



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

LAPAROSCOPIC GALLBLADDER SURGERY

A guide for patients with gallstones

The presence of gallstones is one of the most common problems of the digestive system. About one adult in every 10 has gallstones.

In people who have pain and other symptoms caused by gallstones, removal of the gallbladder is usually the best treatment. In people with complications due to gallstones, prompt treatment is important.

The most common way to remove the gallbladder is by using a modern surgical technique called laparoscopic surgery or "key-hole" surgery. As shown in the illustrations (right and on page 3), the surgeon inserts special instruments into the abdomen through small cuts and then removes the gallbladder. This is called a "laparoscopic cholecystectomy" (pronounced lap-ar-oh-skop-ic co-lee-sis-teck-toe-me). You will hear your surgeon use this term.

Laparoscopy is the technique of looking into the abdomen using a laparoscope and miniature video equipment. Cholecystectomy is the surgical removal of the gallbladder.

Laparoscopic cholecystectomy is generally a safe and effective treatment for most people who have symptoms due to gallstones. It has become the treatment of choice for most patients who need their gallbladder removed.

Surgical removal of the gallbladder is the safest way to treat serious gallbladder disease.

THE GALLBLADDER AND HOW IT WORKS

The gallbladder is a small, pear-shaped organ attached to the underside of the liver in the upper part of your abdomen. The gallbladder stores bile, a fluid

produced by the liver. Bile aids digestion by breaking down fats in food.

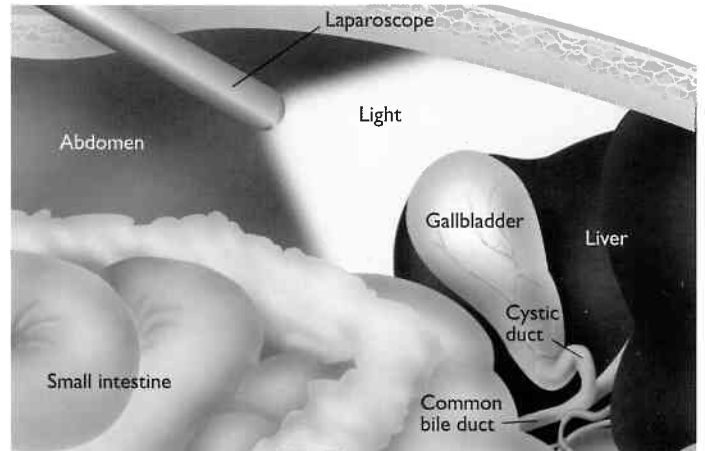
When you eat, the gallbladder squeezes bile through the bile duct into the small intestine. Usually, bile moves smoothly from the gallbladder into the small intestine.

However, if gallstones form, the flow of bile may be blocked. This can cause pain and, sometimes, may lead to serious complications.

If your pain is likely to be due to gallstones and your gallbladder is not working properly, removal of the gallbladder is then usually recommended.

Symptoms may get worse and complications can develop if you do not have treatment.

Once your gallbladder has been removed, bile will still flow (as it always has) from the liver to the small intestine.



A laparoscopic cholecystectomy is the surgical removal of the gallbladder using laparoscopic (key-hole) techniques and has become the treatment of choice for most patients.

TALK TO YOUR SURGEON

The aim of this pamphlet is to provide you with general information. It is not a substitute for advice from your surgeon and does not contain all the known facts about gallbladder surgery or every possible risk and benefit. Some medical terms in this pamphlet may need explanation by your surgeon. It may be helpful to make a list of concerns or questions. Your surgeon will be pleased to answer them.

Your surgeon cannot guarantee that treatment will meet all of your expectations and that it has no risks. If you are uncertain about the advice you are given, you may wish to seek a second opinion from another surgeon.

Consent form: If you decide to have surgery, the surgeon will ask you to sign a consent form. Read it carefully. If you have any questions about the consent form, the procedure, risks or anything else, ask your surgeon.

YOUR SURGEON

TREATMENT INFORMATION PAMPHLET

PEEL HERE

PROCEDURE: _____

PATIENT'S NAME: _____

DOCTOR'S NAME: _____

EDITION NUMBER: _____ DATE: DD / MM / YYYY

GALLSTONES AND THE PROBLEMS THEY CAN CAUSE

When the amounts of bile and other fluids inside the gallbladder become unbalanced, some of the chemicals solidify and form gallstones. Most gallstones are made primarily of cholesterol.

