

Gallstones

Overview: Causes, Symptoms and Treatments

What Does the Gallbladder Do? The gallbladder is a small pear-shaped sac located beneath the liver on the right side of the abdomen. The gallbladder's primary function is to store and secrete bile into the intestine at the proper time to aid digestion. The gallbladder is connected to the liver and the small intestine by a series of ducts that transport bile. These ducts are called the biliary system.

Bile is a thin, oily, yellowish fluid produced by the liver, made up of soap-like chemicals that keep the cholesterol in the gallbladder in liquid form. The liver can produce as much as three cups of bile in one day. At any one time, the gallbladder can store up to one cup of bile.

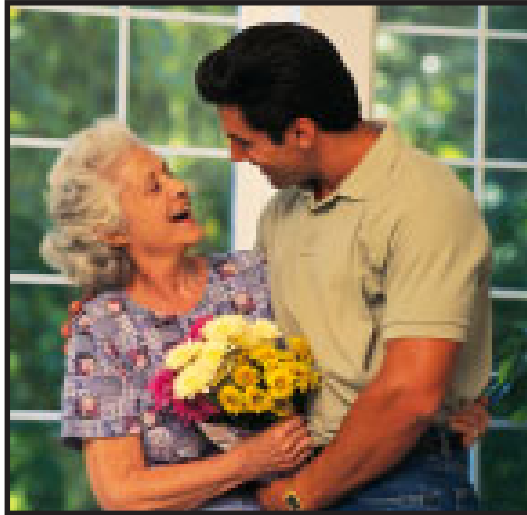
As food passes from the stomach into the small intestine, the gallbladder contracts and sends its stored bile into the intestine through the common bile duct. Once in the intestine, bile helps to digest and absorb the fats from food that has been broken down by enzymes secreted from the pancreas and the intestine.

What Are Gallstones? Gallstones are clumps of solid material (like small, congealed grease balls) that form in the bile stored in the gallbladder. There are two major types of gallstones: cholesterol stones and pigment stones.

Cholesterol stones are composed primarily of cholesterol. They account for about 80% of gallstones in the U.S. Pigment stones, which account for other 20% of gallstones, are composed of bile pigments such as bilirubin, and other substances such as calcium, which are found in the bile.

Gallstones can vary in size. They can be as small as a grain of sand or as big as an egg. Many are the size of peas or small marbles. The gallbladder may develop a single, large, stone or many smaller ones, even several thousand. Small stones can move into the bile ducts and become lodged there, blocking the flow of bile and causing pain and jaundice. Larger stones can block the outlet from the gallbladder and cause steady, sharp pain when the gallbladder tries to empty.

What Causes Gallstones? Gallstones form when certain chemicals in the bile, either cholesterol or bile pigments, start to clump together. These clumps become the cores from which larger stones can grow. If more cholesterol or bile pigments are deposited, these masses can grow even more and, like a snowball rolling down a hill, can eventually become quite large. Although researchers do not understand completely why some people get gallstones and others do not, progress is being made in understanding the process of stone formation. Scientists have found that eating toxic oils such as found in fried foods or



foods which contain hydrogenated oils can create stagnant, toxic bile formation. World-wide research now links infection to gallstone formation. In addition, certain proteins present in bile saturated with cholesterol or bile pigments may play a role in either causing or preventing gallstones.

Who Gets Gallstones? This year over 1 million people in the U.S. will find out that they have gallstones. They will join the estimated 20 million Americans - roughly 10% of the population - who already have gallstones.

Although anyone may be a potential candidate for gallstones, the condition occurs more often in women than in men. In fact, among people between the ages of 20 and 60, women are three times more likely to develop gallstones than are men. However, by age 60 the statistics even out, and nearly 30% of all men and women have gallstones. The people most likely to develop gallstones are: women who have been pregnant or who have used oral contraceptives or menopausal estrogen therapy; both men and women who are overweight; people over 60 years old; and people who go on "crash" diets or who lose a lot of weight quickly.

The highest incidence of gallstones in the U.S. occurs in people of Mexican-American and Native American descent. For example, in some American Indian tribes such as the Pima Indians of Arizona, 70% of women have gallstones by age 30. A majority of Native American men have gallstones by the time they reach 60. American blacks of both sexes have the lowest incidence of gallstones; both male and female whites have a rate twice that of blacks.

What Are the Symptoms of Gallstones? Most people who have gallstones don't know it. They have what are called "silent" stones. Silent stones are usually detected when a person is undergoing an unrelated medical checkup. Related symptoms may be burping often, constipation, passing gas often (especially smelly gas).

