



# Gallstones

## What are gallstones?

Gallstones are solid particles formed from bile. The liver makes bile, a substance that helps to digest fats. The bile is stored in the gallbladder, which removes some of the liquid from the bile. If there is too much cholesterol or other substance in the bile, it can turn into a solid form, called a gallstone. Gallstones can stay in the gallbladder or they may be pushed out into the ducts. Rarely do stones form outside of the gallbladder in the liver or ductal system.

The gallbladder is a small sac that lies under the liver and is part of the digestive system. Bile ducts are small tubes that drain bile from the liver into the gallbladder and small intestines.

The formation of gallstones in the gallbladder is called cholelithiasis.

## How does it occur?

You are more likely to have gallstones if:

- You are female.
- You are overweight.
- You have type 2 diabetes.
- You are Native American.
- You have sickle cell anemia or another disease that breaks down red blood cells.
- Other members of your family have had gallstones.

## What are the symptoms?

Symptoms of gallstones include:

- pain in your upper abdomen or back, or in the center of your chest after meals, especially after eating heavy or high-fat meals
- nausea and vomiting.

Biliary colic is the medical term for the pain caused by gallstones. It happens when the gallbladder tries to empty and a stone is in the way. The pain may be mild or severe. It may last a few minutes or an hour or more. You may have nausea and vomiting with the pain. The pain may spread from your chest or abdomen to your right shoulder or back.

It's possible for stones to move into the main duct and clog it, causing you to turn yellow (jaundice). The stones can also cause pancreatitis, a reaction in the pancreas that can be life threatening.

## **How is it diagnosed?**

Your healthcare provider will review your symptoms, ask about your medical history, and examine you. He or she may use the following tests:

- X-rays
- ultrasound scan
- CT scan
- HIDA scan.

Not all gallstones show up on regular X-rays. Ultrasound can most often show whether stones are present. A HIDA scan, which uses an injection of radioactive dye, shows whether the gallbladder is blocked and inflamed and therefore the cause of pain. It can also show if the gallbladder is working properly. Your provider will check to see if your symptoms happen again when the scan shows the gallbladder emptying during the test.

## **How is it treated?**

Gallstones causing mild pain may first be treated with a low-fat diet. Your healthcare provider may also prescribe pain relievers.

Usually gallstones are treated with surgery to remove the gallbladder. Removal of the gallbladder should cause few, if any, long-term problems because the digestive system can function normally without it. Some people have looser bowel movements after its removal.

In some cases, especially if you are not well enough to have surgery, other treatments may be tried. For example, if you have only a couple of very tiny stones, your healthcare provider may try to dissolve the stones with medicine. The stones may come back, so the best treatment is usually removal of the gallbladder.

## **How long will the effects last?**

The pain caused by gallstones usually keeps coming back until the stones are removed. If the pain lasts over a few hours, you should seek care from your healthcare provider.

## **How can I take care of myself?**

To take care of yourself during and after treatment, follow these guidelines:

- Follow the treatment plan prescribed by your healthcare provider.
- Lose weight if you are overweight and then maintain a normal weight with a healthy diet and physical activity.
- Reduce the amount of fat, especially animal fat (meat and dairy), in your diet.

- Eat healthy foods that are high in fiber, such as whole grains, fresh fruits, and vegetables.
- Avoid foods that have caused pain or nausea in the past.

If you have gallstones and are taking birth control pills, you may want to ask your healthcare provider if you should use another method of birth control.

## **What can be done to help prevent gallstones?**

To prevent gallstones, follow these guidelines:

- Avoid foods high in fat.
- Read the labels on food packages to learn the ingredients.
- Avoid fasting. Long periods of fasting can cause gallstones because the bile stays in the gallbladder too long.
- Maintain a normal weight with a healthy diet and physical activity.

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