Although doctors do not know exactly why some people get gallstones and others do not, gallstones are linked to:

- multiple pregnancies
- obesity or rapid weight loss
- ageing
- some ethnic groups
- gender (more women than men get gallstones).

There is no known treatment or diet that can prevent gallstones.

If the gallstones stay deep within the gallbladder, they may not cause major problems.

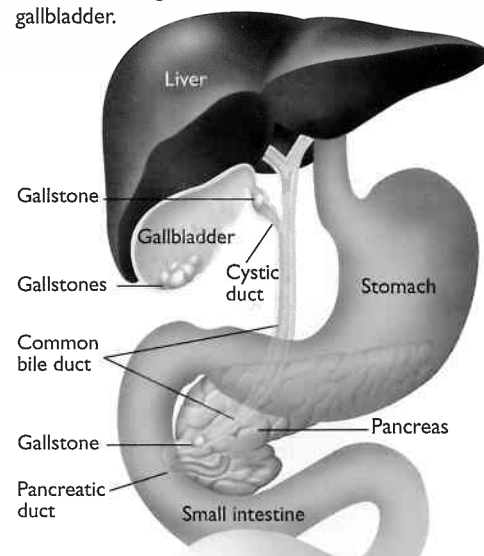
If the gallstones move and block ducts, bile can back up, causing symptoms and leading to inflammation, infection and disease of the gallbladder, liver or pancreas. These include cholecystitis, jaundice or pancreatitis, which can quickly become surgical emergencies.

Symptoms typically occur after a meal. They include a steady, severe pain in the upper abdomen (commonly called "gallstone colic") that often wakes the person at night.

Pain may extend to the back. The patient may have bloating, nausea or vomiting.

Although symptoms due to gallstones may go away, they tend to come back if the condition is left untreated. Such patients are more likely to develop complications.

A gallstone that blocks the cystic duct can cause pain in the upper abdomen, back pain, nausea, vomiting, heartburn and infection of the gallbladder.



A gallstone that blocks the common bile duct can cause pain, jaundice (yellowing of the skin) and pancreatitis (inflammation of the pancreas).

PRINCIPLES OF TREATMENT

After you have a thorough examination, your surgeon can discuss the diagnosis with you. The decision to have treatment is made after discussion with your surgeon. If gallstones are present and are thought to be causing trouble, your surgeon will recommend the best treatment for you.

If surgery is suggested, laparoscopic cholecystectomy may be an option. However, laparoscopic cholecystectomy may not be appropriate for a number of reasons, including, among others:

- major scarring from previous surgery
- bleeding disorders (such as haemophilia)
- pregnancy (especially in the third trimester)
- any condition that will make it hard for your surgeon to see with the laparoscope. Your surgeon can give you more information about whether a laparoscopic cholecystectomy is suitable for you.

YOUR FULL MEDICAL HISTORY

Inform your surgeon about any health problems you may have had. Some may interfere with surgery, anaesthesia and aftercare. This information is confidential. Tell the surgeon, before surgery, if you have had:

- allergies or bad reactions to antibiotics, anaesthetic drugs, any other

- medicines, surgical tapes or dressings
- a recent or long-term illness or digestive disorder
- keloid scars or poor healing after previous surgery.

Give the surgeon a list of ALL medicines you are taking or have recently taken. Include all prescription medicines and those bought over-the-counter. Some medicines increase the risk of bleeding during and after surgery. Tell your surgeon if you take aspirin, anti-inflammatory medications (such as ibuprofen), vitamin E, herbal medications or garlic tablets. If you are taking a medication to help prevent a blood clot (aspirin, warfarin, clopidogrel or similar medicines), ask your surgeon and prescribing doctor whether the dose should be changed or the medication stopped. Discuss this carefully with your surgeon.

BEFORE SURGERY

Before admission to hospital, you may be asked to attend the preadmission clinic for a health check. You will meet the staff looking after you in hospital, including the anaesthetist.

Most people are admitted to hospital on the day of surgery. You must not eat for six hours before surgery. This reduces the risk of vomiting before surgery or when you are under general anaesthesia. It is safe to drink clear fluids up to two

hours before surgery, but first, you should check this with your surgeon and anaesthetist.

Your doctor may prescribe intravenous fluids to prevent dehydration and intravenous antibiotics to help prevent infection.

