CIRRHOSIS

What Is It?

Cirrhosis is a degenerative inflammatory disease in which fatty deposits and dense connective tissue build up in the liver causing hardening, drying and scarring of the organ, as well as reduction of blood supply to it. Cirrhosis is considered to be a permanent and irreversible condition.

What Causes It?

For years, alcohol abuse was the most common cause of cirrhosis in the United States. Recently though, hepatitis C (a viral disease) surpassed alcoholism as the major cause of this end-stage liver disease. Hepatitis B and D (also viral) can also lead to cirrhosis. Cirrhosis may result from other chronic diseases such as congestive heart failure, advanced syphilis, parasitic flatworm infections, cystic fibrosis and the genetic disorders hemochromatosis (excessive iron accumulation) and Wilson's disease (excessive accumulation of copper in the liver).

Other inherited diseases that can lead to cirrhosis are alpha-1 antitrypsin deficiency (absence of a serum proteinase inhibitor), galactosemia (galactose metabolism disorder due to an enzyme deficiency) and glycogen storage disease. Toxic overload due to drug abuse (street, over-the-counter or prescription) and environmental chemicals (particularly solvents such as formaldehyde, toluene and trichloroethylene) and ongoing exposure to heavy metals, particularly lead and nickel, can pave the way for cirrhosis. Finally, cirrhosis may be the net result of physical injury to the liver, bile duct obstruction, chronic inflammation or malnutrition.

Did You Know

Non-alcoholic fatty liver disease (NAFLD) is a condition that involves the accumulation of fat in the liver as a result of pro-inflammatory diet, stress and other factors which lead to insulin resistance. This condition can be completely asymptomatic. People with NAFLD generally are well on their way to metabolic syndrome which includes: insulin resistance, high blood pressure and dyslipidemia (high triglycerides, high total cholesterol, high LDL cholesterol and low HDL cholesterol). Elevated insulin (from insulin resistance) causes storage of fat in and around the liver cells. Metabolic syndrome occurs due to poor diet, lack of exercise, stress, and probably toxicity from heavy metals, bacterial dysbiosis, and fat soluble toxins (like BPA and phthalates).

If NAFLD worsens, it progresses to non-alcoholic steatohepatitis (NASH) which involves inflammation of the fatty liver. There are approximately 30 million people with NAFLD in the U.S. More than 14 million of these have progressed to NASH. These conditions are becoming a significant health concern in the U.S. The complications of NASH include cirrhosis leading to portal hypertension and liver failure which may result in liver transplant or death. NAFLD goes hand in hand with the increase in abdominal obesity; all of which are at epidemic proportions. The good news, however, is that it is reversible with diet, exercise and proper dietary supplementation. (See the NAFLD section for more information on this condition.)
Drugs that can be particularly damaging to the liver include anti-convulsants, antihypertensive methyldopa, chlorpromazine, drugs used to treat tuberculosis and large amounts of acetaminophen (not toxic if taken as prescribed). These drugs are particularly dangerous if combined with alcohol.

Synthetic vitamins A and niacin can also damage the liver if taken in excessive amounts over a prolonged period of time.

A precursor to cirrhosis, steatosis (fatty liver), characterized by a buildup of fat in the liver cells without accompanying symptoms, also occurs in association with toxic exposure and alcohol abuse. Diabetes and obesity may additionally contribute to fatty liver that, in turn, leads to inflammation, cell death and fibrosis (formation of fibrous tissue).

An interesting gut-liver connection has been found involving bacterial overgrowth in the small intestine. One study found that almost half of the patients suffering from cirrhosis also had an overgrowth of bacteria in the small intestine. In patients with more severe cases of cirrhosis, the bacteria overgrowth was also more severe.

Cirrhosis and liver disease are the seventh leading causes of death in the United States. Also at high risk for developing cirrhosis would be people whose exposure to heavy metals and environmental chemicals is high and constant. Those who have an occupational or other chronic exposure to solvents may be at particular risk for developing cirrhosis, especially if they are also heavy drinkers, because alcohol is also a solvent.

