NAGAN, ARREGUI & DAVIS M.D.s, INC.

PATIENT INFORMATION ON
LAPAROSCOPIC GALLBLADDER REMOVAL

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 fluid (bile) produced by the liver. Bile is released from the gallbladder after eating and travels through a narrow tubular channel (bile duct) into the small intestine, aiding digestion. Removal of the gallbladder is not associated with any impairment of digestion in most people. The only known side effect from removal of the gallbladder is loose bowel movements or infrequently diarrhea. This can occur in about 5% of patients and is usually transient. Rarely it is long-lasting and may require medications to control.

What Causes Gallbladder Problems?

Gallbladder problems are usually caused by the presence of gallstones: small hard masses 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. There is no known means to prevent gallstones. These stones may block the flow of bile from the gallbladder, causing it to swell and resulting in sharp abdominal pain, vomiting, indigestion, and occasionally fever.

How are these Problems Found and Treated?

After the patient has symptoms: Ultrasound is most commonly used to find gallstones. In a few complex cases, other X-ray tests may be used to evaluate gallbladder disease. Gallstones do not go away on their own. Some can be temporarily managed with drugs or by making dietary adjustments, such as cutting down on fat intake. This treatment has a low, short-term success rate and symptoms will usually persist until the gallbladder is removed. Surgical removal of the gallbladder is the safest, most effective treatment of gallbladder disease.

How is Laparoscopic Gallbladder Removal Performed?

General anesthesia is used, therefore the patient is asleep throughout the procedure. In a laparoscopic operation, surgeons insert cannulas (narrow tubes) through small incisions (1/4 to 1/2 inch) to enter the abdomen. The laparoscope, which is connected to a tiny video camera, is inserted through the cannula, and gives the surgeon a clear, magnified view of the patient's internal organs on a television screen. Instruments such as forceps and scissors are inserted through other incisions and the entire operation is performed "inside" without making a large incision. The surgeon separates the gallbladder from its attachments then removes it through one of the incisions. An intraoperative x-ray (called a cholangiogram) or an ultrasound is sometimes performed to identify stones in the main bile duct or to insure that the main bile duct has been properly identified. If the surgeon finds one or more stones in the common bile duct, these may be removed with a special scope during the operation or may be removed later under mild sedation using a second minimally invasive procedure called an ERCP (Endoscopic Retrograde Cholangio-Pancreatography). After the gallbladder is removed, the small incisions are closed with absorbable stitches under the skin and a liquid-like glue called collodion on the surface of the skin. The collodion will eventually wear off.

What Happens if the Operation Cannot be Performed by the Laparoscopic Method?

In a small number of patients (about 5%) the laparoscopic method is not feasible because of an inability to identify the anatomy adequately or handle the organs safely. Factors that may increase the possibility of converting to "open" procedure include obesity, a history of prior abdominal surgery causing dense scar tissue, bleeding problems during the operation, or intense inflammation around the gallbladder and bile ducts, obscuring the normal anatomy. The decision to convert to an open procedure is made by your surgeon during the operation and is based strictly on patient safety.

What are the Complications of Laparoscopic Gallbladder Removal?

Complications can occur with any operation and include bleeding, blood clots, and infection, which are uncommon with laparoscopic gallbladder removal (1% or less). An even less common, but very serious, complication is an unintended injury to the common bile duct or duodenum. This may require conversion to an open operation. Finally, bile leakage from the bile duct into the abdomen may occur and may necessitate further intervention.

What are the Complications of an Open Gallbladder Removal?

These are the same as for the laparoscopic operation. There is however a higher chance of pneumonia, wound infections, and clots forming in the deep veins of the leg. Of course, there is more pain after an open abdominal operation and recovery is much longer.

What Preparation is Required for Surgery?

- You should refrain from eating, drinking, and chewing tobacco after midnight the night before your operation. You should refrain from smoking 24 hours before your operation. People who smoke prior to general anesthesia are 20 times more likely than non-smokers to have episodes of inadequate oxygen supply to the heart (which could be interpreted as a heart attack).
- If you take medication on a daily basis, our surgeons request that only heart and blood pressure medications be taken with a sip of water the morning of your operation (unless otherwise instructed). If you take aspirin, blood thinners, or arthritis medication your surgeon will discuss the proper time to discontinue these before your operation. If you are on insulin, take half of your usual morning

dose the day of surgery, unless otherwise indicated by your doctor. Your blood sugar will be checked at the hospital before your operation.

- If you take antibiotics prior to a dental procedure, please alert your doctor. It may also be necessary to take antibiotics prior to your surgery.
- You should shower the night before, or the morning of, your operation, taking care to clean the umbilicus (belly button) with a Q-tip using soap and water.
- Routine pre-operative testing may be required (blood tests, EKG, chest x-ray). Depending on your medical condition, you may need clearance from your cardiologist, pulmonologist, or family physician before your operation can be performed.

What to Expect after Surgery:

- Most gallbladder operations are performed on an outpatient basis. If a problem, such as persistent nausea or pain, develops post-operatively, the patient will remain in the hospital (usually over night) until the problem has resolved.
- No activity restrictions! We encourage you to engage in light activity the first 2 to 4 days after surgery. You may walk and exercise as you are able. The more activity you do, the more rapidly the soreness will resolve.
- You may shower, bathe or swim (no lakes please) the day after surgery. When sleeping for long periods of time muscles can become stiff and sore. If you are stiff, stand under a hot shower, to help loosen your muscles.
- No driving for 3-5 days after surgery. Pain medication can cause drowsiness, once you stop the medication and most of the pain is gone, you may drive.
- We recommend avoiding fatty & spicy foods for at least a week after surgery.
- Most patients may return to work within 4 to 7 days following surgery, some require a longer convalescence.
- Many patients tire easily for one or two months after surgery and may require frequent naps. This is normal since the body requires a lot of energy to repair itself after surgery. Weight loss of up to 5 pounds is not unusual.
- Different patients experience different degrees of pain, but most will have some pain for 2 to 4 days after the operation. In addition to incisional pain, laparoscopic operations can cause shoulder pain or chest heaviness, which diminishes over several days. Narcotic pain medicine is prescribed with one or two refills. Most people take fewer than 10 tablets, but some patients will require a prescription refill. Be sure to eat before taking pain medicine to avoid nausea or vomiting.
- If you feel excessive gas or abdominal bloating you may take an over-the-counter medication such as Mylicon or Maalox-Plus.
- If you become constipated (narcotic pain pills can contribute to this), you can take an over-the-counter laxative such as Milk of Magnesia, a Fleets enema, Dulcolax tablets or suppositories, or mineral oil, or some warm prune juice.
- Your incisions may ooze watery fluid for a day or two. As long as the wound is oozing, keep it covered with a band-aid or dry gauze dressing. It is normal to develop swelling and bruising around the incisions the first one to two weeks after surgery. You can also develop bleeding at the incision site that results in a hematoma (collection of blood) under the skin. This produces a hard lump that will dissolve in four to six weeks.

What Should I Do if I have Problems after Surgery?

- If nausea occurs and does not subside, please call the office nurse and have your pharmacy number ready.
- If you develop a temperature over 101°, redness around the incisions, or yellowish drainage from the incision sites, you may have a wound infection and should call your surgeon as soon as possible.
- You should also call if you feel very faint (as if you will pass out) or develop worsening pain (that the pain medicines do not control).

Call the office to make your follow-up appointment at least 2 days after surgery:
Drs. Arregui, Singh & Mathavan see patients 2 weeks after surgery.