Smoking: Smoking increases the risk of surgical complications (such as blood clots in deep veins and breathing problems) and impairs healing. Stop smoking at least two weeks before surgery. It is best to quit.

ANAESTHESIA

Surgery to remove the gallbladder is performed under general anaesthesia. Modern anaesthesia is safe and effective, but can pose risks. Rarely, side effects from an anaesthetic can be life threatening. Ask your surgeon and anaesthetist for more information. Give your anaesthetist a list of all medicines you are taking or have taken. The anaesthetist will discuss pain relief after surgery.

DIET

Most people who have their gallbladder removed can return to a normal diet following recovery. Avoid fatty foods at first and slowly add them to the diet, as you prefer. In a few people, too much fatty food may contribute to loose bowel movements and stomach discomfort. In such cases, a low-fat diet may be helpful.

REMOVAL OF THE GALLBLADDER USING LAPAROSCOPIC SURGERY

The surgery is performed through several (usually four) very small incisions in the abdomen. As shown in the illustrations (right), a laparoscope (a thin telescope-like tube) is inserted through an incision in the navel. A small video camera attached to the laparoscope allows your doctor to view your gallbladder on a video monitor and excise it. The gallbladder is then withdrawn through one of the incisions.

Benefits of Laparoscopic Cholecystectomy

For most people, laparoscopic cholecystectomy has benefits over open surgery, including:

- less discomfort after surgery
- less time in hospital
- a recovery of days instead of weeks
- small incisions instead of a large incision
- small scars instead of a long scar.

OPEN SURGERY (LAPAROTOMY)

Although your surgeon has recommended laparoscopy to remove the gallbladder, the surgeon may find, after starting the procedure, that a laparoscopy is not safe due to unexpected findings or events.

If your surgeon believes that it is not safe to continue with the laparoscopic procedure, your gallbladder will be removed through a larger incision in the abdomen. This is known as open surgery or laparotomy.

Conversion to open surgery may become necessary in some patients with:

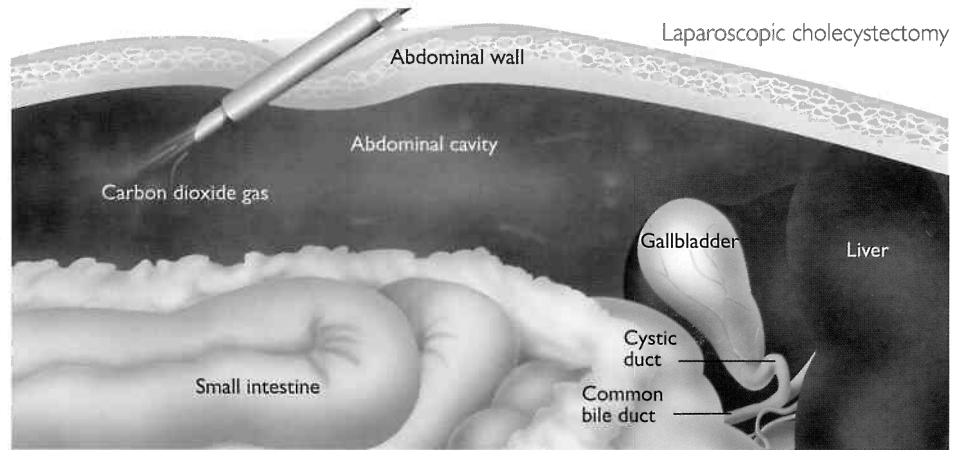
- chronic or acute infection of the gallbladder
- a gangrenous gallbladder
- abnormal anatomy
- many scar-tissue adhesions due to previous surgery
- other problems that obscure the view of, and access to, the gallbladder.

Open surgery is safe and effective, but does have risks (see page 4 for possible complications).