While cirrhosis commonly affects adults, often becoming a life-threatening problem in the fifth or sixth decades of life, in rare cases, infants may develop it as a result of biliary atresia, a condition in which the bile ducts are absent or injured. Children can also be affected as a result of cystic fibrosis or other inherited disorders.

What Are the Signs and Symptoms?

As serious as cirrhosis is, the early symptoms may be vague and mild. In fact, a full one-third of people with the disease have no clinical symptoms. The diagnosis of cirrhosis is often made during the course of testing for other conditions or during surgery. Sometimes it’s not discovered until an autopsy is done. As the disease
progresses, symptoms become more severe. The list below, so lengthy due to the 500 plus functions of the liver, starts off with early signs and symptoms progressing into those found in late stages of cirrhosis:

- Fatigue
- Loss of appetite
- Nausea or vomiting
- Abdominal swelling
- Upset stomach
- Weakness
- Exhaustion
- Constipation or diarrhea
- Edema (build up of fluid in the legs resulting from the extra load placed on kidneys)
- Light-colored stools
- Indigestion
- Flatulence
- Extreme skin dryness
- Decreased libido

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“Serious disorders associated with cirrhosis include insulin resistance, diabetes mellitus, kidney dysfunction, congestive heart failure, osteomalacia and osteoporosis.”
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- Ascites (fluid accumulation in the peritoneal cavity)
- Red palms
- Enlarged liver
- Generalized itching (due to bile pigments that are deposited under the skin)
- Bruising (due to bleeding under the skin)
- Abnormal bleeding (due to vitamin K deficiency)
- Decreased albumin (blood protein) levels
- Spider angiomas (raised red dots from which small blood vessels radiate)
- Lowered platelet count
- Varicosities (in stomach, rectum esophagus)
- Jaundice (yellowed skin resulting from elevation of bilirubin—the yellow pigment the liver produces when it recycles worn-out blood cells)
- Bright yellow or brown urine
- Anemia
- Gallstones (due to alterations in the bile from the primary condition causing cirrhosis)
- Varices (new blood vessels) in stomach and esophagus (formed when blood from intestines tries to find a way around the blocked liver
- Fever
- Testicular atrophy
- Gynecomastia (enlargement of the male breast)
- Loss of chest and armpit hair
- Psychotic mental changes (such as extreme paranoia) resulting from build up of toxins in the blood that reach the brain without being detoxified by the damaged liver
- Facial veins
- Decreased absorption of glucose and vitamins
- Altered hormone production
- Portal hypertension (high blood pressure in the veins connecting the liver with the intestine, stomach and esophagus)
If left untreated, cirrhosis can lead to such severe complications as gastrointestinal hemorrhage, ammonia toxicity, kidney failure, liver failure, hepatic coma and, ultimately, death.

Serious disorders associated with cirrhosis include insulin resistance, diabetes mellitus, kidney dysfunction, congestive heart failure, osteomalacia and osteoporosis. Those with cirrhosis have a higher incidence of liver and other cancers than those in the general population, and are at risk for developing malnutrition, kidney disorders, stomach ulcers, diabetes mellitus and severe drug reactions.

Although cirrhosis is initially a silent disease (no symptoms), eventually symptoms do develop as a result of the loss of functioning liver cells and distortion of the liver by scarring. This scar tissue blocks the flow of blood through the liver. The loss of normal liver tissue slows the processing of nutrients, hormones, drugs and toxins, as well as the production of proteins and other substances by the liver.10

As liver cells die, production of the blood protein albumin decreases leading to edema (water retention in cells or tissues) and ascites (fluid accumulation in the lining of the abdominal cavity), as well as a tendency to bruise and bleed easily (proteins are needed for blood clotting). Cirrhosis can also lead to the creation of varices. Varices are dilated veins that form in the stomach and esophagus when blood from the intestines tries to find a way around the blocked liver. These varices can burst creating a life-threatening situation.

