

How are Gallstones diagnosed?

Ultrasound exam. Ultrasound uses a device, called a transducer, that bounces safe, painless sound waves off organs to create an image of their structure.

Computerized tomography (CT) scan. A CT scan is an x ray that produces pictures of the body.

Magnetic resonance imaging (MRI). MRI machines use radio waves and magnets to produce detailed pictures of the body's internal organs and soft tissues without using x rays.

Cholescintigraphy. Cholescintigraphy, —also called a hydroxyl iminodiacetic acid scan, HIDA scan, or hepatobiliary scan—uses an unharmed radioactive material to produce pictures of the biliary system.

Endoscopic retrograde cholangiopancreatography (ERCP). ERCP uses an x ray to look into the bile and pancreatic ducts. After lightly sedating the

person, the health care provider inserts an endoscope—a small, flexible tube with a light and a camera on the end—through the mouth into the duodenum and bile ducts.

Health care providers also use blood tests to look for signs of infection or inflammation of the bile ducts, gallbladder, pancreas, or liver.

How are Gallstones treated?

If gallstones are not causing symptoms, treatment is usually not needed. However, if a person has a gallbladder attack or other symptoms, a health care provider will usually recommend treatment. A person may be referred to a gastroenterologist—a doctor who specializes in digestive diseases—for treatment.

The usual treatment for gallstones is surgery to remove the gallbladder. If a person cannot undergo surgery, nonsurgical treatments may be used to dissolve cholesterol gallstones.

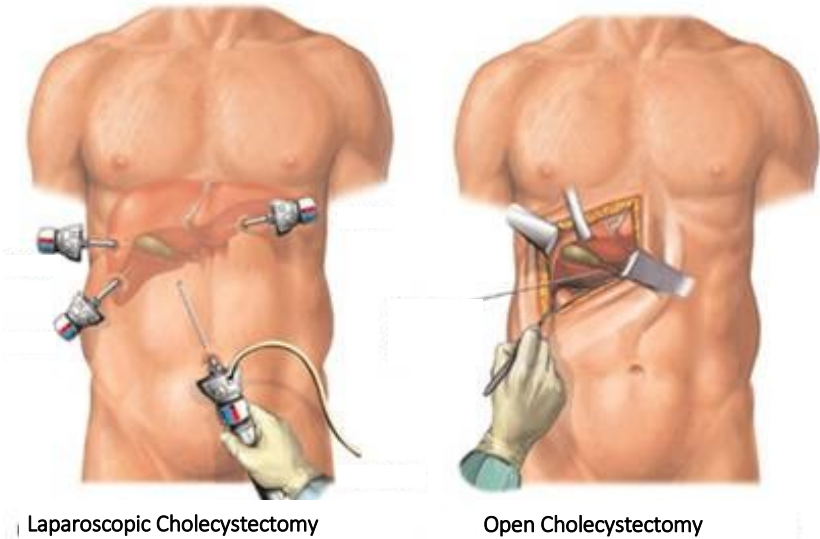
Surgery

Surgery to remove the gallbladder, called cholecystectomy, is one of the most common operations performed on adults. Surgeons perform two types of cholecystectomy:

Laparoscopic cholecystectomy. In a laparoscopic cholecystectomy, the surgeon makes several tiny incisions in the abdomen and inserts a laparoscope—a thin tube with a tiny video camera attached. The camera sends a magnified image from inside the body to a video monitor, giving the surgeon a close-up view of organs and tissues.

Most cholecystectomies are performed with laparoscopy. Many laparoscopic cholecystectomies are performed on an outpatient basis, meaning the person is able to go home the same day. Normal physical activity can usually be resumed in about a week.

Open cholecystectomy. An open cholecystectomy is performed when the



gallbladder is severely inflamed, infected, or scarred from other operations. In most of these cases, open cholecystectomy is planned from the start. However, a surgeon may perform an open cholecystectomy when problems occur during a laparoscopic cholecystectomy. In these cases, the surgeon must switch to open cholecystectomy as a safety measure for the patient.

To perform an open cholecystectomy, the surgeon creates an incision about 4 to 6 inches long in the abdomen to remove the gallbladder. Patients usually receive general anesthesia. Recovery from open cholecystectomy may require some people to stay in the hospital for up to a week. Normal physical activity can usually be resumed after about a month.