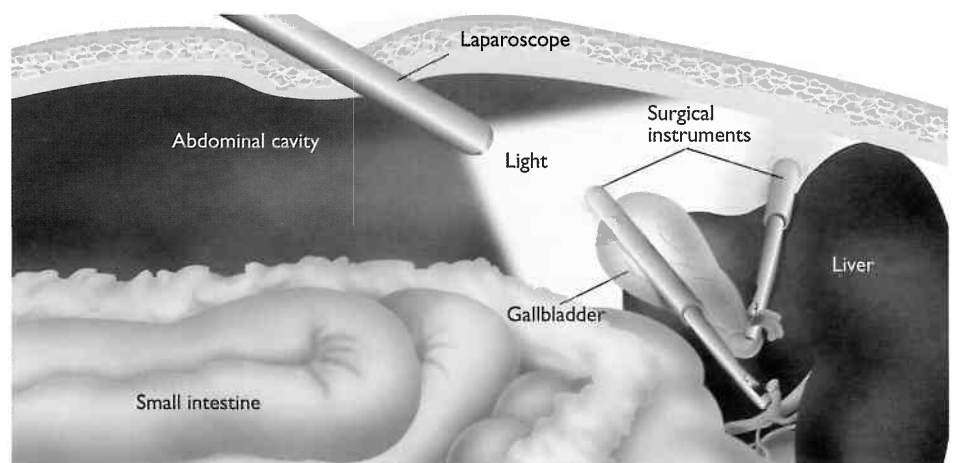
Conversion from a laparoscopic cholecystectomy to open surgery is not a complication of the procedure but rather is done to protect the patient. The decision to convert to open surgery should be considered to be sound judgement.

A patient may be very disappointed that he or she had open surgery instead of laparoscopy, but open surgery is done in the interests of the patient's safety and well-being.

Conversion to open surgery occurs in about five patients in 100.



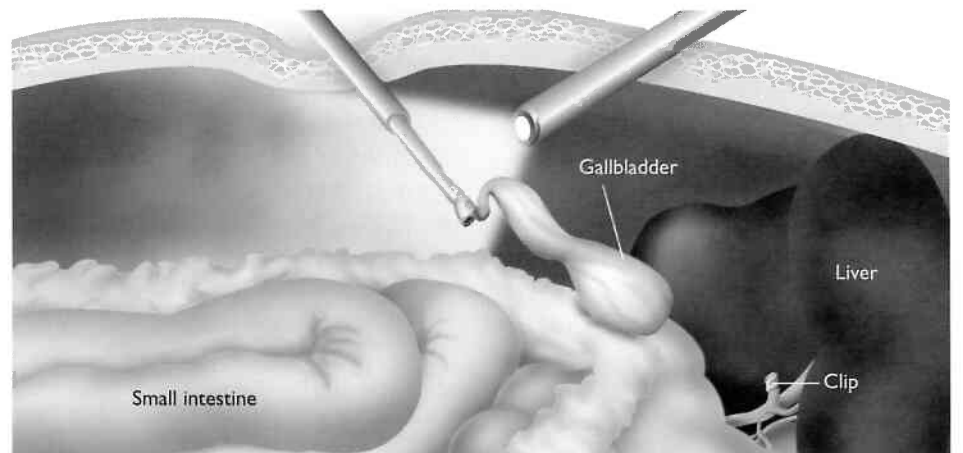
Carbon dioxide gas is blown into the abdominal cavity to lift the abdominal wall clear of the liver, gallbladder, small intestine, pancreas, stomach and other organs. The objective is to improve the surgeon's access to, and vision of, the area.



A laparoscope (a thin telescope-like tube) is inserted through an incision near or in the navel. A small video camera attached to the laparoscope allows your surgeon to view the abdominal organs on a video monitor. Surgical instruments are inserted into the abdomen through the other small incisions.

Using the laparoscope and other instruments, the surgeon inspects the area and carefully dissects tissue away from the gallbladder, isolating it from other nearby organs.

A small tube called a catheter may be inserted into the cystic duct. The catheter allows an X-ray examination (called a "cholangiogram") of the bile ducts so your surgeon can tell whether any gallstones have passed out of the gallbladder. If gallstones are in the bile ducts, they may be removed at this time or during a later procedure.



Clips are used to close off the cystic duct and the cystic artery at the base of the gallbladder. These clips stay in your body. The surgeon will detach the gallbladder using electrocautery or a laser.

When the gallbladder is empty, it is like a deflated balloon. The surgeon can then pull it through one of the incisions, with the gallstones still inside it. All instruments are removed from the abdomen, and the carbon dioxide gas is allowed to escape. The incisions are closed with sutures or surgical tape, and protected with small bandages.

RECOVERY AFTER LAPAROSCOPIC SURGERY

While recovering in hospital, you may have some temporary discomfort in your right shoulder from the carbon dioxide used during surgery.

