

Gallbladder Removal Surgery (Laparoscopic Cholecystectomy) Patient Information

What is the gallbladder?

Your gallbladder is a small organ which sits under the liver in the right upper abdomen.

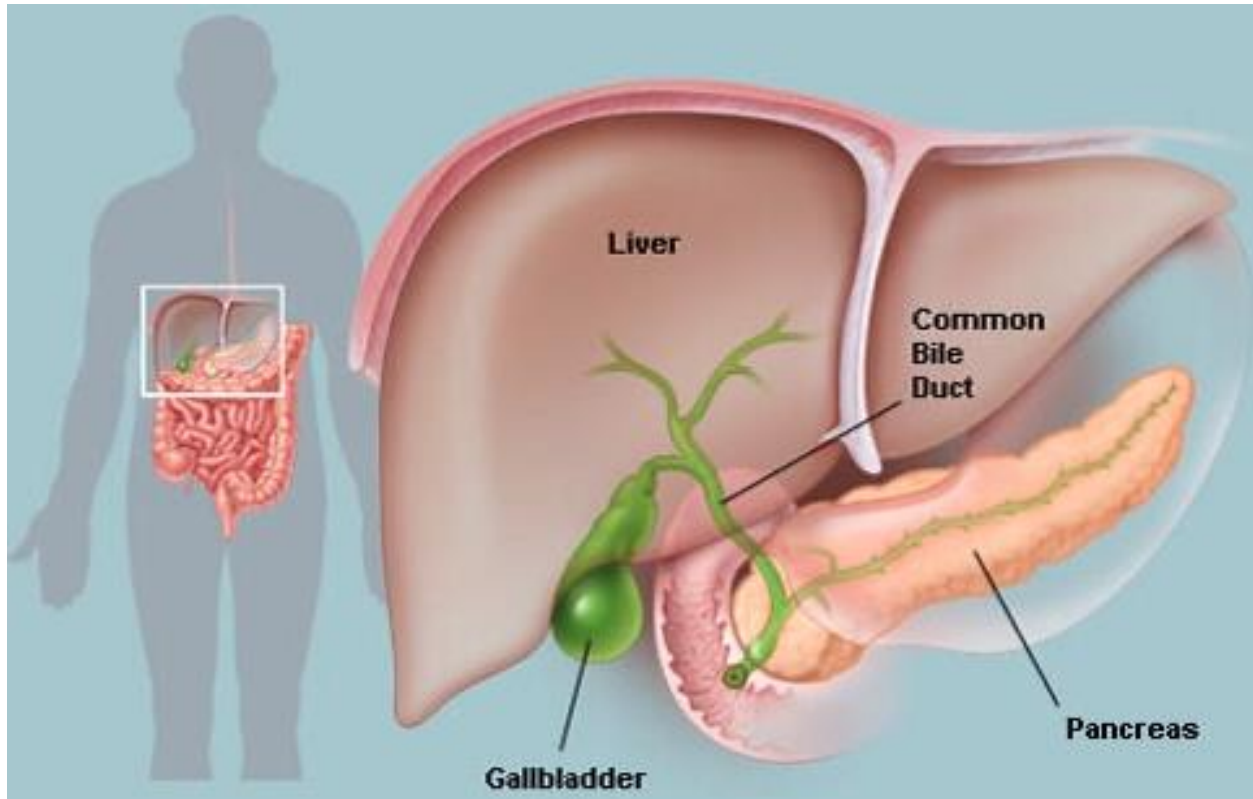
What does the gallbladder do?

The liver is an important organ which has many functions. One of these is to produce a green liquid called bile. Bile flows through the bile ducts into the intestine where it helps your body break down oily food.

The gallbladder is a branch of the main bile duct which acts a storage reservoir. It collects, stores and concentrates bile between meals.

After a meal, a normal gallbladder squeezes extra bile into the digestive tract to help with digestion.

If the gallbladder is not working properly, small, hard deposits called gallstones can form on the inside. This is a common condition. Gallstones can cause health problems which may require surgical removal of the gallbladder.



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What Causes Gallbladder Problems?

