

# LAPAROSCOPIC GALLBLADDER REMOVAL

*patient information from your surgeon & SAGES*

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Gallbladder removal is one of the most commonly performed surgical procedures. Gallbladder removal surgery is usually performed with minimally invasive techniques and the medical name for this procedure is “Laparoscopic Cholecystectomy”.

## About the gallbladder

### *What is the gallbladder?*

- The gallbladder is a pear-shaped organ that rests beneath the right side of the liver.
- Its main purpose is to collect and concentrate a digestive liquid (bile) produced by the liver. Bile is released from the gallbladder after eating, aiding digestion. Bile travels through narrow tubular channels (bile ducts) into the small intestine.
- Removal of the gallbladder is not associated with any impairment of digestion in most people.



### *What causes gallbladder problems?*

- Gallbladder problems are usually caused by the presence of gallstones which are usually small and hard, consisting primarily of cholesterol and bile salts that form in the gallbladder or in the bile duct.
- It is uncertain why some people form gallstones but risk factors include being female, prior pregnancy, age over 40 years and being overweight. Gallstones are also more common as you get older and some people may have a family history of gallstones.
- There is no known means to prevent gallstones.
- These stones may block the flow of bile out of the gallbladder, causing it to swell and resulting in sharp abdominal pain, vomiting, indigestion and, occasionally, fever.
- If the gallstone blocks the common bile duct, jaundice (a yellowing of the skin) can occur.

### *How are these problems found and treated?*

- Ultrasound is most commonly used to find gallstones.
- In a few more complex cases, other X-ray test such as a CT scan or a gallbladder nuclear medicine scan may be used to evaluate gallbladder disease.
- Gallstones do not go away on their own. Some can be temporarily managed by making dietary adjustments, such as reducing fat intake. This treatment has a low, short-term success rate. Symptoms will eventually continue unless the gallbladder is removed. Treatments to break up or dissolve gallstones are largely unsuccessful.
- Surgical removal of the gallbladder is the time honored and safest treatment of gallbladder disease.

### *What are the advantages of performing laparoscopic gallbladder removal?*

- Rather than a five to seven inch incision, the operation requires only four small openings in the abdomen.
- Patients usually have minimal post-operative pain.
- Patients usually experience faster recovery than open gallbladder surgery patients.
- Most patients go home the same day of the surgery and enjoy a quicker return to normal activities.

### *Are you a candidate for laparoscopic gallbladder removal?*

Although there are many advantages to laparoscopic gallbladder removal, the procedure may not be appropriate for some patients who have severe complicated gallbladder disease or previous upper abdominal surgery. A thorough medical evaluation by your personal physician, in consultation with a surgeon trained in laparoscopy, can determine if laparoscopic gallbladder removal is an appropriate procedure for you.

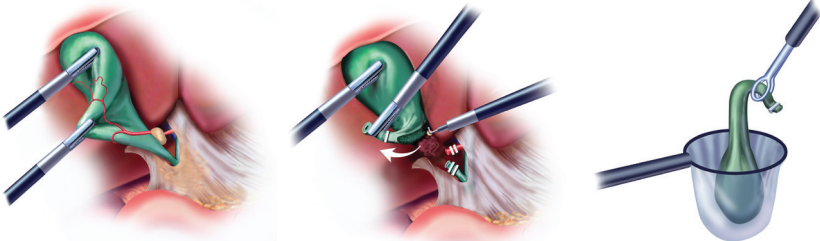
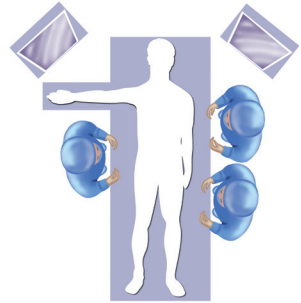
### *What preparation is required for laparoscopic gallbladder removal?*

The following includes typical events that may occur prior to laparoscopic surgery; however, since each patient and surgeon is unique, what will actually occur may be different:

- Preoperative preparation includes blood work, medical evaluation, and an EKG depending on your age and medical condition.
- After your surgeon reviews with you the potential risks and benefits of the operation, you will need to provide written consent for surgery.
- It is recommended that you shower the night before or morning of the operation. Your surgeon may also want you to use an antibiotic soap.
- After midnight the night before the operation, you should not eat or drink anything. You may take medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.
- Drugs such as blood thinners, anti-inflammatory medications (arthritis medications) and Vitamin E may need to be stopped temporarily for several days to a week prior to surgery.
- Diet medication or St. John's Wort should not be used for the two weeks prior to surgery.
- Quit smoking and arrange for any help you may need at home.
- Do not shave your abdomen before surgery.

## How is laparoscopic gallbladder removal performed?

- Under general anesthesia, so the patient is asleep throughout the procedure.
- Using a cannula (a narrow tube-like instrument), the surgeon enters the abdomen in the area of the belly-button.
- A laparoscope (a tiny telescope) connected to a special camera is inserted through the cannula, giving the surgeon a magnified view of the patient's internal organs on a television screen.
- Other cannulas are inserted which allow your surgeon to delicately separate the gallbladder from its attachments and then remove it through one of the openings.
- An X-ray called a cholangiogram may be performed during the operation to identify stones which may be lodged in the bile channels or to verify the anatomy of structures that have been identified.
- If the surgeon finds one or more stones in the common bile duct, he/she may remove them with a special scope, may choose to have them removed later through an endoscope placed through the mouth into the stomach using a procedure called ERCP or may convert to an open operation in order to remove all the stones during the operation.
- After the surgeon removes the gallbladder, the small incisions are closed with absorbable stitches or with surgical tape or glue.