Several hours after surgery, you can drink and eat a light meal if you wish. After a general anaesthetic, your nurse will ask you frequently to cough and breathe deeply to keep your lungs clear.

You will be asked to take a short walk several hours after surgery to keep your blood circulating smoothly through your body. This helps prevent blood clots from forming in the legs.

Most people go home the morning

after laparoscopic surgery and recover well within a week or so.

As no muscles are cut and the incisions are small, you are likely to experience less postoperative pain than from open surgery.

Recovering at home: After you return home, you can usually resume most normal activities in three to five days. You can help yourself recover comfortably by observing the following.

- No heavy lifting.
- No vigorous exercise.
- Follow your surgeon's advice on showering, driving and returning to work.

- Be aware that pain medications can cause temporary changes in bowel habits.

Eating: You may have some gas pains and other discomfort while your digestive system returns to normal. During this period, eat healthy food that was easy to digest before your gallbladder surgery.

Follow-ups: During the first week to 10 days after surgery, your surgeon will check on your progress and answer any questions. If you have stitches, they will be removed along with any tubes. More appointments will be scheduled if you need them.

POSSIBLE COMPLICATIONS OF LAPAROSCOPIC GALLBLADDER SURGERY

All surgery has some risk, despite the highest standards of practice. It is not usual for a surgeon to dwell at length on every possible side effect or rare but serious complication of any operation. However, it is important that you have enough information to weigh up the benefits, risks and limitations of surgery.

If you have concerns about possible complications, discuss them with your surgeon. The following possible complications are listed to inform you, not to alarm you. There may be other complications that are not listed.

General risks of surgery

- Heavy bleeding may require a blood transfusion and, uncommonly, a return to theatre to control bleeding.
- Short-term nausea following general anaesthesia.
- Allergic reaction to medications, dressings or antiseptic solutions.
- Formation of a large blood clot (haematoma) near the operative site may require further surgery.
- Cardiovascular complications such as heart attack, pulmonary embolism or stroke can be life threatening.
- Deep vein thrombosis (DVT) in a leg. To reduce the risk, you may be given a blood-thinning medication while in

hospital. Exercising your legs regularly can help to prevent DVT.

- Chest infection; deep breathing exercises, physiotherapy and antibiotic treatment can help.
- Delayed healing of the wound.
- Raised, itchy and reddened scars (keloid or hypertrophic scars). These can be annoying but are not a threat to health. Scarring from the small incisions is variable. Most incisions heal well, and few people will develop keloid or hypertrophic scars.

Specific risks of laparoscopic cholecystectomy

- An injury to a bile duct can cause leakage or obstruction of the duct. A return to theatre and more surgery may be needed to repair the problem.
- Infection of the wound may occur due to bacteria, resulting in redness and pain. Pus and an abscess may form. Antibiotic treatment is needed. Some sutures or staples may need to be renewed, and the pus drained. Care of the wound and clean dressings are important.
- During the procedure, injury can uncommonly occur to nearby organs, such as the small intestine, pancreas, stomach, major blood vessels or

spleen. This risk is slightly greater with laparoscopic surgery than open surgery.

- Bile may leak from the remnant of the cystic duct or the common bile duct.
- Rarely, a bubble of carbon dioxide may get into a blood vessel (gas embolism) and may travel to the heart; this can be life threatening but is treated quickly and effectively.

Re-operation

If a complication after surgery does not resolve, your surgeon may have to operate again to control the situation. The reoperation may be done with the laparoscope or using open surgery.

REPORT TO YOUR SURGEON

Let your surgeon know at once if you have any of the following signs or symptoms:

- fever greater than 38°C or chills
- redness, swelling, increasing pain or bleeding, or discharge from the incisions
- yellow skin or eyes, or dark urine
- cough, shortness of breath, chest pain, severe nausea or vomiting
- pain or swelling in your feet, calves or legs
- inability to eat or drink
- persistent weakness or dizziness
- any other pains or concerns.

COSTS OF TREATMENT

Your surgeon can advise you about the costs of surgery and follow-up treatment. You may want to ask for an estimate of the likely costs, including medical and hospital fees, out-of-pocket costs and any other items. Ask which costs can be claimed on private health insurance. As the course of actual treatment may differ from what is proposed, the total costs may vary from the estimate. It is better to discuss costs with your surgeon before surgery rather than afterwards.