Although most people with silent stones may live their entire lives without ever having a gallstone attack, it is impossible to determine who will and who will not have an attack. Rather than surgical removal of the gallbladder, new options are now available such as the highly effective, 6-week internal cleansing program, called the "Master Liver-Gallbladder Flush." Many people have released internal gallstones without difficulty using this procedure and completely eliminated all their gallbladder symptoms, including gallstone attacks.

Gallstone Attack. A gallstone attack usually is marked by a steady, severe pain in the upper abdomen. Such attacks may

last only 20 or 30 minutes, but more often, they last for several hours. A gallstone attack also may cause pain between the shoulder blades or in the right shoulder and may cause nausea or vomiting. Typically, attacks may be separated by weeks, months, or years. Once a true attack occurs, subsequent attacks are much more likely.

Sometimes, gallstones can make their way out of the gallbladder into the cystic duct, which is the channel through which bile travels on its way to the small intestine. If stones get lodged in the cystic duct, they block the flow of bile, which may lead to a condition called cholecystitis, an inflammation of the gallbladder. Blockage of the cystic duct is a relatively common complication caused by gallstones.

A less common yet equally serious problem can occur if gallstones lodge in the common bile duct, which can block bile flow not only from the gallbladder but also from the liver. Stones also may interfere with the flow of digestive fluids secreted by the pancreas into the small intestine and lead to pancreatitis, an inflammation of the pancreas. Prolonged blockage of any of these ducts can cause severe damage to the gallbladder, liver, or pancreas, and can be fatal.

How Are Gallstones Diagnosed? There are several diagnostic tests available to detect stones.

Ultrasound. An ultrasound examination, also known as ultrasonography, uses sound waves to detect gallstones in the gallbladder. Ultrasonography can create images of internal organs from sound waves that pass through the body. To detect gallstones, pulses of sound waves are sent into the abdomen to create an image of the gallbladder. If stones are present, the sound waves will bounce off the stones, revealing their location.

Although ultrasonography is usually more expensive than other diagnostic tests, it is a noninvasive technique, which means nothing is injected into or penetrates the body. In addition, ultrasound is painless and eliminates the exposure to radiation from X-rays. However, new research shows that ultrasound, once thought harmless, may have negative cellular side effects in susceptible people. At best, ultrasound may be only 80% diagnostic.

X-Rays. There are three different tests that use X-rays to examine the gallbladder or biliary system, as follows:

a) Oral Cholecystography. This procedure is used to detect stones in the gallbladder. The procedure requires a patient to swallow pills containing a dye the night before X-rays are taken. This dye is absorbed into the bile and outlines on X-ray film the gallbladder and any stones that may be present. Cholecystography is now rarely performed because it has been largely replaced by ultrasound of the gallbladder.

Risks include cellular damage from radiation exposure from X-rays (although they are regulated to provide the minimum radiation exposure needed to produce the image). Pregnant women and children are more susceptible to the risks of cellular

damage from X-rays. Other risks include incomplete elimination of the dye (a halogenated compound) from the body. This procedure should not be used for those who are allergic to iodine or diagnostic contrast media or who have severe kidney or liver damage. Invalid test results can result from the following reasons: impaired liver function, jaundice, inadequate absorption of the dye in the small intestine, failure to follow dietary restrictions before the procedure, failure to ingest the full dosage of dye, partial loss of dye through vomiting or diarrhea.

b) PTC (Percutaneous Transhepatic Cholangiography).

In this test dye is injected through a very thin tube, called a catheter, that pierces the skin and the wall of the abdomen and is guided through the liver into the bile duct system. The injected dye outlines the network of bile ducts when an X-ray picture of the abdomen is taken and thus can detect stones lodged in the bile ducts.

Complications include the dye leaking from the liver into the abdomen; increased risk of bleeding or infection; puncture of the vessels in the abdominal area by the catheter, requiring surgery to repair it; septicemia (blood poisoning) and bile peritonitis (a potentially fatal infection or inflammation of the membrane covering the walls of the abdomen). In addition, there is radiation exposure from X-rays (although they are regulated to provide the minimum radiation exposure needed to produce the image). Pregnant women and children are more susceptible to the risks of cellular damage from X-rays. This procedure should not be performed on anyone who has cholangitis (inflammation of the bile ducts), massive ascites (fluid accumulation), uncontrollable bleeding disorder or an allergy to iodine or to diagnostic contrast media. This procedure has a higher risk for people with serious heart disease or those who are physically weakened, fragile or elderly.

c) ERCP (Endoscopic Retrograde Cholangiopancreatography).

This is an invasive procedure which involves the use of an endoscope, which is a long, flexible tube through which a doctor can directly view the digestive tract. The instrument is passed through a patient's mouth and throat down the esophagus and through the stomach to the site in the small intestine where the common bile duct empties. A smaller tube within the endoscope is used to inject dye directly into the common bile duct, creating a sharp image on X-ray film. Like the PTC test, this procedure also can detect stones that may be blocking the bile ducts.)