## *What happens if the gallbladder removal cannot be performed or completed by the laparoscopic method?*

In a small number of patients the laparoscopic method cannot be performed for gallbladder removal. Factors that may increase the possibility of choosing or converting to the “open” procedure may include a very inflamed and scarred gallbladder, obesity, a history of prior abdominal surgery causing dense scar tissue, inability to visualize organs or bleeding problems during the operation.

The decision to perform the open procedure is a judgment decision made by your surgeon either before or during the actual operation. When the surgeon feels that it is safest to convert the laparoscopic procedure to an open one, this is not a complication, but rather good surgical judgment. The decision to convert to an open procedure is strictly based on patient safety.

### *What should I expect after gallbladder removal surgery?*

- Gallbladder removal is a major abdominal operation and a certain amount of postoperative pain occurs. Transient or temporary nausea and vomiting may occur as a side effect of both the surgery and the medications used for anesthesia. This tends to be limited to 1-2 days after surgery.
- Most patients who have a laparoscopic gallbladder removal go home from the hospital the day of surgery once liquids are tolerated. Some patients remain in the hospital overnight and go home the next morning.
- Activity is dependent on how the patient feels. Walking is encouraged and patients can go up and down stairs the day of surgery. Patients can remove the dressings and shower the day after the operation.
- Patients will probably be able to return to normal activities within a week's time, including driving, light lifting and working.
- In general, recovery should be progressive, once the patient is at home.
- The onset of fever, yellow skin or eyes, worsening abdominal pain, distention, persistent nausea or vomiting, or drainage from the incision indicate that a complication or other problem has occurred. Your surgeon should be contacted in these instances.
- Most patients can return to work within seven days following the laparoscopic procedure depending on the nature of your job. Patients with administrative or desk jobs usually return in a few days while those involved in manual labor or heavy lifting may require a bit more time. Patients undergoing the open procedure usually resume normal activities in four to six weeks. Other aspects of recovery can be slower with an open operation.
- Make an appointment with your surgeon within 2-3 weeks following your operation.

## *What complications can occur from laparoscopic gallbladder removal?*

While there are risks associated with any kind of operation, the vast majority of laparoscopic gallbladder removal patients experience few or no complications and quickly return to normal activities. It is important to remember that before undergoing any type of surgery — whether laparoscopic or open — you should ask your surgeon about his/her training and experience.

Complications of laparoscopic gallbladder removal (cholecystectomy) are infrequent, but include bleeding, wound infection, hernias, blood clots, or heart problems. Unintended injury to adjacent structures such as the common bile duct, colon, or small intestine may occur and may require another surgical procedure to repair it. Bile leakage into the abdomen from the tubular channels leading from the liver to the intestine may rarely occur.

Numerous medical studies show that the complication rate for laparoscopic gallbladder removal surgery is comparable to or even lower than the complication rate for open gallbladder removal surgery when performed by a properly trained surgeon. The overall rate of severe complications is low.

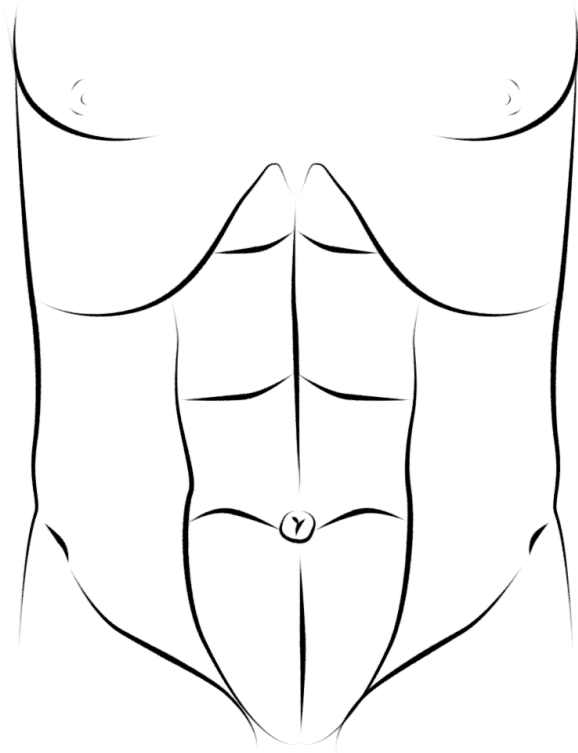
## *When to call your doctor*

Be sure to call your physician or surgeon if you develop any of the following:

- Persistent fever over 101 degrees F (39 C)
- Severe abdominal pain
- Persistent nausea or vomiting
- Bleeding
- Increasing abdominal swelling
- Pain that is not relieved by your medications
- Chills
- Persistent cough or shortness of breath
- Purulent drainage (pus) from any incision
- Redness surrounding any of your incisions that is worsening or getting bigger
- You are unable to eat or drink liquids
- You have any other questions or concerns related to your recovery

*This brochure is intended to provide a general overview of a laparoscopic gallbladder removal surgery. It is not intended to serve as a substitute for professional medical care or a discussion between you and your surgeon about the need for a laparoscopic gallbladder removal. Specific recommendations may vary among health care professionals. If you have a question about your need for a laparoscopic gallbladder removal (cholecystectomy), your alternatives, billing or insurance coverage, or your surgeon's training and experience, do not hesitate to ask your surgeon or his/her office staff about it. If you have questions about the operation or subsequent follow up, discuss them with your surgeon before or after the operation.*

## Additional instructions:



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