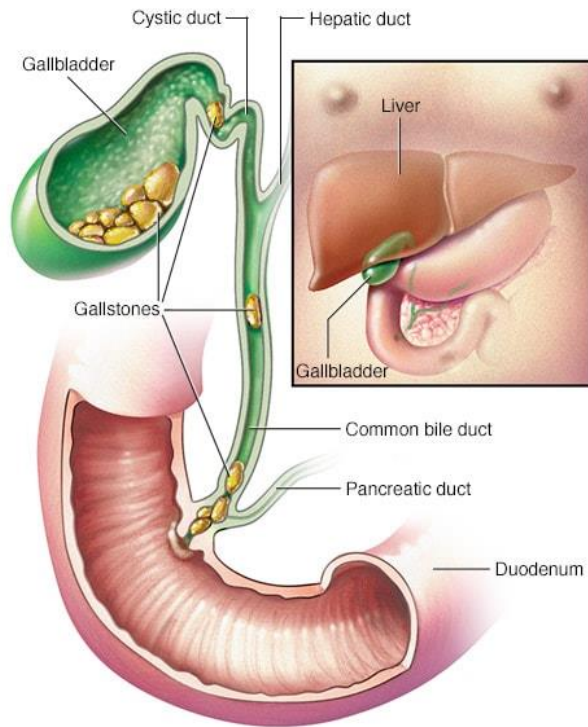
Gallstones are often the cause. These can cause pain by blocking the outlet of the gallbladder. They can also get into the bile duct, which connects the gallbladder with your intestines.

Gallstones can occur in anyone at any age.

Risk Factors:

- female
- women who have had children
- being overweight
- age > 40
- rapid weight loss or fasting
- family history
- hematologic (blood) disorders

Gallbladder polyps (small growths) can also occur within the gallbladder. These are usually benign (not cancer). The gallbladder is usually removed if the polyp measures over 1 cm in diameter.



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What are the symptoms of gallbladder stones?

Symptoms can include:

- Pain in the UPPER mid or right abdomen, sometimes radiating to the upper back
- Nausea and vomiting
- Indigestion and bloating
- Fever
- Jaundice (yellow eyes and skin)

No symptoms:

Sometimes gallbladder stones are found by accident during an ultrasound or other imaging. If you have never had any symptoms, gallstones can usually be left alone.

How do doctors investigate gallbladder problems?

Your doctor will probably order a test called an ultrasound. It shows the inside of the body using sound waves. You are awake during the test, and it does not hurt.

On occasion, additional tests may be required. These include blood tests, CT scan, MRI or ERCP.

How do doctors treat gallbladder problems?

Surgical removal of the gallbladder (together with the stones) is usually the best way to treat gallbladder problems. This is usually done with minimally invasive techniques (keyhole surgery). The operation is called LAPAROSCOPIC CHOLECYSTECTOMY. Many years ago, this required a much larger OPEN operation. This is rarely needed. If symptoms are mild, you may get some relief from changing your diet. For example, eating less fat can help. Gallstones do not go away on their own.

Treatments to break up gallstones or dissolve, usually do NOT work well.

Advantages of laparoscopic gallbladder surgery

- Small and less noticeable scars
- Less pain than after open surgery.
- Quicker recovery than open surgery
- Usually outpatient surgery (same day discharge)
- Quicker return to work and normal activities

Laparoscopic gallbladder removal is almost always possible.

What if I Cannot Have Laparoscopic Gallbladder Removal?

Rarely, laparoscopic gallbladder removal is not possible for technical reasons. The risk of conversion to OPEN surgery is < 1%. Open surgery requires a large incision in the upper abdomen.

Some reasons include:

- Severe inflammation or scar tissue around the gallbladder
- History of previous surgery in the upper abdomen
- Severe Obesity
- Cirrhosis of the liver
- Serious medical conditions
- Bleeding problems during surgery

It is not a complication if your surgeon decides to switch to open surgery. Your surgeon might not know this until after the laparoscopy starts. They will use their best judgment about the safest surgery for you.

Benefits of Surgery

Removing the gallbladder, in most cases, will prevent the pain that you are getting from gallstones and potential complications of gallstones (infection, jaundice, pancreatitis).

