PROCEDURE

Laparoscopic gallbladder removal

Laparoscopic gallbladder removal is keyhole surgery to remove the gallbladder, usually because gallstones are causing problems.

PURPOSE
Remove the gallbladder to prevent pain and gallstone complications

PROCEDURE TYPE
Therapeutic, minimally invasive surgery

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General

HOW LONG IT TAKES
Usually 45 to 90 minutes

PREPARATION
Fasting and medication planning, especially for blood thinners

RECOVERY
Usually same day; no driving until you can react safely

MAIN RISKS
Bile leak, bile duct injury, bleeding, infection

RESULTS
Surgical outcome immediately; laboratory report after several days

Overview

Laparoscopic gallbladder removal is an operation to remove your gallbladder through several small cuts in your abdomen. It is sometimes called keyhole gallbladder surgery or laparoscopic cholecystectomy.

Your gallbladder is a small pouch under your liver. It stores bile, a digestive fluid made by the liver. You can live without a gallbladder because bile will continue to flow from your liver into your intestine.

During the operation, the surgeon uses a camera and long, narrow instruments. Most people go home on the day of surgery, although an overnight stay may be needed.

Sometimes the surgeon needs to change to an open operation, using a larger cut under the

ribs. This may be necessary if there is severe inflammation, unusual anatomy, scar tissue or concern about injury.

Why the procedure is performed

The most common reason for surgery is gallstones that are causing repeated pain. Gallstones are hardened deposits that form in the gallbladder. Pain from a temporary blockage is often called biliary colic.

Removal may also be recommended for:

The operation removes the gallbladder as well as the stones inside it. This reduces the chance of new gallbladder stones causing another attack.

- Inflammation or infection of the gallbladder, called cholecystitis
- Gallstones that have caused pancreatitis, or inflammation of the pancreas
- Stones in the main bile duct, often after those stones are treated separately
- Certain gallbladder polyps or abnormal scan findings
- Gallbladder problems that continue to cause symptoms or complications

Who should and should not have it

You may be offered surgery when your symptoms, examination and scans suggest that gallstones or gallbladder disease are the likely cause of your problem. The expected benefit should be weighed against the risks of surgery and general anaesthesia.

Gallstones found by chance do not always need treatment. If they are not causing symptoms or complications, monitoring may be more appropriate. Surgery may not improve pain that comes from another condition, such as acid reflux, irritable bowel syndrome or an ulcer.

The operation may be delayed if you have an unstable medical condition, an uncorrected bleeding problem or an illness that makes anaesthesia temporarily unsafe. Your team may first treat infection, dehydration or another urgent problem.

Laparoscopic surgery may not be suitable if you cannot safely have a general anaesthetic or tolerate the gas used to create working space in the abdomen. Previous abdominal surgery, pregnancy, obesity or severe inflammation do not automatically rule it out, but they can affect planning and risk.

An open operation may be recommended from the start when keyhole surgery is unlikely to be

safe.

How to prepare

Your treating facility's own instructions take priority because fasting and medication plans differ between hospitals and individuals.

You will usually have a preoperative assessment. This may include blood tests, a review of your health conditions and, when needed, an electrocardiogram to check your heart rhythm.

Tell the team about all medicines, supplements and allergies. Blood thinners and some diabetes medicines may need a specific plan. Do not stop prescribed medicine unless your surgical or anaesthetic team tells you to.

You will need to stop eating and drinking before the general anaesthetic. Follow the exact times given by your facility. Tell the team if you accidentally eat or drink during the fasting period.

Arrange for someone to take you home. Your facility may also require a responsible adult to stay with you for the first night. Tell the team if you could be pregnant or if you use a CPAP machine for sleep apnoea.

What happens during the procedure

After you arrive, the team will confirm your identity, the planned operation and your consent. You may receive medicine to reduce the risk of infection or blood clots when appropriate.

A general anaesthetic makes you unconscious and prevents pain during surgery. A breathing tube supports your breathing.

The surgeon makes several small cuts, usually near the belly button and under the right ribs. Carbon dioxide gas is placed in the abdomen to create space. A camera sends images to a monitor.

The surgeon separates the gallbladder from the liver and closes the small duct and blood vessel connected to it, usually with surgical clips. The gallbladder is removed through one of the cuts. Imaging of the bile ducts may be performed if the surgeon needs to look for duct stones or clarify the anatomy.

The gas is released, and the cuts are closed with stitches, surgical glue or dressings. The gallbladder is usually sent to a laboratory for examination.

Recovery and what to expect afterward

Pain is usually strongest around the cuts during the first few days. You may also feel pain near a shoulder because the carbon dioxide can irritate the diaphragm, the muscle beneath the lungs. Use pain medicine as directed. Contact your team if pain is worsening rather than improving.

You can usually start with fluids and light food, then return to your normal diet as tolerated. Some people notice bloating or loose stools, especially after fatty meals. Smaller meals may be more comfortable at first.

