

# GALLBLADDER SURGERY



MUSKEGON SURGICAL  
ASSOCIATES, P.L.C.



MSA

*Muskegon Surgical Associates, P.L.C.*

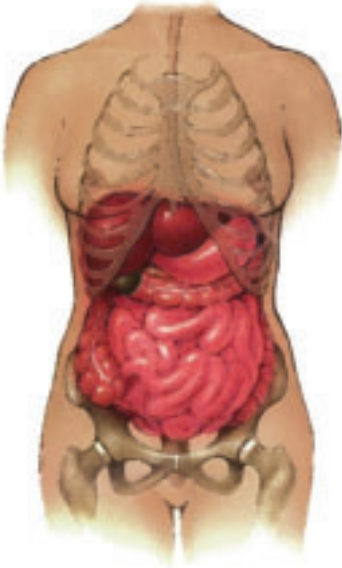
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## Introduction



The gallbladder is a pear shaped organ located beneath the right side of the liver in the upper right hand corner of your abdomen. The gallbladder collects, concentrates and stores a digestive liquid called bile. Bile helps breakdown fats and aids in the digestion.

Bile is produced by the liver and stored in the gallbladder. After eating, hormones signal the gallbladder to release bile into the first section of the small intestine, called the duodenum.

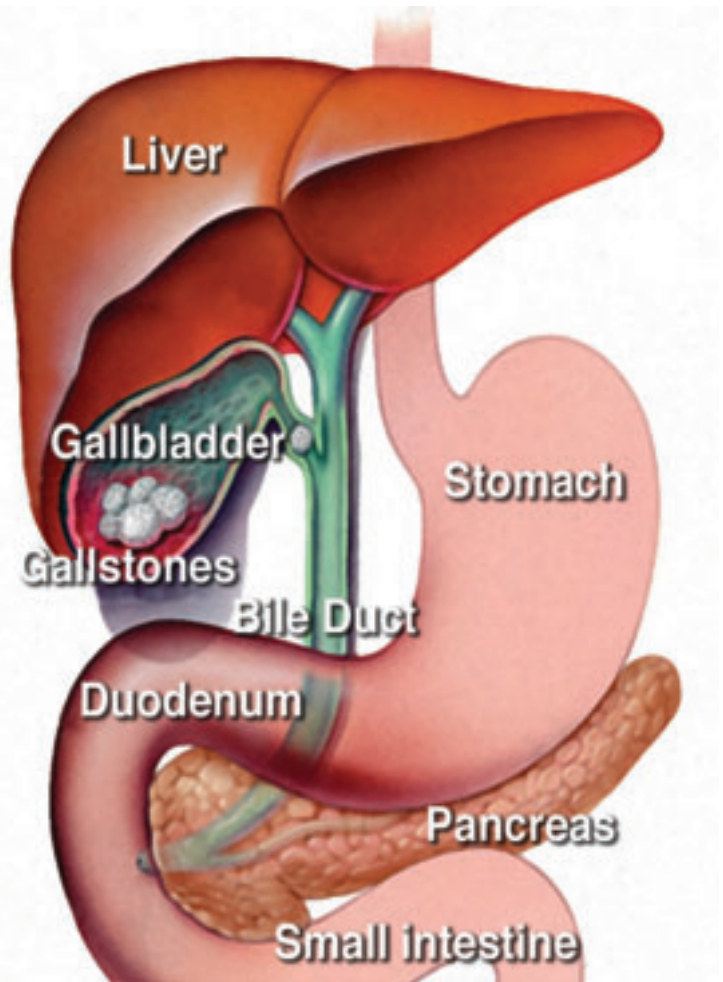
The gallbladder is an organ that you can live without because the liver will continue to make bile which will flow through the biliary duct and into the duodenum. There is no way to prevent gallbladder disease, there are no known causes of why some people are affected or why some don't have any symptoms.

## Gallbladder Disease

**B**iliary dyskinesia occurs when the gallbladder becomes irritated after eating. Symptoms can include pain in the right upper quadrant, mid upper abdomen or between the shoulder blades. The pain can last a few minutes to hours and cause belching, abdominal bloating, gas, sweating and chills.

