

AMERICAN
LIVER
FOUNDATION™



**Nonalcoholic Fatty Liver Disease
(NAFLD) and Nonalcoholic
Steatohepatitis (NASH)**

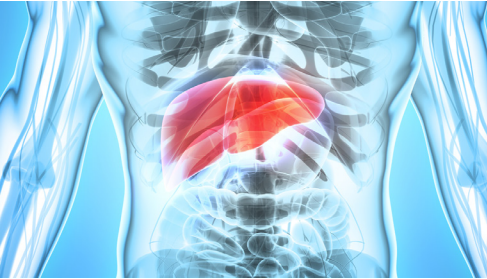


Be a Liver of Life!™

Why is your liver important?

You cannot live without your liver. Located under your rib cage on your right side, the liver is the largest internal organ in the body. It weighs about three pounds and is shaped like a football that is flat on one side. It performs many important functions such as:

- Cleaning your blood of toxins
- Giving you energy
- Producing bile for digestion
- Processing what you eat and drink into nutrients your body can use

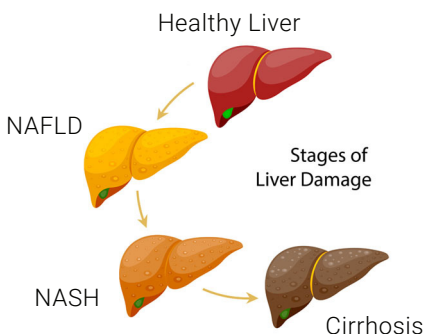


What is Nonalcoholic Fatty Liver Disease?

While it is normal for the liver to contain some fat, too much fat can cause liver damage and complications. When fat makes up more than five to ten percent of the liver's weight, it is called Fatty Liver Disease. The most common causes of Fatty Liver Disease are excess weight/obesity and unhealthy alcohol use. Other causes of Fatty Liver Disease include but are not limited to medications and Wilson Disease. If the extra fat is not caused by high alcohol consumption, it is called Nonalcoholic Fatty Liver Disease (NAFLD).

Do many people have NAFLD?

Yes. NAFLD affects many adults and children. It is the most common cause of chronic liver disease in the United States and affects up to 25 percent of the population.



What is Nonalcoholic Steatohepatitis?

Nonalcoholic steatohepatitis (NASH) is a severe form of Fatty Liver Disease. "Steato" means fat and "hepatitis" means inflammation (swelling) of the liver. Like NAFLD and many other liver disorders, NASH can be asymptomatic and progress undetected for a long time. In advanced stages of the disease, NASH can result in fibrosis (scarring of the liver), cirrhosis (permanent scarring and hardening of the liver), liver cancer and liver failure.

How many people with NAFLD develop NASH?

Experts estimate that about 25 percent of people with NAFLD will develop NASH.

What are some of the risk factors for NAFLD and NASH?

- Being overweight or obese
- Type 2 diabetes or prediabetes
- High cholesterol
- High levels of triglycerides
- High blood pressure
- Excess buildup of fat in abdomen

How are NAFLD and NASH diagnosed?

Doctors will first review your medical history and do a physical exam. As part of the physical exam, they will likely check your height and weight to determine your Body Mass Index (BMI). This is a measure

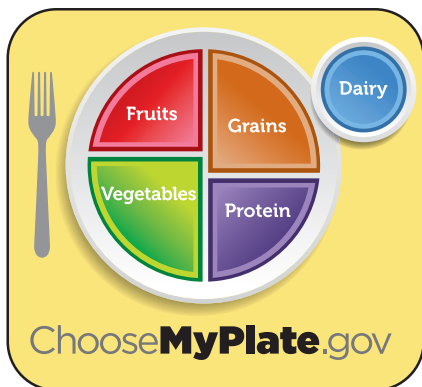
of a person's body fat. Doctors may also perform blood tests to see if your liver enzymes are higher than normal. Two of the most common liver enzymes are alanine transaminase (ALT) and aspartate transaminase (AST). Additional tests for diabetes and to measure the amount of cholesterol and triglycerides in your blood may also be performed, along with tests for other causes of liver inflammation.

To find out whether there is fat buildup in your liver, your doctor may request imaging tests such as an ultrasound, magnetic resonance imaging (MRI) or computed tomography (CT) scan. To learn if you have fibrosis, liver stiffness tests (elastography) or a liver biopsy may be needed.

What helps prevent NAFLD and NASH?



A healthy diet and active lifestyle can help prevent NAFLD and NASH. It is recommended that people at risk for and/or living with NAFLD or NASH limit the consumption of processed foods or foods with a high sugar content. Better choices are fruits, vegetables, whole grains and low-fat dairy products. These foods are easier for the liver to process and for the body to convert into energy. Reducing or eliminating alcohol is also suggested, because alcohol is toxic for the liver and encourages fat to enter the liver. In addition, it is a good idea to talk to your doctor about what vitamin and mineral



supplements to take, and to exercise for 30 to 60 minutes most days. If you have excess body fat, your doctor may suggest a gradual weight loss program so you can reduce your overall weight by at least ten percent. Drinking one to two cups of unsweetened, caffeinated coffee a day may also be beneficial.

Food Choices and Preparation Tips

1. Prepare your own meals. This is the best way to keep track of every ingredient in your food.
2. Cook with unrefined fats and oils, such as olive and nut oils.
3. Eat balanced meals. See the colors of the rainbow on your plate.
4. Add oily fish such as salmon, and nuts such as walnuts to your diet. Foods like these that are high in omega-3 fatty acids have many health benefits.
5. Consume fewer high-glycemic index foods, such as white bread, rice and potatoes. These foods can cause rapid changes in your blood sugar level.
6. Try to avoid junk food, fast food, fried food, fatty food and sugary drinks. In general, these foods lack the nutrients necessary to keep your body energized and healthy.
7. Stay hydrated by drinking plenty of water and seltzer, plus coffee and tea in moderation.
8. Measure the size of your portions. Try swapping your usual plate, bowl or serving utensils for smaller

alternatives. Also, try having a glass of water up to 30 minutes before a meal to help fill you up.

9. Exercise regularly. The best exercise program is one you stick to! Always speak to your doctor before engaging in any new exercise routine.
10. Beer and wine can be just as dangerous for the liver as hard liquor. Remember that there is no safe level of alcohol consumption if you already have liver damage.

Are there medicines that cure NAFLD and NASH?

Although researchers are studying potential medications, there are currently no medications available to cure NAFLD and NASH. Recommended treatment for most people consists of slow and steady weight loss. It is generally advised to try to lose one pound per week. Losing too much weight too quickly can cause further liver damage.

If you have NASH with cirrhosis, doctors can treat the health problems caused by the cirrhosis with medicines and medical procedures. Liver transplantation may be needed for some patients.





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