Gentle walking supports recovery and helps reduce the risk of blood clots. Keep your wounds clean and follow instructions about bathing and dressings. Avoid strenuous exercise and heavy lifting until your team says it is safe.

Do not drive immediately after a general anaesthetic. Wait for the period specified by your facility. You should also be off sedating pain medicine, able to wear a seat belt comfortably and able to perform an emergency stop without pain or hesitation.

Many people return to desk-based work within one or two weeks. Work involving lifting or heavy physical activity may require more time. Your recovery may take longer after an open operation.

Risks and possible complications

Most recoveries are straightforward, but complications can occur. Relevant risks include:

A bile duct injury or bile leak may require another procedure or operation. A retained duct stone may be treated with an endoscopic procedure called ERCP, which reaches the bile duct through the mouth and intestine.

Changing from laparoscopic to open surgery is a safety decision, not necessarily an error or complication.

- Bleeding or infection in a wound or inside the abdomen
- Leakage of bile from the liver or a clipped duct
- Injury to the main bile duct
- Injury to the bowel, liver or nearby blood vessels
- A stone remaining in the main bile duct
- Blood clots in a leg or lung

- Breathing, heart or allergic problems related to anaesthesia
- Ongoing abdominal symptoms after the gallbladder is removed

Results and follow up

Your surgeon can usually tell you immediately whether the gallbladder was removed laparoscopically and whether there were any unexpected problems.

The laboratory report may take several days or longer. It can confirm inflammation, stones, polyps or other changes in the gallbladder wall. Your team will explain any result that changes your care.

Follow the routine wound-care and review plan provided when you leave. Some people have a scheduled postoperative appointment, while others are asked to arrange review only if there is a concern. Routine questions about dressings, activity, work forms or mild digestive changes can usually wait for normal clinic hours.

Alternatives

The right alternative depends on why surgery was offered and how much the problem affects you.

Watchful waiting avoids an operation for now. It may be reasonable when stones are not causing symptoms or attacks are mild and uncommon. It does not prevent another gallstone attack or complication.

Diet changes and pain relief may reduce symptoms while you wait or if you choose not to have surgery. Avoiding foods that trigger pain can help, but diet does not remove existing stones.

ERCP can remove stones from the main bile duct without removing the gallbladder. It is useful for duct stones or blockage, but gallbladder stones can still cause future problems.

Gallbladder drainage uses a tube to drain an infected gallbladder. It may be considered for someone too unwell for immediate surgery. The gallbladder remains, so further treatment may still be needed.

Open gallbladder removal achieves the same goal through a larger cut. It may be safer in complex cases, but usually causes more pain and a longer recovery.

Medicines that dissolve certain cholesterol stones are used only in selected situations. Treatment is slow, does not work for every type of stone and stones may return.

When to call your healthcare team

Contact your surgical team promptly if you develop:

Seek emergency help for difficulty breathing, chest pain, fainting, heavy bleeding, confusion or severe pain that is not controlled by the recommended medicine.

Routine questions about returning to work, mild bruising, dissolving stitches or gradually improving discomfort can usually be discussed during normal clinic hours.

- Increasing abdominal pain or swelling
- Repeated vomiting or difficulty keeping fluids down
- Fever, chills or feeling increasingly unwell
- Yellow skin or eyes, dark urine or pale stools
- Redness, warmth, pus or worsening pain around a wound
- Persistent watery diarrhoea or digestive symptoms affecting daily life

Common questions

Will I be asleep?

Yes. Laparoscopic gallbladder removal is performed under general anaesthesia, so you will be unconscious and will not feel the operation.

Can I drive home?

No. You will need someone else to take you home. Do not drive again until your facility's restriction has passed and you can control the vehicle safely without sedating pain medicine.

How painful is gallbladder removal?

Soreness around the cuts is expected, and temporary shoulder pain can occur from the surgical gas. Pain should gradually improve and is usually managed with the medicines recommended by your team.

When will I know the results?

You will usually know the immediate surgical outcome after you wake up. The laboratory examination of the gallbladder takes several days or longer.

Can I live normally without a gallbladder?

Yes. Your liver continues to make bile. Instead of being stored in the gallbladder, bile flows directly into the intestine.

Will I need a special diet afterward?

Most people return to a normal diet. Smaller, lower-fat meals may be easier at first if rich foods cause bloating or loose stools.

Sources

- National Institute for Health and Care Excellence. Gallstone disease: diagnosis and management (CG188)
- NHS. Gallbladder removal
- National Institute of Diabetes and Digestive and Kidney Diseases. Treatment for gallstones
- Society of American Gastrointestinal and Endoscopic Surgeons. Guidelines for the clinical application of laparoscopic biliary tract surgery
- MedlinePlus. Gallbladder removal-laparoscopic-discharge