

MBBS (Hons) Syd. MMED (Clin Epi) FRACS
Colorectal and General Surgeon - Provider No. 065326DK

GALLSTONES

What are gallstones?

Gallstones are formed in the gallbladder. They are made up of bile salts and cholesterol. They are caused by the gallbladder concentrating the bile so much that crystals form. These crystals coalesce to form stones.

What is a gallbladder?

The gallbladder is a small sac that collects and concentrates bile which is made in the liver. The gallbladder contracts after eating fatty food to release bile into the gut to help dissolve the fat. The gallbladder is just below the liver just under the rib cage on the right.

What is bile?

Bile is a green fluid that contains bile salts and acids that act as a detergent and dissolves fat. Bile is made in the liver (not the gallbladder). The liver makes up to 300mls of bile a day and most of it goes straight into the gut via the bile ducts. A small amount goes into the gallbladder where it is concentrated.

Who gets gallstones?

Anyone can get gallstones but certain people are more at risk. Females over the age of 40 and especially if they have children are more susceptible. Pregnancy is a specific risk factor. Diet plays a role and the disease is more common in higher fat diets. There is often a family history of gallstones.

What symptoms are caused by gallstones?

1. Nothing: most gallstones are asymptomatic. A significant number of people have gallstones without ever having symptoms. Up to 40% of the population have stones. About 1% will develop symptoms every year.
2. Biliary colic: typically there is pain in the abdomen just below the ribs on the right side (right upper quadrant) and in the midline (epigastric). Sometimes the pain radiates to the back. Often there is nausea and vomiting. It can be brought on with a fatty meal. The pain begins 30 minutes or so after eating, reaches a plateau over the next hour and then lasts a few hours before improving.
3. Acute cholecystitis: The pain is more severe due to infection of the gallbladder. Often patients have a history of biliary colic only now the pain does not settle and becomes worse. Antibiotics are required.
4. Chronic cholecystitis: Repeated attacks of biliary colic and acute cholecystitis leaves the gallbladder thickened and poorly functioning. Surgery is required.
5. Cholangitis: the gallstones can escape the gallbladder and cause inflammation in the bile ducts. This causes severe infection and jaundice. Urgent treatment is required.
6. Pancreatitis: the gallstone can obstruct the pancreas and cause inflammation. Urgent treatment is required.
7. Gallbladder cancer: gallstones are a risk factor for cancer. Gallbladder cancer is very rare but very serious.

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8. Bowel obstruction: sometimes the inflamed gallbladder erodes into the bowel and a large stone can escape into the bowel and cause obstruction. Surgery is required if the stone does not pass.

What investigations are required?

Ultrasound is the best imaging technique to examine the gallbladder for gallstones. Other imaging techniques such CT and nuclear imaging are sometimes used.

When is treatment required?

Asymptomatic gallstones only very rarely require surgery. Once any symptoms develop a cholecystectomy (removal of the gallbladder) is recommended. A low fat diet may prevent recurrent attacks.

Other treatments are sometimes required if the stones escape the gallbladder into the bile or pancreatic ducts.