NON-ALCOHOLIC FATTY LIVER DISEASE: INFORMATION FOR PATIENTS

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What is Non-Alcoholic Fatty Liver Disease (NAFLD)? Fatty liver is a sign of "metabolic syndrome" (see below). It is the most common cause of high liver enzymes in people who don't drink much (or any) alcohol. Diet, weight, inactivity, and heredity cause excess calories to be stored in the liver as fat, called "steatosis." Some people have a more serious form, called "Non-Alcoholic Steatohepatitis," or NASH, which leads to cirrhosis (severe liver scarring) in 26% of patients. Cirrhosis increases the risk for liver failure and liver cancer. Rarely, a liver transplant may be required.

What is Metabolic Syndrome? People who have at least 3 of the 5 following conditions have metabolic syndrome: excess abdominal fat, high blood pressure, high triglycerides, low "good cholesterol" (HDL), and high blood sugar (even without diabetes). Many patients go on to develop diabetes, and all patients have a high risk of heart attack or stroke.

Will I need a liver biopsy? Patients whose liver enzymes improve usually do not need a biopsy. Patients whose enzymes stay high or get worse may need a biopsy, which is the only sure way to tell benign fatty liver from NASH, and to look for other causes of liver disease.

How bad is it? Most people with fatty liver have *simple steatosis*, with virtually no risk of cirrhosis or liver cancer if treated. The rest, those with NASH, have an 84% overall survival rate after 10 years, but the probability of having complications (such as liver failure or GI bleeding) after 10 years is 52%.

How can I take care of my liver?

- Do not drink alcoholic beverages, especially if you are overweight, have abnormal liver enzymes, have been diagnosed with NASH, or have another liver disease such as Hepatitis B or C.
- Do not take any medication, vitamin, supplement, or herb unless your physician or physician assistant
 (PA) confirms it is safe (bring the bottle in to your office visits). Make sure all of your doctors have a complete, updated list of all your medications and supplements.
- Remember, words like "natural," "holistic," and "organic" *DO NOT* equal healthy or safe. Supplement manufacturers are not FDA-regulated and there are no guarantees regarding truth-in-labeling, active

- ingredients, or contamination with heavy metals, pesticides, or drugs. Plants are easily mis-identified, and taking seemingly harmless home remedies can cause ill effects.
- There is no such thing as, and no need for, a "liver cleanser." Your liver is not "dirty." Unless you have end-stage liver disease (need a transplant), your *liver function is completely normal*, and no product will "improve liver function," regardless of claims made by sellers of these products.
- Physical activity is more effective than any medication, diet, or supplement in treating fatty liver.

 Exercise regularly, alternating every other day, aerobic activity (such as walking) with resistance activity (such as lifting small weights) for 30 minutes. If you are not used to exercise, work up to this intensity slowly. Clear any exercise program with your primary care physician.
- Eat a balanced diet low in saturated fat (fried foods, beef and pork, whole milk products, bakery goods) and high in fiber (bran, vegetables, beans). Eat only high-fiber starches (brown rice instead of white rice, whole wheat bread instead of white bread). Eat smaller servings, don't skip meals, and include small nutritious snacks between meals. Substitute "diet" and "non-fat" foods when possible (no more regular soda!), but some sugar and fat substitutes may cause bloating, gas, or diarrhea (sucralose, sorbitol). If you have cirrhosis, you need a special diet (be sure to ask). Do not eat excessive amounts of any one type of food; for example, drinking large amounts of carrot juice can increase your beta carotene to liver-toxic levels.
- Treat your "metabolic syndrome" by keeping cholesterol, blood pressure, and blood sugar under control. Slow, steady weight loss of just 4-10% of body weight can improve and even reverse fatty liver and metabolic syndrome. If diet and exercise aren't enough, take the medications prescribed by your physician or PA. Cholesterol medications are generally safe, provided they are prescribed specifically for you and are regularly monitored by your physician or PA.
- Ask questions, and learn as much as you can! If you use the internet, rely on non-profit and/or government websites for accurate information. When in doubt, ask your physician/PA.

Helpful websites:

www.aasld.org/ www.liverfoundation.org/ www.niddk.nih.gov/ www.gastro.org/index.html www.acg.gi.org/updated 4/10/08