Risks include cellular damage from radiation exposure from X-rays (although they are regulated to provide the minimum radiation exposure needed to produce the image). Pregnant women and children are more susceptible to the risks of cellular damage from X-rays. The most common complication after ERCP is inflammation of the pancreas (pancreatitis). Other risks include the endoscope puncturing the throat (esophagus), stomach, duodenum, bile duct, or pancreatic duct which then requires surgery to repair.

How Are Gallstones Treated?

Gallbladder Surgery. Surgery is by far the most common method for eliminating gallstones. Each year, over 500,000 Americans have their gallbladders surgically removed. A routine gallbladder operation usually lasts 1 to 2 hours and is performed under a general anesthetic. After the organ is removed, the surgeon checks the bile ducts for any stones that may have passed into these channels. However, it is possible for even the best surgeon to miss stones hidden in the bile ducts. In fact, as many as 10% of patients coming out of surgery have stones remaining in the bile ducts.

In some patients, after the gallbladder is removed, a T-shaped tube is placed through the abdominal wall connecting the bile ducts to the outside of the body. This tube is left in place for a few days following surgery to enable the surgeon to remove any residual stones without additional surgery.

Medically, gallbladder surgery is considered to be a routine procedure that is relatively risk free when performed by an experienced surgeon in an otherwise healthy individual who has no other complications. However, undergoing general anesthesia entails the substantial risk of potential nerve and brain damage as well as systemic toxicity from anesthetic agents that may linger for years.

Interference Fields From Scar Areas. The surgical site from gallbladder surgery (even though it may heal well) typically leaves a bio-energetic interference field which impedes the normal flow of the body's nerve energy (well documented in Asian and European medical literature) and can serve to initiate new symptoms via a reflex arc later on. In the overall picture, removing the gallbladder does not remove the conditions under which the gallstones formed in the first place. That is why, even after the gallbladder is removed, many individuals continue to have their previous gallbladder symptoms, sometimes including gallbladder attack symptoms (even with no gallbladder present).

Gallbladder Surgery, Digestion and Colon Cancer. Removal of the gallbladder directly affects the digestive process. Once the gallbladder has been removed, bile produced by the liver flows directly into the small intestine (bypassing the storage in the missing gallbladder). This can create an acid bile syndrome, which weakens digestion and is linked with a higher ulcer formation rate. In addition, gallbladder removal indirectly affects the colon and bowel eliminations, dramatically increasing the risk of colon cancer later on, due to the bile (formed by the liver) being directly dumped into the intestines, creating an acid condition.

Not all people with gallstones are good candidates for surgery, either because they may be too weak to withstand an operation or because they may have another medical condition that greatly increases the risks involved in Page surgery. Surgical removal of gallstones is often incomplete. Gallstones are frequently not limited to the gallbladder (they can also occur in the liver and throughout the upper GI tract). Thus, re-

moving the gallbladder does not eliminate all the gallstones (formed concretions of hardened bile) located in the gastrointestinal tract.

What Are the Alternatives to Gallbladder Surgery? There are a various other methods for clearing gallstones, although some are still experimental.

Endoscopic Papillotomy. In this invasive procedure, an endoscope is passed down the throat and through the stomach into the small intestine to the opening where the bile duct empties into the small intestine. The endoscope is used to widen this opening to allow stones in the bile duct to move more easily into the intestinal tract where they can be passed out of the body painlessly. Sometimes, a wire basket or snare attached to the end of the endoscope is used to actually grab lodged stones and pull them through the opening valve into the intestine. This procedure is useful only for removing stones lodged in the bile ducts. It cannot be used to remove stones from the gallbladder. Complications may entail puncture of throat, stomach or other organs by the endoscope.

Monooctanoin (Moctanin). Monooctanoin is a chemical solvent that helps dissolve only smaller stones in the bile duct. In this invasive procedure, the drug is injected directly into the bile duct either through an endoscope guided from the mouth, through the digestive tract and into the duct, or through a T-tube left in place after surgery. Small amounts of the chemical are flushed continuously into the bile duct to slowly dissolve the stones. This procedure is effective only in dissolving smaller cholesterol gallstones located in the bile ducts. This will not affect gallstones which are often located in elsewhere – in the gallbladder and in various places in the upper GI tract. This drug can cause severe side effects, including severe stomach and abdominal pain, back pain, chills, fever, or sore throat, drowsiness, nausea, shortness of breath, etc. Complications include the risk of injury from misplacement of the injection and/or perforation of the bile duct or other tissues by the endoscope.