Gallstones occur when the bile crystallizes in the gallbladder and become solid. Gallstones block the flow of bile out of the gallbladder duct which may cause pain, indigestion, nausea, vomiting, diarrhea, sweating, chills and even fever. If a gallstone blocks the common bile duct, yellowing of the skin (jaundice, which is a buildup of bile chemicals in the blood) can occur. Symptoms of jaundice include yellowing of the eyes, skin, itching and dark urine.

Pancreatitis is a serious condition caused by gallstones blocking the pancreatic duct.



## Diagnosing Gallbladder Disease



Your physician or surgeon will review your medical history and perform a physical exam to determine what testing is most appropriate.

Medication history is very important. Please make sure the surgeon is informed of all prescription and over the counter medications you take. Include vitamins, herbs, diet supplements and suppressants.

Allergies. Inform the surgeon of any allergies you have to medications, foods or environmental allergies.

### Exams and Tests

- Lab tests check your liver and pancreatic function. Gallstones in the bile ducts can cause abnormal liver function tests.
- **Ultrasound.** The ultrasound is a non-invasive test that uses sound waves to scan the abdomen to find gallstones. A wand is moved across your abdomen to create pictures on a video monitor. It takes about ½ hour and is painless.
- **Heptobiliary scan (HIDA scan)** is done if the gallbladder ultrasound is negative. HIDA scans determine whether your gallbladder is functioning abnormally when stones are not present on an ultrasound. A technologist starts an IV, injects a radioactive dye, and takes x-rays. This test can also reveal other problems, such as blocked bile ducts (bile ducts are tubes attached to your gallbladder).
- **Endoscopic retrograde cholangiopancreatogram (ERCP).** An ERCP may be done prior, after, or during your surgery, to diagnosis gallstones in the ducts. A physician passes a flexible, lighted endoscope down the throat and through your stomach to examine the liver, gallbladder, and pancreas drainage systems.
- **A CAT (computerized tomography) scan** is an x-ray that produces images of the gallbladder and other abdominal and pelvic structures.



*ERCP demonstrating gallstones and obstruction of the cystic duct*



*Abdominal film revealing several gallstones*

## Treating Gallbladder Disease

**Diet:** Avoid fatty and spicy foods. However, should you have continued pain, become jaundice, get infection or pancreatitis, surgery is recommended.



**Laparoscopic Cholecystectomy** allows the gallbladder to be removed through small incisions in the abdomen. The procedure takes about 1-2 hours.

### Advantages:

- Small incisions
- Faster recovery
- Less pain
- Shorter hospital stay

*Above: A laparoscopic procedure*

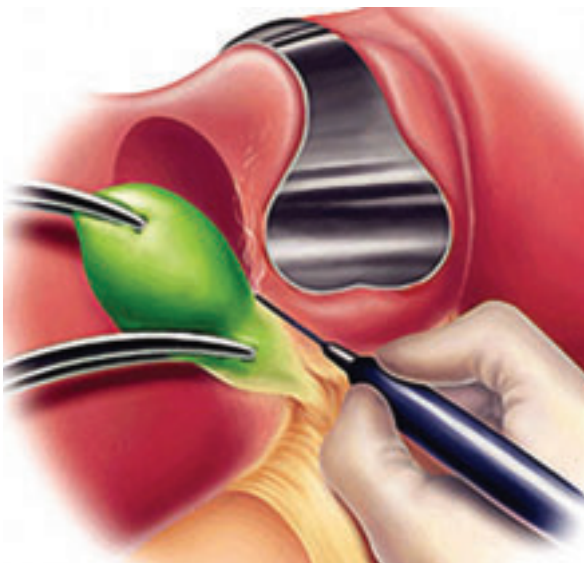
**Open Cholecystectomy** may have to be performed if you have had abdominal surgery, have scarring or adhesions from a previous surgery, are obese, have certain bleeding disorders, liver disease, or if the surgeon cannot see the necessary organs during the laparoscopic procedure.

**Cholangiogram** is an x-ray performed during surgery to identify stones in the bile ducts. The surgeon will determine if this is necessary prior to or during the surgery.

