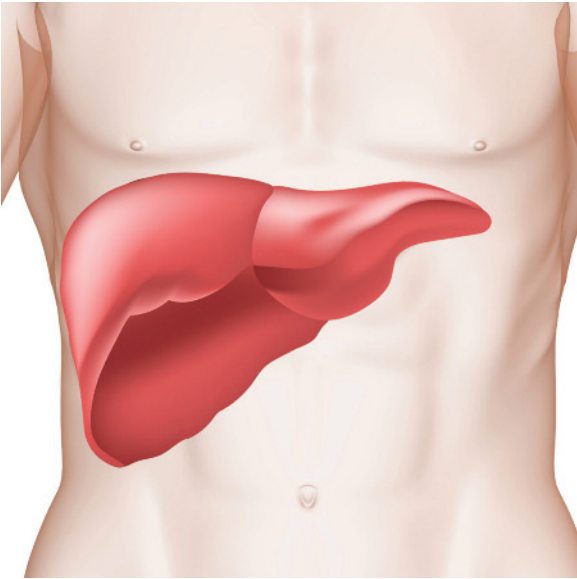


# Nonalcoholic Fatty Liver Disease (NAFLD)



*Your Liver. Your Life.*



## Why is the liver important?

Your liver is a vital organ that performs many essential functions. It's the largest solid organ in the body, weighs about three pounds, and is located under your rib cage on the upper right side.

Your liver processes everything you eat, drink, breathe, and absorb through your skin. It turns nutrients into energy your body can use, and removes harmful substances from your blood.

## What is Nonalcoholic Fatty Liver Disease?

Fat can build up in the liver due to alcohol consumption and by increasing body weight. When fat makes up more than 10% of the liver's weight, it is called Fatty Liver Disease. If the extra fat is not caused by drinking too much alcohol, however, the disease is called Nonalcoholic Fatty Liver Disease (NAFLD).

## Who is at risk for Nonalcoholic Fatty Liver Disease?

People with certain medical conditions are at higher risk for developing NAFLD, including:

- Obesity
- Diabetes, especially Type 2 Diabetes
- High Cholesterol

## Do a lot of people have Nonalcoholic Fatty Liver Disease?

Yes, about 100 million Americans, both children and adults, have NAFLD. It is the most common cause of “chronic” (long-lasting) liver disease in the United States.

## What happens if someone has Nonalcoholic Fatty Liver Disease for a long time?

If someone has NAFLD for a long time, it can get worse and lead to scarring of the liver (cirrhosis). In some cases, liver tissue can become inflamed (swollen) because of the build-up of fat. This condition is called NASH, or Nonalcoholic Steatohepatitis. NASH is a subtype of NAFLD that has a higher risk for liver scarring and progression to liver failure compared to those with simple fat in their liver with no inflammation. NAFLD and NASH do not always advance to cirrhosis; however, over a 20 to 30-year period of time, cirrhosis can occur (particularly in those with NASH). Other long-term risks include liver cancer and liver failure.

## What are the symptoms of Nonalcoholic Fatty Liver Disease?

Like many liver diseases, NAFLD and NASH are “silent” diseases, which means that people who have them often do not feel sick until they have significant liver damage.

If symptoms do occur, they can include:

- Feeling very tired (fatigue)
- Mild, dull pain in the upper right abdomen area
- Fluid build-up in the abdomen (ascites)
- Fluid build-up in the legs (edema)
- Very itchy skin (pruritus) and yellowing of the skin and eyes (jaundice)
- Loss of appetite
- Weight loss

## **How can I find out if I have NAFLD before my liver is damaged?**

The best way to find out if you have any liver disease is to talk to your doctor, who can do certain tests to check your liver health. If you are overweight, have diabetes or high cholesterol, or a family history of liver disease, you should make an appointment for a physical. The doctor may:

- Check your BMI (Body Mass Index) to see if it is over 30, which can mean obesity
- Do blood tests to see if your liver enzymes (ALT and AST) are higher than normal
- Do tests for diabetes and high cholesterol
- Order medical imaging tests such as ultrasound, CT or MRI (if needed)
- Recommend a liver biopsy

## **Is there medicine that I can take to cure Nonalcoholic Fatty Liver Disease?**

Right now, there is no medicine people can take to cure NAFLD. The best thing you can do if you have NAFLD is to lose weight. The weight loss should be slow and steady, with a goal of losing one pound a week. Typically, it is recommended to lose 5-10% of your body weight to have improvement of the underlying NAFLD. Talk to your doctor about setting a weight loss goal that is right for you.