How Is It Diagnosed?

The diagnosis of cirrhosis will entail the use of several diagnostic tests in addition to a complete physical examination and thorough medical history. Diagnostic work-ups may include such blood tests as a complete blood count, liver enzymes, blood proteins, electrolytes and hepatitis B screening. Radiologic procedures could include computerized axial tomography (CT scan), an ultrasound of the liver, gallbladder and bile ducts, and an isotope vein injection study known as a liver/spleen scan. A more invasive study would be vascular imaging of the liver. A laproscopic exam, which involves inserting devices through tiny incisions in the abdomen, may also be done to obtain videos and biopsies of the liver.

What Is the Standard Medical Treatment?

There is no cure for cirrhosis. Medical treatment is aimed at delaying or stopping progression of the disease, minimizing damage to liver cells and reducing complications. Where the cause of the cirrhosis is a

Did You Know

More than 27,000 Americans die from cirrhosis annually making it the country’s third leading cause of death for people between the ages of 25 and 59, and the seventh leading cause of death overall.
known toxin, such as alcohol, removal of that toxin can usually stop progression of the disease, and, in time, some degree of liver function may be restored.

Where hepatitis is the underlying cause of the cirrhosis, the patient may be treated with steroids or antiviral drugs to reduce injury to liver cells. Medications are also typically used to treat such symptoms as itching and water retention (edema and ascites) resulting from portal hypertension. To address the later problem, a salt-restricted diet may be imposed. If unsuccessful, diuretic drugs may be employed. As a last resort, a shunt (using the patient’s own veins, cadaver veins, or prosthetic grafts), may be surgically implanted to divert blood flow from the portal vein to another blood vessel in an effort to take some of the pressure off the portal venous system and prevent variceal bleeding.

Other treatment modalities—beta-blocking blood pressure medications and sclerotherapy (injection of a scarring chemical into the vein) or even endoscopic stapling of varices may also be used.

Elevated blood ammonia can be a serious complication resulting in coma. Lactulose, a synthetic sugar that is not absorbed by the body, has been used in some cirrhosis cases to assist in removal of ammonia from the blood. Neomycin and other antibiotics have been used to decrease intestinal bacteria that produce ammonia. Finally, a restriction of dietary protein may be used to decrease ammonia levels. Such a restriction will result in less toxin formation generally in the digestive tract. Where infections, such as spontaneous bacterial peritonitis, develop, antibiotics are used. Immunosuppressive drugs, such as cyclosporine and methotrexate, have been used with cirrhosis patients in an effort to facilitate survival—but at a cost, as these drugs have serious side effects.

A generic drug called colchicine, which is used to treat gout, has also been used to improve liver function and survival in cirrhosis patients since it inhibits collagen (a protein in the body that makes up scar tissue). This drug, however, carries with it serious gastrointestinal side effects. A drug with fewer side effects, which has been used to improve symptoms of cirrhosis, is Ursodiol, a gallstone-dissolving drug.

It is imperative that drugs that are metabolized in the liver (most are) be used with extreme caution in the cirrhosis patient since detoxification of these drugs is extremely problematic. When the liver stops working, the only treatment option is liver transplant. The encouraging news here is that 80 percent of those patients receiving liver transplants are still alive five years after the transplant.

Because no wonder drugs have been developed to treat cirrhosis, and because all drugs can have devastating side effects, all viable natural alternatives should be considered in treatment of the cirrhosis patient with an emphasis on nutritional supplementation.

“Where the cause of cirrhosis is a known toxin, removal of that toxin can usually stop progression of the disease.”
Cirrhosis is a process of ongoing deposition of collagen in the liver with resultant fibrosis or hardening of the liver. The serious clinical problems of cirrhosis are:

Seriously compromised liver function leading to liver failure and the need for liver transplant.

