

# GALLSTONES

## Patient Information Fact Sheet

### What are gallstones?

The presence of stones in the gallbladder is known as cholelithiasis. There are two types of gallstones: cholesterol stones and bile pigment stones. Cholesterol stones can be pure or mixed (also containing calcium salts and protein) and are the most common types of gallstones. Bile pigment stones can be black (pure) or brown (also containing cholesterol). Black bile pigment stones are hard and brittle while brown stones are soft and crumbly. The number and size of gallstones present can vary enormously from one large stone to several thousand tiny stones (like gravel).

Gallstones affect around 10% of the world's population. They are more prevalent in industrialized countries probably as a result of dietary factors, and are rarely found in less developed countries. Although it is possible to develop gallstones at an early age, this is extremely rare. The incidence of gallstones increases with age. Women are more prone to gallstones than men, although pure bile pigment stones affect both sexes equally.

### What causes gallstones?

Although diet is often blamed for causing gallstones, this has not been proved. In fact, not eating for long periods can exacerbate the problem. Bile pigment gallstones may arise in children with hemolytic anemia. In this condition, a larger than usual amount of bilirubin from the blood is broken down and passed into the bile, causing the formation of the stones.

Gallstones can run in families, but they are so common within the general population that this may not be relevant.

### What are the symptoms of gallstones?

In most cases, gallstones remain in the gall bladder where they may not cause any problems. Many patients will not have any symptoms and as a result will be unaware that they have gallstones. The main symptom caused by gallstones is biliary colic. This is a severe pain that can start at any time and is often worse on the right side of the upper abdomen. It may last for hours before it fades. It can also cause vomiting. Cholecystitis is an acute (develops suddenly and lasts a short time) or chronic (develops gradually and lasts a long time) inflammation of the gallbladder thought to occur when a gallstone becomes stuck in the bile duct (a tube leading from the gall bladder to the intestine). Cholecystitis causes pain and if an infection develops, the patient will also have a fever.



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Obstructive jaundice can occur if a gallstone remains stuck in the bile duct and prevents the normal flow of bile into the intestine. Obstructive jaundice is painful and causes the skin to turn a yellow/olive-green color. The stools will become pale in color because the pigments usually supplied from the bile are absent. Itching is another symptom of a blocked bile duct. Gallstones may also cause acute pancreatitis, a condition in which the pancreas becomes inflamed, causing pain. It is probably caused by the passage of small stones into the pancreatic duct, located close to the gall bladder.

### What tests confirm the presence of gallstones?

Occasionally, gallstones can be seen on an x-ray but usually an ultrasound scan is used to diagnose the cause of biliary colic.

### How are gallstones treated?

Gallstones are only treated if they are causing problems. Most people will have no symptoms and for these people treatment is not advised or necessary. Medication to dissolve cholesterol gallstones is available, but this is ineffective against gallstones containing bile pigment or calcium. The medication consists of bile acids in the form of **ursodiol** (Actigall). These preparations act slowly and may have to be taken for years. Therefore, this type of treatment is used mostly when surgery is inadvisable.

For pain caused by biliary colic or an obstruction of the bile duct by a stone, **anti-spasmodics** such as **hyoscyamine** (Cystospaz) may be given. **Injectable painkillers** may be given for acute episodes of severe pain. For those people who are suffering pain, jaundice or other symptoms, removal of the gallstones and sometimes the gallbladder itself may be advised.

### Further information

National Diabetes and Digestive and Kidney Diseases (NIDDK): [www.win.niddk.nih.gov/publications/gallstones.htm](http://www.win.niddk.nih.gov/publications/gallstones.htm)

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