Both procedures require general anesthesia.



*Above and Left: An open cholecystectomy*



*Cholangiogram revealing gallstones in the dilated common bile duct*

## Risks and Complications of Surgery

Your surgeon will discuss the benefit and risks of having surgery. The risks of having surgery include bleeding, infection, injury to nearby organs, blood clots, pneumonia, heart problems, nausea, vomiting, numbness at the incision sites, incisional hernia or retained stones in the common bile duct. Diarrhea with fatty foods is the most common complication. Your risks of having complications increase with certain diseases such as heart disease, obesity and diabetes.

## Preoperative Care

After discussing your treatment options, the surgeon will have you sign a consent for surgery, and have any additional testing that is required. This may include lab work, chest x-ray, EKG, and an evaluation by the anesthesiologist.

The surgeon will review your medications. If you take aspirin, Plavix (clopidogrel), coumadin (warfarin) other blood thinners, anti-inflammatory medications, NSAIDS, vitamin E. herbs and diet medications, you will be instructed on what medicines will need to be stopped and when to stop them. St Johns Wort should be held two weeks prior to surgery, if possible.

Avoid fatty, fried foods until after your surgery (olive oil is a fat), this will decrease gallbladder attacks and pain.



Quit smoking. Smoking decreases the blood supply to the tissues causing a delay in healing. It also increases your risk of respiratory problems with anesthesia. You may want to contact your primary care physician for assistance in smoking cessation.

The office staff reviews your consent and insurance information. Please notify your primary care physician and insurance company of your surgery.

You are given instructions to bathe with a special soap called Hibiclens to decrease bacteria on your skin the night before and day of surgery. This will help decrease your risk of infection. Wash only from the neck down, do not get the solution in your eyes. Do NOT shave the operative area (this will cause a cancellation of your surgery)

You will be instructed not to eat or drink after midnight the evening before your surgery. Eating and drinking prior to receiving general anesthesia increases your risk of choking, aspiration, breathing problems, pneumonia and respiratory arrest.

The hospital may call you and ask you a brief history, review your medications and allergies. If you need to have pre-admission testing or see the anesthesiologist, the hospital will call to make an appointment.

Our scheduling department will call you with a date and time for surgery. You will be instructed to arrive 1 ½ hours to 2 hours prior to your scheduled surgery. This allows time for the hospital nurses to get you prepared for surgery.

Prior to going to the hospital, make appropriate arrangements. You will not be able to drive home from the hospital. Avoid bringing jewelry or other valuables to the hospital. Arrange for day care and time off work. Short term disability papers should be brought to the office for completion. Update your medication and allergy list, bring it with you to the hospital. Bring the following with you to the hospital: insurance cards and identification (drivers license), a copy of your advance directive (if you have one), glasses or contacts (bring your case). Do not wear nail polish or make-up. Wear loose comfortable clothing to go home in.

## Your Surgery

You will change your clothes and put on a hospital gown, the nurse will take your vital signs, start an IV and give any medications that the surgeon has ordered. Anesthesia may come and ask some questions and give you a sedative. You will then be brought into the surgical suite. Your family will be directed to the waiting area.

During surgery, the anesthesiologist will give additional medication to put you to sleep and then place a breathing tube into your mouth and windpipe to regulate your breathing and oxygen. The anesthesiologist remains with you through out the procedure.

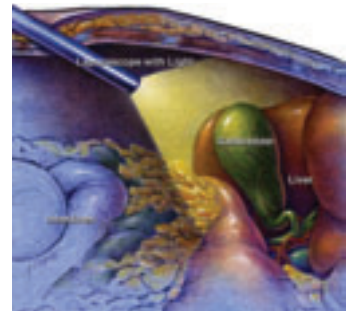
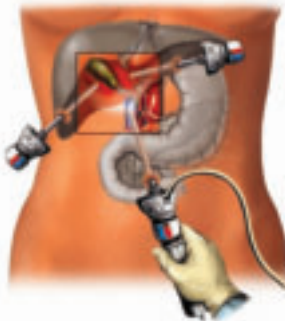
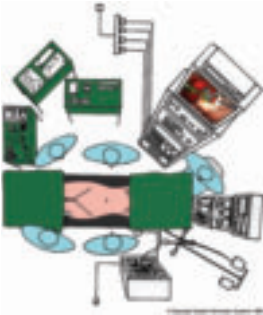
The technicians will prep your abdomen with an iodine solution to decrease your risk of infections. This may leave an orange or blue hue on your skin.



