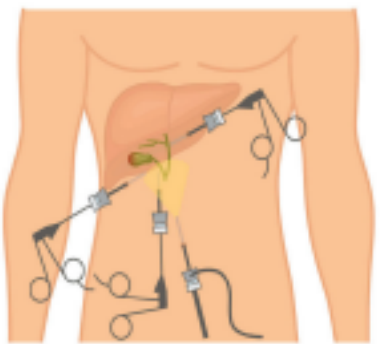
Your Laparoscopic Cholecystectomy Surgery





Normal Pre-operative Anatomy Post-operative

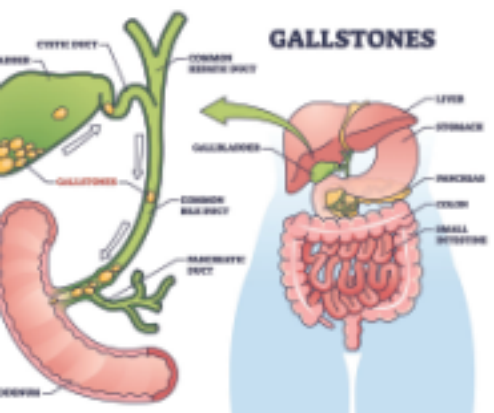
Gallbladder Removal During Surgery

Understanding Laparoscopic Cholecystectomy Surgery

Laparoscopic Cholecystectomy is a minimally invasive surgical procedure used to remove the gallbladder. The gallbladder is a small organ located beneath the liver that stores bile, a digestive fluid produced by the liver. Gallbladder removal is typically recommended for patients with symptomatic gallstones, gallbladder inflammation (cholecystitis), or other gallbladder diseases.

Cystic Duct Common

Gallbladder Duodenum



Hepatic Duct

Gallbladder

Common Bile Duct

Pancreatic Duct

Liver

Stomach

Pancreas

Colon

Small Intestine

Laparoscopic Cholecystectomy offers several advantages over traditional open gallbladder removal surgery, including smaller incisions, shorter hospital stays, faster recovery time, and reduced post-operative pain. However, not all patients are suitable candidates for laparoscopic surgery, and the decision to perform this procedure depends on factors such as the patient's overall health, the presence of complicating factors, and the surgeon's expertise.

How to Prepare for Your Laparoscopic Cholecystectomy Surgery

Your doctor will advise you to:

- Do pre-operative blood tests, an electrocardiogram (ECG), and scans
- Have a Pre-Anaesthesia Check-up Appointment (PAC) with the anaesthetist, who will inform you when you are to stop eating and drinking and if there is a need to do any further investigations before the procedure

- Avoid blood thinners 3 to 5 days before the surgery. Speak to your doctor to confirm timing.

- Follow specific instructions about if and when to take your insulin or other diabetic medication if you have diabetes.
- Take all other medications as usual with small sips of water on the morning of your procedure.
- Leave your jewellery and other valuables at home.
- Bring a current list of medications and allergies with you to the hospital.
- Bring your government-issued identification.
- Ensure you have someone to drive you home after your procedure and to help you at home with everyday tasks such as cooking, bathing, and laundry.

The Day of the Procedure

Make sure that you do not eat anything and follow the instructions given by the anaesthetist regarding your routine medications.

What to Expect During the Procedure

These are the steps you will go through when you come to Health City for a Laparoscopic Cholecystectomy Surgery.

You will be admitted 60 minutes before your procedure unless otherwise advised by the patient care coordinator. After check-in, a healthcare provider will lead you to a room where you can change into a hospital gown. A nurse will check your vitals such as blood pressure, pulse, and oxygen, and place an IV line in your arm to begin delivering fluids. From there, you will be taken inside the operating room for your procedure.

The anaesthetist will give you a general anaesthetic, to ensure you are unconscious and pain-free during the procedure. The surgical team prepares your abdomen by cleaning and sterilising the area around the surgical site.

The surgeon makes several small incisions (usually 0.5 to 1.5 cm in length) in the abdomen, typically around the belly button and upper abdomen. Trocars, which are hollow tubes with valves to prevent air leakage, are inserted through these incisions. These trocars serve as ports for the laparoscope and surgical instruments. Carbon dioxide gas is gently pumped into the abdomen through one of the trocars. This creates a space inside

the abdominal cavity, allowing the surgeon to see and access the organs more easily.

A laparoscope, which is a thin tube with a camera and light source attached to it, is inserted through one of the trocars. The camera sends real-time images of the inside of the abdomen to a monitor in the operating room, allowing the surgeon to visualise the gallbladder and surrounding structures. The surgeon carefully identifies the gallbladder and surrounding structures, including the cystic duct and cystic artery. Specialised surgical instruments are used to dissect and separate the gallbladder from its attachments to the liver and surrounding tissues. The cystic duct, which connects the gallbladder to the common bile duct, is clipped and cut to separate the gallbladder from the bile duct system. Similarly, the cystic artery, which supplies blood to the gallbladder, is clipped and cut to disconnect the blood supply to the gallbladder.

Once the cystic duct and artery have been secured, the surgeon removes the gallbladder from the abdomen through one of the small incisions. In some cases, the gallbladder may need to be fragmented or suctioned out if it cannot be removed intact. Once the gallbladder has been removed, the surgeon checks for any bleeding and ensures that the incision sites are properly closed. The trocars are removed, and the small incisions are closed with sutures or surgical glue.

