

Gallstones

What are gallstones?

Gallstones are hard stone-like objects that build up in your gallbladder. They may be as small as a grain of sand to as large as a golf ball.

The liver, gallbladder, and pancreas are part of your digestive system. The liver makes bile that helps your body break down the fat in food. Ducts carry bile from the liver to the gallbladder and the small intestines. The gallbladder is a small sac under your liver on your right side that stores bile. The pancreas makes fluid that helps break down food. A duct carries digestive fluids from the pancreas to the upper part of your small intestines.

Gallstones may stay in the gallbladder or smaller stones may move into the bile ducts.

What is the cause?

Most gallstones are made from cholesterol. Cholesterol is a kind of fat used by the body to make hormones and to build and keep cells healthy. If there is too much cholesterol in your bile or if the bile stays in your gallbladder too long, hard pieces can form.

Some gallstones are made from bilirubin and calcium. Bilirubin is made from the breakdown of old blood cells. If you have a lot of bilirubin in your bile, it can mix with calcium that is naturally in your bile to form gallstones. If you have bacteria in your bile, it can increase the amount of bilirubin that can make gallstones.

Gallstones happen more often in:

- Whites, Hispanics, and Native Americans
- Women during child-bearing years, and women who have had multiple pregnancies
- Both men and women after age 60
- People who are very overweight or who have a large amount of belly fat
- People who have type 2 diabetes, high blood pressure, high cholesterol levels, sickle cell disease, cirrhosis, or an infection in the gallbladder or liver
- People who have lost a lot of weight following a diet that is very low in calories and fat
- People who have had a long term illness where you cannot eat food and need nutrition through an IV
- People who take medicines such as estrogen, some cholesterol lowering medicines, growth hormone, and others

If stones completely block the common bile duct, the flow of bile out of the liver can also be blocked. This causes swelling, irritation, and pain in your liver, your gallbladder, or both. If not treated, swelling can cause your gallbladder to burst, or you could get a serious infection. Both can be life-threatening.

What are the symptoms?

The symptoms of gallstones may come on slowly over time or may happen suddenly. If you are having pain due to a gallstone that is stuck in the bile duct, your symptoms will continue until the stone moves into your intestines or you have surgery.

Early symptoms may include:

- Pain in the upper right part of the belly, often starting after a meal with a lot of fat. The pain slowly gets worse, goes away within a few hours, and then comes back after another meal.
- Pain in the upper back between the shoulder blades or in the right shoulder
- Sweating, nausea, and vomiting

Later symptoms may include:

- Severe, steady pain
- Light-colored bowel movements and dark urine
- Itchy skin
- Jaundice, which is a yellowing of the skin and whites of the eyes
- Chills and fever

How are they diagnosed?

Your healthcare provider will ask about your symptoms and medical history and examine you. The most common test to diagnose gallstones is an ultrasound, which uses sound waves to show pictures of your gallbladder and bile ducts. If the ultrasound does not clearly show the gallstones, you may have other tests or scans such as:

- Blood tests
- CT scan, which uses x-rays and a computer to show detailed pictures of your gallbladder and bile duct
- Oral cholecystogram which is an X-ray of your gallbladder or bile ducts taken after you swallow a dye
- Nuclear scans, which use a tiny amount of radioactive chemical injected into your vein to show how well the bile flows from your liver, through your gallbladder, and into your small intestine.
- PTHC, which uses dye that is injected through a needle inserted through your liver and X-rays or an MRI to show pictures of the bile ducts
- ERCP, which uses a slim, flexible lighted tube that is put through your mouth to your intestines, to check for problems in the bile ducts

How are they treated?

Usually, gallstones need to be removed with surgery. Surgery may also remove your gallbladder to prevent future problems. Removal of your gallbladder should cause few, if any, long-term problems because your digestive system can work well without it. You may have looser bowel movements after its removal.

- Laparoscopic surgery is done through several small cuts in the belly. A laparoscope is a lighted tube with a camera. Your provider can put the scope and tools into your belly through the small cuts.
- Open surgery (with usually one bigger cut in the belly) may be needed to safely remove the stones.
- ERCP and sphincterotomy, which uses a slim, flexible lighted tube that is put through your mouth and has a tool to enlarge the bile duct opening into the intestine
- If you cannot have surgery and your stones are small, your healthcare provider may try to dissolve the stones with medicine or treat them with shock wave therapy. However, this treatment is not always successful.
- If you have an infection, you may be given an antibiotic before and after the surgery.

How can I take care of myself?

Ask your healthcare provider:

- How and when you will hear your test results
- How long it will take to recover
- What activities you should avoid and when you can return to your normal activities
- How to take care of yourself at home
- What symptoms or problems you should watch for and what to do if you have them

Make sure you know when you should come back for a checkup.