Chenodiol (Chenix). Chenodiol is a prescription drug that helps dissolve only smaller cholesterol gallstones in some people. It mimicks an acid normally found in bile that plays a role in keeping biliary cholesterol in solution. Chenodiol works by decreasing the levels of cholesterol secreted in the bile. This action allows the cholesterol-dissolving mechanisms in bile to concentrate on re-dissolving the cholesterol gallstones. The drug is recommended primarily for people who are not healthy enough to undergo surgery. Treatment can take 2 years or longer. The drug may cause severe side effects including severe stomach pain, severe nausea and vomiting, diarrhea or constipation, gas, indigestion, reversible elevation of liver enzymes in the blood, etc. and may interact with other drugs. Chenodiol works only on smaller cholesterol gallstones, and its effectiveness depends on the size and number of stones a per-

son has. In fact, even in patients whose stones dissolve completely, 25 to 50% of those people may have gallstones recur within 5 to 10 years after chenodiol treatment has ended.

Methyl Tert-butyl Ether (MTBE). MTBE is a toxic, known carcinogenic chemical currently being tested as a way to dissolve gallstones. In this invasive procedure, a tiny catheter is inserted into the abdomen through the skin and guided through the liver, directly into the gallbladder. Then, small amounts of MTBE are continuously flushed in and out of the gallbladder through the catheter. In initial tests, stones began to dissolve within a few hours and disappeared within 1 to 3 days.

However, MTBE treatment is still experimental. Long term side effects or its effect in increasing cancer risk are unknown. No long term research has been done. Risks of MTBE include the escape of the drug into the intestines, causing nausea; hepatic injury may occur; and the risk of perforation of the abdomen, stomach, intestines, liver, or gallbladder, which may require surgery to repair.

Ursodiol (Actigall). Ursodiol is a new drug that helps dissolve only small cholesterol gallstones when taken orally. Ursodiol is a bile acid that lowers the amount of cholesterol in the bile and slowly dissolves gallstones within 6 to 24 months, depending on the size of the stones. The action of ursodiol is similar to that of chenodiol.

People who have cholesterol gallstones with no obstruction of bile flow to and from the gallbladder, may be candidates for treatment with ursodiol. The drug may be used for patients who are at high risk for surgery. The drug may cause severe side effects such as an allergic reaction, difficulty breathing, hives, skin rash or unusual itching, severe stomach area pain, cough or sore throat, diarrhea, hair loss or thinning, headache, joint or muscle aches, constipation, gas, indigestion, nausea, etc. In addition, the drug has known toxic interactions with other medical drugs.

Shock Wave Therapy. Extracorporeal shock wave lithotripsy (ESWL) was developed in West Germany as a method of shattering kidney stones instead of removing them through surgery. Currently, ESWL is being used to disintegrate gallstones at certain medical centers throughout the United States. ESWL is generally performed in conjunction with ursodiol/chenodiol drug treatment.

During ESWL therapy, high energy shock waves are created and sent through water and into the patient's body. When the shock waves hit the stones, the stones shatter into small fragments that may then be more easily dissolved by ursodiol and chenodiol.

Potential Organ Damage. Unlike the kidneys, which are unobstructed by other organs from the back side of the body, the gallbladder lies buried deep within the body. If not done prop-

erly, misdirected shock waves may damage lung tissue or other organs. Another factor complicating the use of shock waves on gallstones involves the shape of the gallbladder. The opening from the gallbladder to the bile duct is near the top of the organ, but gravity tends to make shattered pieces of gallstones settle to the bottom of the gallbladder, preventing the pieces from passing into the bile ducts. In addition, the cystic duct leading from the gallbladder is tiny and shaped like a corkscrew. If not removed, some stone fragments may move into the bile duct and cause blockage. Some researchers suggest the possible use of a combination treatment involving shock waves to shatter gallstones and a solvent such as MTBE to dissolve the remaining fragments.

The Best Choice: The Master Liver/Gallbladder Flush.

This is safe, clinically proven procedure to help clear gallstones within the gallbladder and biliary tract. It is non-invasive, non-toxic and has a proven track record of centuries of use by many types of people as well as extensive clinical use. In addition, it is the only procedure that addresses the underlying conditions that have allowed the gallstones (stagnant bile syndrome) to form in the first place.

This procedure consists of a simple, 6-week dietary/herbal regimen using cleansing and detoxification herbal nutrients followed by a one-day mono-fasting procedure ending with a highly effective herbal flushing mixture. This procedure has been effective for thousands of individuals without incurring the risk of toxic side effects of medical drugs or the risk of hepatic injury or the risk of organ damage from shock wave therapy. However, this procedure is not recommended for those that are currently taking medical drugs. The Flush candidate should be completely off all medical drugs for at least one month prior to beginning the Flush procedure. (See Master Liver/Gallbladder Flush procedure for details.)

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