*Carbon dioxide is injected into your abdomen to allow better visualization.*

The surgeon makes small incisions (see below) in your abdomen and inserts a laparoscope. The laparoscope allows the surgeon to use video images to remove the gallbladder. Carbon dioxide gas is infused into the abdominal cavity so the surgeon has a better view of your organs. The surgeon will clip or tie off parts the gallbladder and excise it for removal. The clips are non-toxic titanium metal or plastic, they are harmless and do not interfere with future CAT Scans, MRIs or airport metal detectors. During the surgery the surgeon may perform a Cholangiogram to reveal any stones in the bile duct that need to be removed. If it is not safe to remove your gallbladder

laparoscopically, the surgeon will perform an open procedure. The nurse will apply a dressing over each incision.



*The surgeon makes small incisions in your abdomen and inserts a laparoscope. The laparoscope allows the surgeon to use video images to remove the gallbladder.*

## Postoperative Care – Recovery

After surgery, you will go to the recovery area. When you wake up, your abdomen will have dressings applied to the incisions. You may have special boots on your legs to prevent blood clots. You will have an IV until you can eat and drink. Notify the nurses if you are nauseated. You will have abdominal pain and may have pain in your shoulders or upper back due to the gas used during surgery. The nurses will offer you pain medications. Depending on your condition, you may be discharged that day or stay overnight.

You will feel tired the remainder of the day and possibly for a few days. You may have swelling, tenderness, and bruising around the incision. You may feel bloated or gassy. Shoulder and abdominal cramping and pain will gradually improve over the next few days. Recovery will take approximately 7-10 days.

## To Speed Your Recovery

- You may not drive for 24-48 hours after your surgery or as long as you are taking narcotics.
- Do not make any legal decisions for 24-48 hours after your surgery.
- You may not return to work if you are taking narcotics or if your job does not allow you to return with the restrictions listed below.
- Walk as much as possible, this will help relieve the gas and prevent blood clots. You should get up every hour while awake and walk around. If you are sent home with TED hose (nylon socks), continue to wear them for the next couple of days. Increase your activity as tolerated.
- Drink a lot of fluid over the next week, this will help prevent constipation.
- Diet: Start with light meals, toast, rice, bananas, applesauce and gradually advance your diet as tolerated. Try to eat a healthy diet high in fiber. You may find some foods do not agree with you.
- Resume taking all of your medications unless otherwise instructed.
- Take your pain medication as directed. Narcotics may cause constipation.
- If your pain is not severe, you may take Motrin (ibuprofen) or Advil (unless you have been instructed otherwise).
- Dressing care: You may go home with dressings on your incisions. Leave them on for two days and then you may remove them. Leave the steri-strips in place.
- Bathing and incisional care: You may shower two days after surgery. Wash in the shower as normal, however, do not rub or pull on the steristrips. The steristrips help hold the incision together and decreases the size of scar. Over time, the ends of the steristrips will become loose. Carefully cut the loose steristrips.
- Constipation is caused from narcotics and decreased activity after your surgery. If you do not have a bowel movement in two days, you may use a laxative like Milk of Magnesia. Follow the directions on the package.
- No exercising, lifting, pushing or pulling over 15# for a minimum of two weeks.
- You may have sex when you feel well enough.
- Call the office for a postoperative appointment.

## Notify Our Office

231.739.9461

or

1-888-874-5892

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Fever over 101 degrees

Bleeding

Increase in abdominal swelling

Uncontrolled pain

Chills, shakes, sweating

Persistent cough

Pus or fluid draining from your incision

Redness around the incision that is getting bigger

Excessive nausea or vomiting

Difficulty urinating

Jaundice

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