How can I help prevent gallstones?

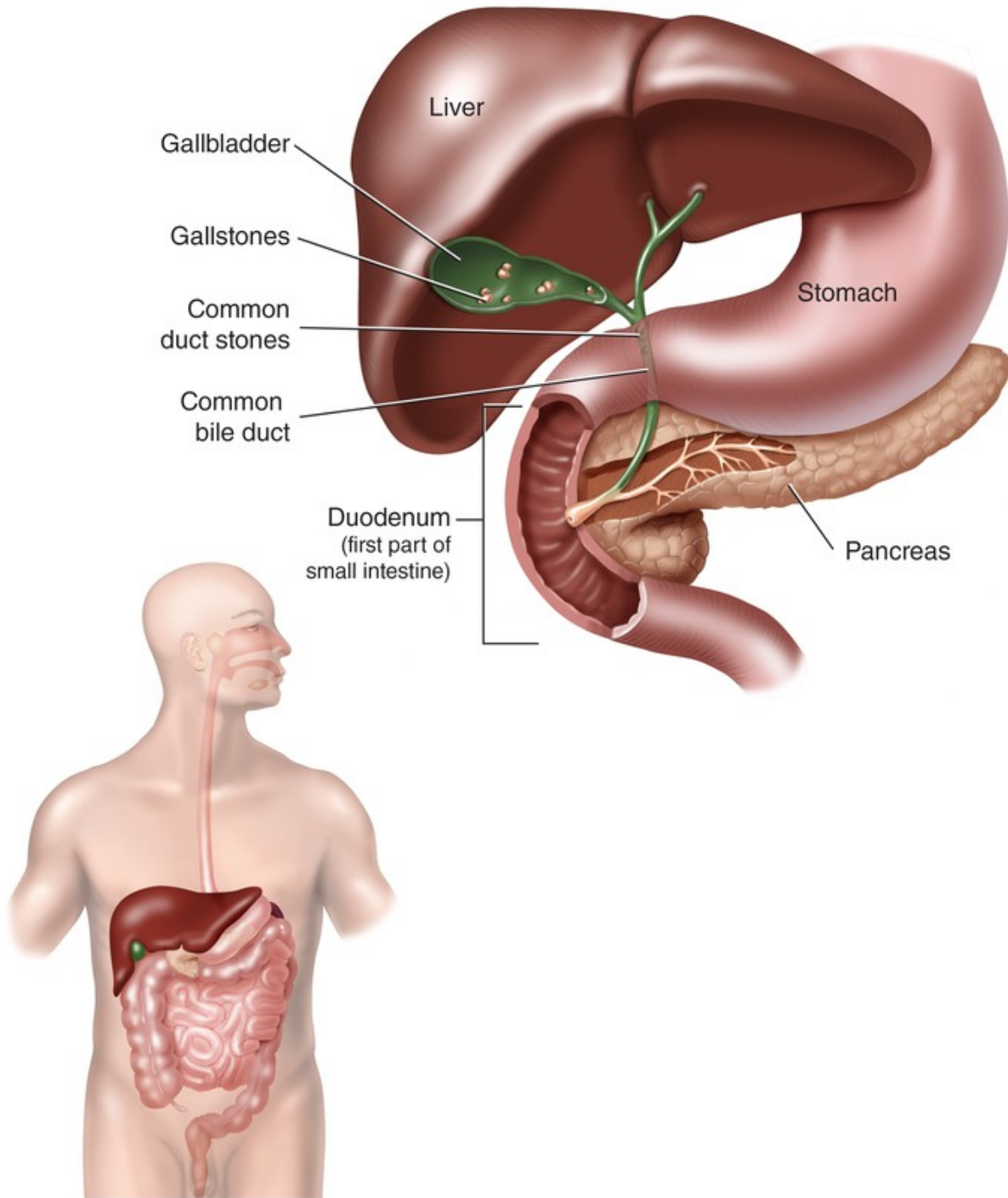
To prevent gallstones, follow these guidelines:

- Get your cholesterol levels and weight checked regularly. Lose weight if you are overweight
- If you are extremely overweight and need to follow a very low calorie diet for quick weight loss, your healthcare provider may prescribe medicine to help prevent gallstones.
- Eat a diet that is low in saturated fat, trans fat, and cholesterol. Eat healthy foods that are high in fiber, such as whole grains, fresh fruits, and vegetables.
- Get more exercise. Ask your provider to give you a physical activity plan that tells you what kind of activity, and how much, is safe for you. Start slowly to avoid injury.
- Avoid fasting. Long periods of fasting can cause gallstones because the bile stays in the gallbladder too long.

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