

## Advantages of Minimally Invasive Surgery

An operation performed laparoscopically effects the same magnitude of operations as in open conventional surgery, while the former has advantages including less blood loss, smaller surgical scars, less wound pain, less wound infection and quicker recovery. The ultrasonic scalpel is used to remove tissue and seal the blood vessels at the same time, greatly reducing the patient's pain and wound. The risks of infection and intestinal adhesions caused by laparotomy can also be reduced. When ERCP operation is performed, no incision of the abdomen is required and the surgical trauma is minimum.

Both minimally invasive laparoscopic cholecystectomy and ERCP can be used in conjunction to help patients. If a patient is found to have both gallbladder stones and bile duct stones, the surgeon can coordinate a plan to remove the bile duct stones through endoscopic retrograde biliary surgery on one day, followed by a laparoscopic cholecystectomy to remove the gallbladder on the next day, allowing the patient to quickly return to their normal routine by the third day.

Hong Kong Sanatorium & Hospital is committed to providing the most up-to-date and the best service to our patients. Experienced specialists in our Centre can offer the most patient-friendly approach for treating gallstones safely using minimally invasive technique.

## HKSH Surgery Centre

### Happy Valley

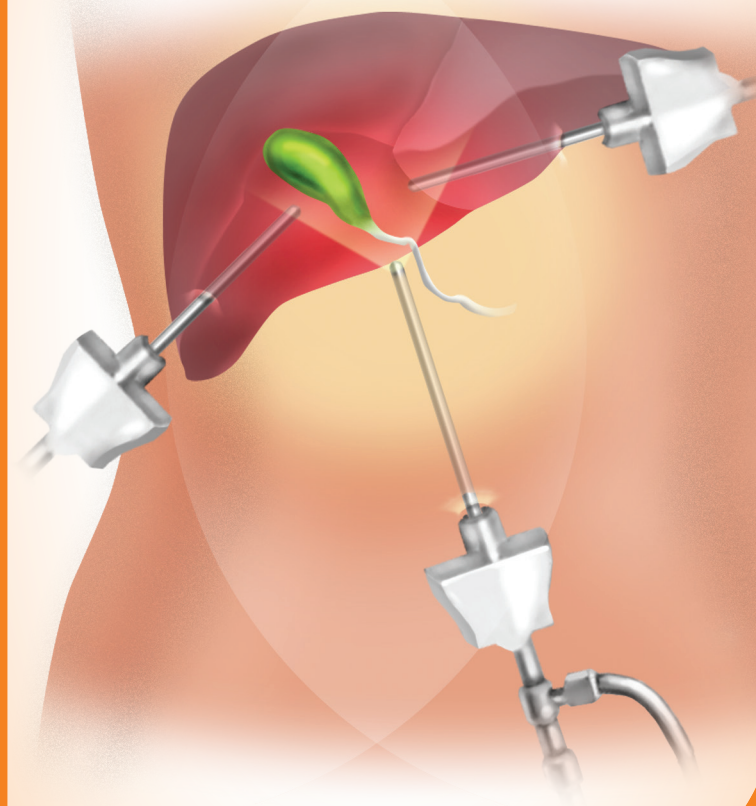
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### Service Hours

Monday to Friday: 9:00 am – 5:00 pm  
Saturday: 9:00 am – 1:00 pm  
Closed on Sundays and Public Holidays  
by Appointment



# Gallstone

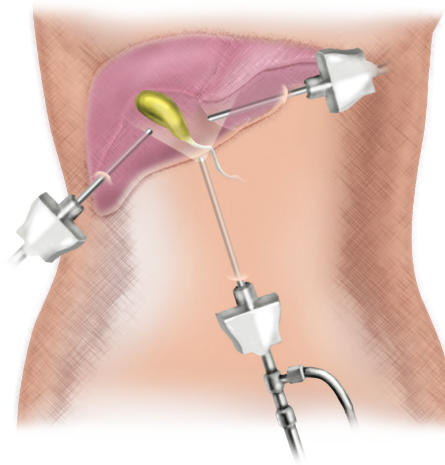


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please contact us

**Gallstones are formed when the liquid stored in the gall bladder crystallises into pieces of stone-like materials.** The liquid called bile, which is made in the liver and stored in the gall bladder, helps the body to digest fats. When the body needs to digest fats, the gall bladder contracts and pushes bile into a tube, called the common bile duct, and drains bile to the small intestine for lipid digestion. Cholesterol stones are formed when bile contains excessive cholesterol or bilirubin, or not enough bile salts, or when the gall bladder does not empty well. Gallstones may exist in the gall bladder or in the bile duct.

## Problems Associated with Gallstones

Gallstone symptoms are similar to those of peptic ulcers, indigestion and irritable bowel syndrome. So accurate diagnosis is important.



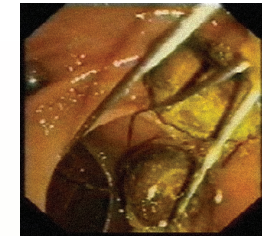
## Ways to Treat Gallstones

The use of surgical method to remove the gall bladder, called cholecystectomy, is the commonest way to treat symptomatic gallstones.

Conventionally, operations to remove the gall bladder are performed through an abdominal incision of 10cm. It is a major surgery and may require about 2 to 7 days of hospital stay. For operations to remove the gall bladder and gallstones in the bile duct, a drainage tube is required to put inside the bile duct to direct the bile temporarily with another tube draining fluid inside the abdomen. The bile duct tube may need to stay inside the body for about ten days before removal. Patients then have to stay for 2 weeks in the hospital. Nowadays, these operations can be performed using minimally invasive technique.

## Treating Gallstones by Minimally Invasive Surgery

**1. Laparoscopic cholecystectomy** can be performed by utilising several small incisions of 1cm or smaller in the abdomen and insert surgical instruments and a miniature video camera into the abdomen. The camera sends a magnified image from inside the body to a video monitor, giving the surgeon a close-up view of the organs and tissues. While watching the monitor, the surgeon uses the instruments to separate the gall bladder from the liver, ducts and other structures carefully. Then the cystic duct is cut and the gall bladder removed through one of the small incisions.



**2. Endoscopic retrograde cholangiopancreatography (ERCP)** is performed when the gallstones are in the bile ducts using an endoscopic apparatus. An endoscope is a thin, flexible tube connected to a computer and TV monitor that enables the surgeon to see inside the bowels. The surgeon guides the endoscope to pass through the mouth, esophagus and stomach into the second part of the duodenum. X-rays with contrast medium are taken during ERCP to locate the affected bile duct. Then an instrument via the endoscope is used to enlarge the duct opening, through which the gallstones are captured and removed with a tiny basket.