Creation of portal hypertension, which occurs when the fibrous scarring of the liver obstructs the flow of blood to and from the liver. When this happens, the inflowing blood to the liver from the abdominal organs must go through alternative venous routes around the liver in order to get back to the heart. These alternate veins can become dilated and actually rupture. This can be a serious cause of upper gastrointestinal bleeding. These veins are called varices, and they are usually located in the esophagus, stomach and duodenum. To stop the bleeding often requires endoscopy, or, at times, surgery. The surgery either involves ligating (tying off) the bleeding veins, or doing some type of shunt, which is a venous detour around the liver blockage. With advanced cirrhosis, it is unlikely that nutrition can reverse the situation, but it might slow it down.

Ascites due to cirrhosis. This is the accumulation of a clear fluid in the abdomen that can cause massive abdominal swelling. Such swelling pushes on the diaphragm, and can compromise respiration and even affect blood flow through the kidneys. It is thought to be due to a portion of plasma exuding out of the veins as a result of the backpressure from the cirrhotic liver. It can be controlled sometimes with diuretics, but, when severe, it is necessary to drain it with a needle or to surgically shunt it into a neck vein to return blood flow to the heart.

It is thought that cirrhosis is an ongoing inflammatory process. This inflammation can be due to ongoing viral infection, toxic exposure (often alcohol) and absorption of toxins from the gut, which can also lead to autoimmune liver disease. Whatever the cause, the inflammation creates an oxidative stress environment (excess free radical exposure). The oxidative process is thought to be one of the factors that promotes the deposition of collagen, which is one of the early steps leading to cirrhosis of the liver. Supporting evidence comes from Gastroenterology [1997; 113: 1069-73]. This article showed in a small group of hepatitis C patients that vitamin E (d-alpha tocopherol), 1200 I.U. daily, prevented stellate cell activation and hepatic collagen production, both of which are important steps in the development of hepatic fibrosis or cirrhosis. A wide variety of supplements may be helpful, including alpha lipoic acid, glutathione, silymarin, N-acetyl-cysteine, glycine, glutamine, selenium, B vitamins and vitamin C.

Dr. Smith’s Comments

“It is thought that cirrhosis is an ongoing inflammatory process. This inflammation can be due to ongoing viral infection, toxic exposure (often alcohol) and absorption of toxins from the gut.”
Cirrhosis is a progressive liver condition that can be fatal. But the liver regenerates at a rapid rate, so healing is possible with the proper changes. The mother of a friend of mine had severe cirrhosis, and was told by doctors that she would die within two weeks. Her cirrhosis was largely due to alcohol use, so she quit drinking immediately, and she is still alive today.

Removing any toxin exposure is an important part of healing the liver. Healthy digestive function plays a big role in supporting liver function as well, because any toxins in the gut are transported directly to the liver. If gut imbalance exists, it can overburden the liver leading to the inflammation and scarring of cirrhosis.

Follow the protocol below and on the next page to help support healthy gut and liver function. For the cleansing recommendations, if you are experiencing diarrhea, skip the Total Body Cleanse and begin the Candida Cleanse instead.

**Diet**

- Follow the Fiber 35 Eating Plan found in the Appendix of this book. Include plenty of raw fruits and vegetables.
- You may need to watch protein (especially from animal sources) if ammonia levels are high.
- If you do eat animal protein, limit it to small quantities of poultry and fish.
- Watch fats, especially fried foods, saturated and trans fats. If the liver is too damaged, it may not be able to handle fat-soluble vitamins like A, D, E and K, except in small amounts.
- Keep refined carbohydrates (sugar, white bread, white pasta, white rice, etc.) out of your diet. Carbohydrate consumption should be in the form of vegetables and whole grains.
- Do not overeat. Eat small meals more frequently.
- Do not consume alcohol (most important!).

**Lifestyle**

- Medications can be stressful for the liver. Take with caution.
- Do not become constipated. Use the LifeStep (see the Appendix) for proper elimination posture.
- Do not smoke, and avoid second-hand smoke.
- Clean up your environment, as all chemicals and toxins can affect liver function.