There is a small chance of persistent pain or discomfort following the removal of the gallbladder.

If you have having surgery for a gallbladder polyp, this procedure will remove the gallbladder and the polyp. This prevents the polyp from growing and developing into any more worrisome lesions.

What Preparation Is Required before Gallbladder Surgery?

The surgeon who will do your gallbladder surgery will inform you about the risks and benefits of the operation. You will sign a consent form confirming you understand and agree to the planned operation.

Your surgeon's office will advise you about what to do and avoid before your operation. The exact instructions depend on your surgeon, but here are some common things to do:

- Take a shower the night before or the morning of your operation.
 - Please **DO NOT SHAVE** your abdomen. This can increase the risk of infection. If necessary, this will be done by the surgeon in the operating room once you are under anesthetic.
 - Stop eating and drinking at the time your doctor tells you before the operation. Usually, no food or drink after **MIDNIGHT**
 - The morning of your operation, you may take certain medications your doctor has allowed. Take them with **ONLY A SIP OF WATER**.
 - You may be asked to stop taking certain medications before your operation. These include **BLOOD THINNERS** and oral diabetes medications
 - You will need someone to drive you home after surgery.
 - If you have **SLEEP APNEA**, bring your **CPAP** machine with you to hospital
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How is Laparoscopic Gallbladder Removal Done?

Laparoscopic surgery requires general anesthesia. This means you are asleep during surgery.

While under anesthetic, the surgeon makes a tiny incision near your belly button and inserts a small device called a port. Through the port the abdomen is filled with carbon dioxide gas. This creates space to do the operation. A small, thin camera (laparoscope) is inserted through the port which shows the surgery on a large screen in the operating room. Once the surgeon can see clearly, more ports are introduced to insert long, thin instruments. The gallbladder is gently disconnected from the liver and taken it out through one of the incisions. Most operations need 4 incisions, but some have more.

When surgery is finished, the surgeon closes your incisions with tiny absorbable stitches and surgical tapes (Steri-Strips). The sutures dissolve as you heal, so the doctor does not need to remove them later.



Incisions after minimally invasive (laparoscopic) surgery

<https://www.sages.org/publications/patient-information>

What are the Possible Complications of Laparoscopic Gallbladder Removal?

Any operation has potential risks. Laparoscopic cholecystectomy is very safe, but complications can rarely occur:

- Bleeding
 - bruising / wound hematoma often occurs below the umbilical incision
- Infection
 - Treated with antibiotics and possible prolonged wound care
- Organ injury
 - Bile duct
 - Intestines (small or large)
- Bile leakage
 - A temporary drainage tube is sometimes required
- Retained stone in the bile duct
 - Usually treated with endoscopy (ERCP)
- Hernia at incision site
- Cardiorespiratory complications
 - Heart attack, stroke, Deep Vein Thrombosis / pulmonary embolus
 - Pneumonia
 - More common in the elderly and in patients with previous health issues
- Scarring
 - ALL surgical incisions leave a scar
 - Scarring is part of the normal healing process and usually fades in time
 - Every person heals differently
 - Some scars are more prominent and may even leave a KELOID (more likely in individuals with brown or black skin)

Long term side-effects:

- There is a 10% risk of developing loose or more frequent bowel movements following the removal of the gallbladder.
- This usually improves 1 – 2 months after surgery
- Rarely, this can persist long term
- Treatment of prolonged post-cholecystectomy diarrhea includes
 - Avoidance of oily or fatty food
 - High fibre diet
 - Medications – cholestyramine (Questran)

ANESTHESIA

The specific risks of anaesthesia will be discussed with you by your anaesthesiologist before the surgery. The anesthesiologist will suggest the best type of anesthetic to keep you safe and comfortable during surgery. They will be with you during the entire procedure monitoring the level of sedation / unconsciousness, your vital signs, breathing, temperature and oxygen levels. The anesthetic is stopped at the end of the surgical procedure and the patient is then transferred to the recovery room.

Common anesthetic side effects include:

- Nausea or vomiting
- Dizziness
- Sore throat

This document is not intended to take the place of any discussion with your surgeon about your need for gallbladder surgery. We encourage you to ask questions about any details that need clarification.