

Gallstones

Do you frequently develop symptoms of indigestion, gas, bloating and sometimes stomach pain especially half an hour after eating a high fat meal? Among one of the possible causes may be gallstones. Gallstone formation is one of the most common digestive diseases.

What are gallstones?

The gallbladder is a small organ in the upper right abdomen just below the liver. The gallbladder stores bile, a digestive fluid secreted by the liver. Bile is released into the small intestine via a small tube called the common bile duct to help digest the fat in your foods. Sometimes chemicals in the bile become solid and form stones, and these are gallstones. Gallstones can be of different sizes, and they can form inside either the bile duct or gallbladder.

What may cause gallstones?

- Bile may contain too much cholesterol. Bile is composed of a variety of chemicals, such as cholesterol, fatty compounds, proteins, and bilirubin. When the level of one chemical goes too high, it may harden into stones. Too much cholesterol in the bile causes the majority of gallstones. The cholesterol level in your blood is not related to the cholesterol level in your bile.
- Bile may contain too much bilirubin. Bilirubin is a waste product from the normal breakdown of red blood cells and is excreted in bile. Some medical conditions such as liver or blood disorders can lead to an elevated level of bilirubin and cause gallstones to form.
- Gallbladder does not empty completely or often enough. When a person eats too little fat or goes a long time without eating

(skipping meals, for example), there is less need for the gallbladder to release bile for digestion. As a result, the bile stored inside the gallbladder may become too concentrated and stones can form.

Risk factor for gallstones

- Sex. Women are more likely than men to develop gallstones.
- Family history. You are at higher risk if one or more of your family members has had gallstones.
- Weight. Being overweight increases the amount of cholesterol in the bile and reduces the frequency of gallbladder emptying, both of which contribute to gallstone formation.
- Diets high in fat and cholesterol content and low in fiber. Such diets increase the cholesterol level in bile and put a person at higher risk of developing gallstones.
- Rapid weight loss. Prolonged fasting or extremely low calorie diets for rapid weight loss may cause the gallbladder to release bile less often, thereby increasing stone formation.
- Age. People over age 60 are at a higher risk for gallstones.

Symptoms of gallstones

Gallstones may be present many years and not cause any symptoms and therefore treatment is not required. But when symptoms do show, they can include the following:

- Pain in the right upper abdomen, under the right shoulder or in the back. People with gallstones may feel a sudden and intense pain in the upper abdomen during a gallbladder “attack”, a condition when a gallstone is trapped inside the bile duct between the gallbladder and the small intestine. This pain can last for 30 minutes

to several hours and will go away if the stone passes into the small intestine.

- Nausea, vomiting, fever, pale or clay-colored stools, and jaundice (yellowing of the skin or whites of the eye) are symptoms of serious bile duct blockage. Persistent blockage can cause the gallbladder or ducts to become inflamed and this can be life threatening. Seek medical attention right away.

Diagnosis of gallstones

- Ultrasound exam. Using sound waves to generate images of the gallbladder.
- CT scan. Using X-rays to take cross-sectional images of the internal organs.
- Cholescintigraphy (HIDA scan). A tracer chemical is injected into the patient's vein and allowed to circulate to the liver, gallbladder, bile ducts, and the small intestine—the same path that bile undergoes. If the tracer chemical cannot go through a certain region or goes through very slowly, a gallstone is likely to be blocking that area.
- Endoscopic retrograde cholangiopancreatography (ERCP). A small tube with a camera at the end is inserted from the throat down to the small intestine. This procedure enables the doctor to look at the bile ducts. If a gallstone is detected, a tiny device will be inserted through the same tube to remove the stone.

Treatment for gallstones

If you are not experiencing any discomfort, treatment is usually not required. If you have symptoms, avoiding fatty foods may temporarily help to relieve symptoms. However, if your symptoms persist or worsen, your doctor may suggest the following:

- Medications to dissolve small stones
- Sound wave therapy to break up the stones
- ERCP procedure to remove stones in bile ducts
- Surgery to remove the gallbladder

Since the gallbladder is not an essential organ, surgical removal may be the best solution if you have frequent attacks. Most gallbladder surgeries are done with laparoscopy. Instead of making a large cut in the abdomen, the surgery is performed through a small incision using small tube like instruments guided by a tiny video camera to remove the gallbladder. This procedure requires a one-night stay in the hospital and recovery time is much shorter. There is no special diet to follow after surgery. Some people may experience mild diarrhea after surgery but the condition is usually temporary.

Can gallstones be prevented?

Unfortunately gallstones cannot be prevented, but there are some ways to reduce your risk:

- Maintain a healthy body weight. If you need to lose weight, do so gradually, about 1-2 lbs per week
- Choose high-fiber foods, such as vegetables, fresh fruits, and whole grains
- Avoid foods high in cholesterol and fat such as fried foods, skins, organ meats, fatty meats, but do include some fat to help the gallbladder empty regularly
- Be physically active

For more information on gallbladder disease:

- National Institute of Diabetes and Digestive and Kidney Disease (NIDDK):
<http://www2.niddk.nih.gov>