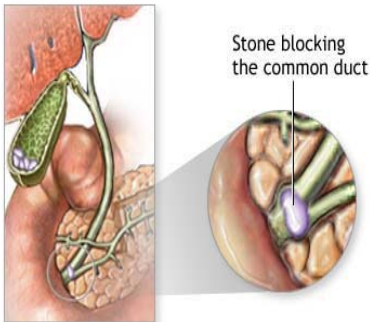


Gallstones

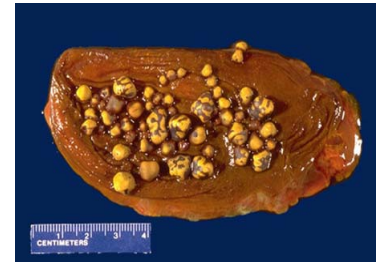
WHY DO PEOPLE DEVELOP GALLSTONES?

It is not completely understood why some people develop gallstones and others do not. Anyone is a potential candidate for gallstone disease but women between the ages of 20 and 60 are three times more likely to develop gallstones than men. Other risk factors that may increase risk include pregnancy, birth control pills or hormone replacement therapy, age (60 years or older), obesity, rapid weight loss, Native American or Mexican American ancestry, the presence of severe liver disease and/or hemolytic anemia, female sex, elevated triglyceride levels, diabetes mellitus, prior gastric surgery, spinal cord injury, immobility.



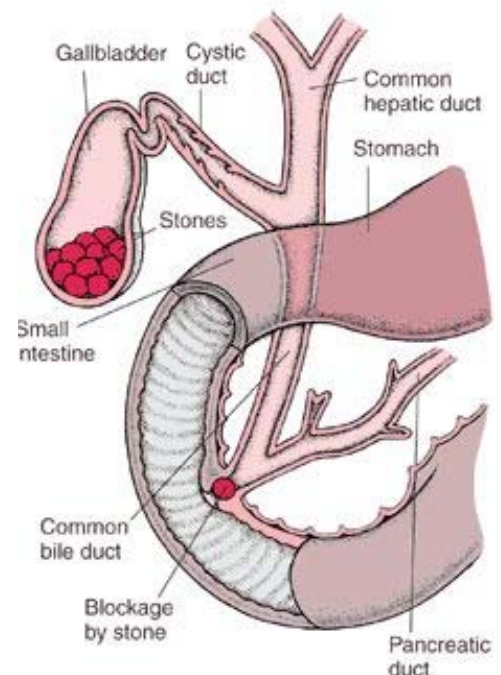
WHAT ARE GALLSTONES?

Gallstones are lumps of solid material that form in the gallbladder when substances in the bile (primarily cholesterol, lecithin, fatty acids and bilirubin) separate from liquid into a solid state by forming crystals. An imbalance of bile components leads to the formation of gallstones. Gallstones may vary in size and shape being as small as a grain of sand/gravel or as large as a golf ball. An estimated 25 million Americans have gallstones or other gallbladder disorders and about 1 million new causes of gallstone disease are diagnosed every year.



HOW DO GALLSTONES CAUSE PROBLEMS?

Sometimes there is too much or too little bile and its' liquid chemicals inside the gallbladder. Some of the chemicals crystallize (become solid) and form gallstones. If the gallstones stay in the gallbladder they may not cause problems. If the gallstones move into the cystic or common bile duct, bile can back up causing pressure leading to symptoms. This process may also lead to an inflamed pancreas called pancreatitis. Gallstones may be silent and cause no symptoms or they may block the duct or irritate the wall causing right upper abdominal pain, mid abdominal pain, back pain, nausea, vomiting, heartburn, indigestion, gas, bloating, pressure sensation, etc. If a stone blocks the common bile duct it not only causes the above symptoms but also a serious condition like jaundice (a liver disorder), pancreatitis or infection.



HOW ARE GALLSTONES DIAGNOSED?

A thorough history and physical examination is the first step in diagnosing gallbladder problems. Abdominal ultrasound is the most common diagnostic tool. This is a non-invasive, painless procedure using sound waves sent through the abdomen to create an image of the gallbladder. The sound waves bounce off the gallstones and reveal their location. A gallbladder ultrasound will detect 95% of those with gallstones. It is more difficult to diagnose gallstones when they are located in the bile ducts. These stones are less likely to show up during ultrasound. Sometimes additional, specialized tests are necessary and will be ordered by your doctor.



WHAT NON-SURGICAL TREATMENTS ARE THERE AVAILABLE FOR GALLSTONES?

Drugs made from bile acids called ursodiol (Actigall) and chenodiol (Chenix) may be able to dissolve gallstones that are small and composed of cholesterol and not calcium. However, this may take months or years of treatment before all stones dissolve with the patient experiencing diarrhea as a side effect. These medications are expensive and must be used for life as stones reform after discontinuing the therapy. Generally this form of gallstone treatment is utilized in patients who are not surgical or general anesthesia candidates.

Extracorporeal shock wave lithotripsy (ESWL) is a procedure that uses high frequency sound waves to shatter the stones. This is followed by administering bile salts to dissolve the remaining pieces. This form of therapy has not become widely used. It can only be used with very small stones and has, in some patients, produced an acute blockage of the biliary system and/or pancreatitis.

Direct injection of Ether or other chemicals into the gallbladder have been utilized in rare cases and carry significant risk of secondary injury or infection. This is an experimental procedure that can dissolve some, but not all, stones. The most common treatment for gallstones is the surgical removal of the gallbladder.

CAN GALLSTONES LEAD TO CANCER?

Cancer of the gallbladder can be difficult to diagnose because symptoms mimic those of other diseases of the gallbladder. The presence of large gallstones and/or a calcified gallbladder may predispose some to gallbladder cancer. Gallbladder cancer is rare. Its' prognosis and treatment is dependent upon whether the cancer is localized to the gallbladder or spread to other organs.