The Day of your Operation

- You should not eat or drink for at least 6 hours before the operation.
- You should bathe or shower and clean your abdomen with a mild antibacterial soap.
- You should brush your teeth and rinse your mouth with mouthwash.
- Do not shave the surgical site; the surgical team will clip the hair near

the incision site.

- Let the surgical team know if you are not feeling well or if there have been any changes in your health since last seeing your surgeon.

What to Bring

- Insurance card and identification.
- List of medicines.
- Loose-fitting, comfortable clothes.
- Slip-on shoes that don't require that you bend over.

After Your Operation

You will be moved to a recovery room where your heart rate, breathing rate, oxygen saturation, blood pressure, and urine output will be closely watched. Be sure that all visitors wash their hands.

Preventing Pneumonia and Blood Clots

Movement and deep breathing after your operation can help prevent postoperative complications such as blood clots, fluid in your lungs, and pneumonia. Every hour, take 5 to 10 deep breaths and hold each breath for 3 to 5 seconds.

When you have an operation, you are at risk of getting blood clots because of not moving during anesthesia. The longer and more complicated your surgery, the greater the risk. This risk is decreased by getting up and walking 5 to 6 times per day, wearing special support stockings or compression boots on your legs, and for high-risk patients, taking a medication that thins your blood.

Your Recovery and Discharge

Thinking Clearly

If general anesthesia is given or if you need to take narcotics for pain, it may cause you to feel different for 2 or 3 days, have difficulty with memory, or feel more fatigued. You should not drive, drink alcohol, or make any big decisions for at least 2 days.

Nutrition

- When you wake up from the anesthesia, you will be able to drink small amounts of liquid. If you do not feel sick, you can begin eating regular foods.
- Continue to drink about 8 to 10 glasses of water each day.
- Eat a high-fiber diet so you don't strain while having a bowel movement.



Activity

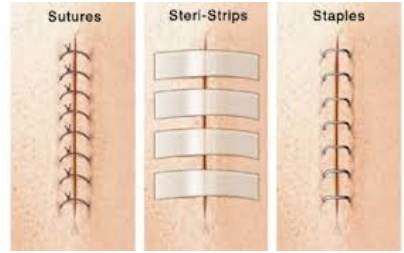
- Slowly increase your activity. Be sure to get up and walk every hour or so to prevent blood clot formation.
- You may go home the same day for a simple repair. If you have other health conditions or complications such as nausea, vomiting, bleeding, or infection after surgery, you may stay longer.
- Do not lift items heavier than 10 pounds or participate in strenuous activity for at least 6 weeks.

Work and Return to School

- After recovery, you can usually return to work or school within 2 to 3 days.
- You will not be able to lift anything over 10 pounds, climb, or do strenuous activity for 4 to 6 weeks following surgical repair of a ventral hernia.
- Lifting limitation may last for 6 months for complex or recurrent repairs.

Wound Care

- Always wash your hands before and after touching near your incision site.
- Do not soak in a bathtub until your stitches, Steri-Strips, or staples are removed.
- You may take a shower after the second postoperative day unless you are told not to.
- Follow your surgeon's instructions on when to change your bandages.
- A small amount of drainage from the incision is normal. If the dressing is soaked with blood, call your surgeon.
- If you have Steri-Strips in place, they will fall off in 7 to 10 days.
- If you have a glue-like covering over the incision, let the glue to flake off on its own.
- Avoid wearing tight or rough clothing.
- It may rub your incisions and make it harder for them to heal.
- Protect the new skin, especially from the sun. The sun can burn and cause darker scarring.
- Your scar will heal in about 4 to 6 weeks and will become softer and continue to fade over the next year.



Bowel Movements

Avoid straining with bowel movements by increasing the fiber in your diet with high-fiber foods or over-the-counter medicines (like Metamucil and FiberCon). Be sure you are drinking 8 to 10 glasses of water each day.

Pain

The amount of pain is different for each person. The new medicine you will need after your operation is for pain control, and your doctor will advise how much you should take. You can use throat lozenges if you have sore throat pain from the tube placed in your throat during your anesthesia.

When to Contact your Surgeon

Contact your surgeon if you have:

- Pain that will not go away.
- Pain that gets worse.
- A fever of more than 101°F (38.3°C).
- Repeated vomiting.
- Swelling, redness, bleeding, or foul- smelling drainage from your wound site.
- Strong or continuous abdominal pain or swelling of your abdomen.
- No bowel movement by 3 days after the operation.



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A publication of SMMC - February 2019