# **OPTIMAL HEALTH UNIVERSITY**

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# **Love Your Liver**

The liver is a marvel. This miraculous organ filters more than a liter of blood each minute and works to detoxify the body of common contaminants, such as cigarette smoke, toxic chemicals, air pollutants, pesticides and drugs.

But that's not all. Your doctor at Hinterland Chiropractic reminds patients that the liver also assists with hormonal balance, fat regulation and digestion. It plays a central role in almost all body functions, such as converting food into necessary chemicals, storing certain vitamins, minerals and sugars, controlling the excretion of cholesterol and helping bolster immunity.

The liver removes toxins introduced to the bloodstream by changing them into products that are excreted through urine. The bottom line is that the liver is taxed to process all chemicals that enter the bloodstream, including nonprescription and prescription drugs.

## Drugs and the Liver

Your doctor at Hinterland Chiropractic warns patients about the indiscriminate use of unnecessary medications. Even seemingly benign over-the-counter painkillers affect the liver. For example, high doses of acetaminophen, which is the active ingredient in the drug Tylenol<sup>®</sup>, cause liver cell death, especially when combined with alcohol. A three-year study looked at 308 patients with acute liver failure from 17 different liver-care centers. Acetaminophen accounted for 39 percent of cases.

"Eighty-three percent of our patients who developed acute liver failure had exceeded the daily maximum recommended dose of four grams," noted the author Dr. William M. Lee (*Annals Internal Med* 2002;947-54).

Even recommended doses of certain drugs may incite liver problems. For example, the weight-loss supplement LipoKinetix is linked to liver failure. In one study, seven individuals developed liver inflammation after taking the popular weight-loss aid. One sub-

ject experienced liver failure. LipoKinetix contains a variety of stimulants, including yohimbine, norephedrine and caffeine (*Annals Internal Med* 2002;136:590-5).

#### Alcohol and the Liver

Although a glass of red wine per day is most likely beneficial to health, higher levels of alcohol may permanently injure liver cells.

Continual alcohol abuse is a common cause of hepatitis and cirrhosis. As inflammation and scar tissue replace normal tissue, blood flow through the liver is affected, making it difficult for the liver to carry out essential functions.

Some cases of cirrhosis advance to liver cancer.

The liver can handle only very limited amounts of alcohol. As a general rule, one alcoholic drink per day for women



and two per day for men is enough for the liver to manage. (Examples of a single alcoholic drink include a 12ounce bottle of beer or wine cooler, a 5-ounce glass of wine or one 1.5ounce glass of distilled spirits.) Of course, anyone who suffers from liver disease or alcoholism should avoid all alcohol.

#### Herbs and the Liver

Before taking any herbal remedies, check with your doctor of chiropractic. Some herbs or combinations of herbs are far from liver-friendly. For example, herb the comfrey (Symphytum officinale) can wreak havoc on the liver. Comfrey contains chemicals called pyrrolizidine alkaloids, which may be poisonous to the liver. Comfrey is banned in Germany and Canada, but not in the United States. The herb is found in teas, cereals and herbal remedies.

#### Weight Problems and the Liver

You don't have to drink alcohol or use drugs to be at risk for liver disease. In recent years, rates of nonalcoholic fatty liver disease (NAFLD) have jumped dramatically. Your doctor at Hinterland Chiropractic is extremely concerned about this alarming trend.

The accumulation of fat in liver cells causes NAFLD. The term "nonalcoholic" means that it occurs in individuals who drink little or no alcohol.

Incidence of NAFLD is skyrocketing, corresponding with the rise in obesity and diabetes. NAFLD affects both children and adults who are overweight or obese — who may or may not have diabetes and elevated cholesterol and triglyceride levels. What's most frightening is that early-stage NAFLD rarely causes symptoms.

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NAFLD includes a wide spectrum of liver disease, ranging from simple fatty liver to nonalcoholic steatohepatitis (NASH). NASH is associated with liver-damaging inflammation. In some cases, progress may lead to either cirrhosis or liver cancer. Equally alarming, recent studies have linked NAFLD to an elevated risk of cardiovascular disease (Diabet Med 2007;24:1-6).

The best defense against NAFLD is a healthy diet and regular exercise — as well as maintaining a healthy weight, normal cholesterol and correct bloodsugar levels.

#### All-Natural Liver Support

Preventing liver disease is simple. Following are a few suggestions from the doctor, focusing on all-natural approaches to a healthy liver.

#### What to Avoid

Doctors of chiropractic encourage patients to avoid over-the-counter and prescription medication whenever possible. The liver is the primary clearinghouse for all drugs, so limit medication to those absolutely neces-

In addition, it's vital to avoid illicit drugs, as well as excessive amounts of alcoholic beverages.

# Amazing Avocados

Previous research suggests that a diet rich in avocados may ward off certain forms of cancer, including prostate cancer and breast cancer. Now, research indicates that avocados may also stave off liver disease.

In one study, scientists fed lab rats a potent liver toxin, followed by 22 different fruits. Of the fruits, avocados most effectively inhibited liver damage, as evidenced by changes in liver enzymes (J Agric Food Chem 2001;49:2215-21).

### Awesome Apples

There are over 7,000 different varieties of apples grown throughout the

world. Yet despite their vast differences in appearance and taste, all share the same ability to protect against liver cancer.

And it's not just the interior white flesh that provides the benefit. The smooth red, vellow, orange or green skin may provide even more powerful anti-cancer properties. In one report, 50 milligrams of extract derived from apple skin inhibited liver cancer cells by 57 percent. The apple extract from the fruit's fleshy part inhibited the cancer cells by 40 percent (Nature 2000;405:903-4).



Superior Spice

Looking for a way to add spice to your life — and protect the liver? Go crazy for curry! Curcumin, the component of the curry spice turmeric responsible for its yellow pigment, may stave off alcohol-related liver disease.

A team of scientists studied four groups with six rats each. For four weeks, each group received either: 1) fish oil plus ethanol (grain alcohol), 2) fish oil plus dextrose (simple sugar), 3) ethanol plus curcumin or 4) dextrose plus curcumin.

Findings showed that the fish oil plus alcohol diet caused fatty liver, cell death and inflammation. Treatment with curcumin prevented these abnormal changes. In addition, curcumin inhibited the changes associated with the development of liver disease (Am JPhysiol Gastrointest Liver Physiol 2003;284:321-27).

#### Commendable Coffee

That morning cup of java may do more than just jumpstart the day; it may also protect against liver injury and lower the risk of liver cancer, according to several scientific studies.

One analysis determined that "overall, an increase in consumption of two cups of coffee per day was associated with a 43 percent reduced risk of liver cancer." (Gastroenterology 2007;132:1740-5.)

Another long-term, large-scale study confirms these results. The 22-year analysis included 125,580 people whose medical history included alcohol use. Consuming just one cup of coffee each day slashed risks for alcohol-induced liver cirrhosis by more than 20 percent.

And, because the link appears to have nothing to do with caffeine, it doesn't matter whether you choose the "leaded" or "unleaded" version. "Tea consumption had no effect on the risk of alcohol-associated liver cirrhosis, making it likely that a component of coffee other than caffeine is responsible." (Arch Intern Med 2006;166:1190-5.)

#### Miraculous Milk Thistle Extract

The milk thistle plant has purple to red flowers and shiny, pale green leaves. However, it's much more than just a pretty face. Research in rats suggests that its ripe seeds may provide protection for the liver (Alcohol Clin Exp Res 2006;30:407-13).

Remember never take any supplements without first consulting with the doctor.

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