**Complementary Mind/Body Therapies**

- Stress can be a major component of this disease, so find ways to reduce it with therapies such as meditation, yoga, deep breathing, massage, biofeedback, or music therapy.
- Colon hydrotherapy is beneficial to remove toxins.

Brenda’s Bottom Line

Cirrhosis is a progressive liver condition that can be fatal. But the liver regenerates at a rapid rate, so healing is possible with the proper changes. The mother of a friend of mine had severe cirrhosis, and was told by doctors that she would die within two weeks. Her cirrhosis was largely due to alcohol use, so she quit drinking immediately, and she is still alive today.
<table>
<thead>
<tr>
<th>Recommended Nutraceuticals</th>
<th>Dosage</th>
<th>Benefit</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical Phase</strong></td>
<td></td>
<td></td>
<td>Daily maintenance recommendations should also be taken during this phase unless otherwise indicated.</td>
</tr>
<tr>
<td>Total Body Cleanse</td>
<td>See Appendix</td>
<td>Encourages elimination and detoxification.</td>
<td>Herbal formula should support the seven channels of elimination.</td>
</tr>
<tr>
<td>Liver Detox</td>
<td>This should follow the Total Body Cleanse. See Appendix</td>
<td>Encourages detoxification involving the liver.</td>
<td>Should contain milk thistle seed extract containing silymarin, phosphatidylcholine selenium and herbs.</td>
</tr>
<tr>
<td><strong>Helpful</strong></td>
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<tr>
<td>SAMe</td>
<td>180 mg daily</td>
<td>Helps improve liver function.</td>
<td>Do not use if you have bipolar disorder or are taking antidepressants.</td>
</tr>
<tr>
<td>L-Glutamine Powder with Gamma Oryzanol</td>
<td>5 grams twice daily</td>
<td>Essential for maintaining the health and integrity of the intestinal lining.</td>
<td>Added gamma oryzanol may help relieve pain associated with gastrointestinal complaints.</td>
</tr>
<tr>
<td>High Potency Multi-vitamin/mineral</td>
<td>Follow directions on label</td>
<td>Provides needed nutrients that can be deficient in those with Cirrhosis.</td>
<td>Powder or liquid formulation would be helpful as it is easier assimilated and absorbed.</td>
</tr>
<tr>
<td>Antioxidant Supplement</td>
<td>Use as directed</td>
<td>Protects tissue from damage.</td>
<td>You can purchase a high potency antioxidant formulation from most health food stores.</td>
</tr>
<tr>
<td><strong>Daily Maintenance</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Critical Liver Support Formula</td>
<td>Use as directed</td>
<td>Enhances liver detoxification.</td>
<td>Should include milk thistle seed extract containing silymarin, N-acetyl-cysteine, alpha lipoic acid L-glutathione.</td>
</tr>
<tr>
<td>Fiber</td>
<td>4-5 grams twice daily</td>
<td>Helps produce healthy bacteria levels and good elimination.</td>
<td>Use in conjunction with high-fiber diet to reach 35g daily.</td>
</tr>
<tr>
<td>Digestive Enzymes</td>
<td>Take with meals</td>
<td>Helps digest and absorb nutrients from food to reduce liver stress.</td>
<td>If low stomach acid is found find a formula that contains hydrochloric acid.</td>
</tr>
<tr>
<td>Omega-3 Fatty Acids</td>
<td>At least 2 grams daily of EPA/DHA combination</td>
<td>Reduces inflammation.</td>
<td>Look for a concentrated, enteric coated fish oil.</td>
</tr>
<tr>
<td>Probiotics</td>
<td>30 - 80 billion culture count twice daily</td>
<td>Restores bacterial balance and pH of colon and promotes regularity.</td>
<td>Look for high amount of bifidobacteria, the main beneficial bacteria in colon.</td>
</tr>
</tbody>
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See further explanation of supplements in the Appendix