After surgery, you will rest in a recovery area for a short time before being taken back to your hospital room. You will likely stay in the hospital overnight. However, your surgeon will discuss with you before your surgery how long you are expected to stay in the hospital; this all depends on your individual needs. Your care team will need to ensure that all is stable before you are discharged by checking that:

Your vital signs are within an acceptable range;

Your pain is manageable, and you do not feel nauseous;

You can get out of bed and stand up from a chair without assistance.



Recovery

The recovery timeline for Laparoscopic Cholecystectomy Surgery can vary depending on factors such as individual healing ability, and any complications that may arise during or after the procedure.

After the surgery, you'll spend some time in the recovery room as the effects of anaesthesia wear off and your vital signs stabilise.

You may experience some pain or discomfort around the incision sites or in your abdomen. Pain medications will be provided to help manage any discomfort.

Immediate Post-Surgery -Days 1-2

You'll be encouraged to start moving around as soon as possible to prevent blood clots and aid in the recovery process.

Most patients are discharged from the hospital on the same day of surgery or within 24 hours.

During the first week after surgery,

you'll need to take it easy and avoid strenuous activities.

You may experience some fatigue, nausea, or bloating as your body adjusts to the absence of the gallbladder and the effects of surgery.

Week 1

It's important to follow your surgeon's instructions regarding diet and activity level during this time, which may include gradually reintroducing solid foods and avoiding heavy lifting or vigorous exercise.

Pain and discomfort should gradually improve during the second and third weeks after surgery.

You may be able to resume light activities and return to work, depending on the nature of your job and how you're feeling.

Weeks 2-3

It's normal to experience some residual soreness or stiffness around the incision sites, but this should continue to improve over time.

By this time, most patients are

feeling much better and experiencing minimal to no pain or discomfort.

You can gradually increase your activity level and start to resume normal daily activities, including exercise and household chores.

Follow-up appointments with your surgeon may be scheduled during this time to monitor your progress and ensure that you're healing properly.

Weeks 4-6 Months 3-6

Most patients are fully recovered from Laparoscopic Cholecystectomy surgery by three to six months post-surgery. Any residual symptoms, such as mild digestive issues or changes in bowel habits, should continue to improve over time.

It's essential to continue to follow any dietary recommendations provided by your healthcare provider and to listen to your body, avoiding activities that cause discomfort or pain.



Q: What are the potential risks of Laparoscopic Cholecystectomy (gallbladder removal)?

A: Laparoscopic Cholecystectomy is a commonly performed procedure and is considered very safe. However, as with any surgery, there are some risks and potential complications. Your surgeon will discuss these with you before your operation.

Possible risks include:

- Bleeding: Bleeding may occur during or after surgery. In some cases, additional treatment or surgery may be required to control it.
- Infection: There is a small risk of infection at the incision sites or inside the abdomen. Most infections can be treated with antibiotics.

- Injury to nearby organs or structures: Although uncommon, nearby structures such as the bile ducts, liver, intestines, or blood vessels can be injured during surgery. This may require additional procedures or surgery to repair.
- Bile leak: Bile may leak from the liver or bile ducts after the gallbladder is removed. This may require drainage or further treatment.
- Retained bile duct stones: Occasionally, gallstones may remain in the bile duct after surgery, causing symptoms such as abdominal pain, jaundice (yellowing of the skin or eyes), or pancreatitis. Additional procedures may be needed to remove the stones.
- Residual gallbladder tissue: In rare cases, a small portion of the gallbladder may remain, which can lead to recurring symptoms or the formation of new gallstones.

- Post-cholecystectomy syndrome: A small number of patients may continue to experience abdominal discomfort, bloating, diarrhoea, or indigestion after surgery. Further assessment may be needed if symptoms persist.
- Fluid collections or abscess formation: Fluid or infected collections may develop in the abdomen after surgery and may require drainage or antibiotics.

- Paralytic ileus: The bowel may temporarily stop working after surgery, causing abdominal bloating, nausea, vomiting, and delayed passage of gas or stool. This usually resolves with time and supportive treatment.
- Bowel obstruction: Although uncommon, scar tissue (adhesions) or other factors may cause a blockage of the bowel after surgery, which may require further treatment.
- Complications related to carbon dioxide gas (pneumoperitoneum): During laparoscopic surgery, carbon dioxide gas is used to inflate the abdomen. Rarely, this can cause complications such as air under the skin (subcutaneous emphysema), a collapsed lung

(pneumothorax), or gas entering the bloodstream (gas embolism).

- Anaesthesia-related risks: General anaesthesia carries its own risks, including allergic reactions, breathing difficulties, heart complications, nausea and vomiting, or other rare complications.

Most patients recover without experiencing any major complications. Your surgical team takes every precaution to minimise these risks and ensure your safety throughout the procedure. If you have any concerns, please discuss them with your surgeon before your operation.

Q: What are the dietary restrictions after Laparoscopic Cholecystectomy Surgery?

A: In the immediate post-operative period, you may be advised to follow a bland diet or avoid fatty or spicy foods to reduce the risk of digestive upset. However, dietary restrictions are usually temporary, and most patients can gradually resume their normal diet as tolerated.