## Is there any advice I can follow to change my diet so that I can avoid fatty liver disease?

Science has shown that we can improve our chances for good health if we follow some basic nutrition tips. Healthy eating involves taking some time to plan most of our meals in advance. It is very important to understand that nutritional guidelines stated here are for general information purposes only and should never be considered a replacement for medical advice from your own doctor. People with certain metabolic diseases, diabetes, high blood pressure, high cholesterol and others should speak with their doctors to develop eating plans that are right for them.

In general, the goal should be to eat three meals and up to two snacks each day. We should also try to limit eating outside of the home to two meals or less per week, because restaurant food is often served in much larger portion sizes than necessary and is often lower in nutrition and higher in fat, sugar, and salt.

Fat is an important part of our diet, but the types of fats we eat are also important. Healthy fats are called “unsaturated fats” and include Omega-3 fatty acids. Unsaturated fats are often found in plant-based products and some oils. Unhealthy fats are “saturated fats” and are often found in animal products (meats, for example). We should try to eat a diet in which no more than 30% of its calories are from fat. Most of those fat calories should be from unsaturated fat sources. Eating a diet that is lower in cholesterol is also important.

Added sugar is also called fructose or high fructose corn syrup, and it is often found in highest amounts in processed foods. Natural sugar is found in fruits. We should try to eat foods that contain natural sugar more than those that contain added sugar.

## ✓ Choose More:

- ✓ Foods that contain unprocessed whole grains (whole grain bread)
- ✓ Baked or grilled foods—these are healthier than fried foods
- ✓ Fish—contains healthy Omega-3 fatty acids
- ✓ Vegetables and fruits—eat at least five servings each day
- ✓ Low-fat milk, yogurt and dairy products
- ✓ Healthy oils—olive oil, canola oil, soybean oil, vegetable oil
- ✓ Nuts, seeds, avocados and olives
- ✓ Water

## ✗ Choose Less:

- ✗ Processed grains (white bread, white rice, grits, white potatoes)
- ✗ Fried food (fried meats, French fries, fried rice, potato chips, fast foods)
- ✗ Processed meats (cold cuts, hot dogs)
- ✗ Soda, energy drinks, sports drinks, candy, cake, cookies, pies—these contain lots of added sugar
- ✗ Fruit juice—it's healthier than soda, but fruit juice contains more sugar and less fiber and nutrients than whole fruit. Enjoy your fruit juice—just in smaller amounts!
- ✗ Butter and lard—these contain large amounts of “saturated” (unhealthy) fats
- ✗ Vitamin and mineral supplements—usually not needed

You can get some great information and tips for healthy eating if you go to **ChooseMyPlate.gov**. ChooseMyPlate.gov is a helpful website where you can find more information about healthy eating, meal planning, recipes, food serving sizes and more.

It is very important to limit daily food intake by watching your portion sizes.

### **What about exercise?**

If you are at risk for or have fatty liver disease, exercise can help with weight loss. You should speak with your doctor about starting an exercise program at home or at a gym. If you do not exercise now, start slowly and aim for a goal of 30 to 60 minutes of exercise a day most days of the week. Exercise can include walking, cycling, swimming, yoga, or lifting weights—choose activities that you enjoy, and you will be more likely to stick with your exercise program. Generally, 75 minutes of strenuous exercise per week or 150 minutes of moderate exercise per week are recommended to help with NAFLD. Remember that even when exercise does not result in much weight loss, it is still good for you.

### **What about alcohol?**

Alcohol is toxic to liver tissue, especially in large amounts. If you already have some liver damage, drinking alcohol can make it worse. Be aware that beer and wine can be just as dangerous to the liver as hard liquor. There is no safe level of drinking when you already have liver damage.

### **Remember:**

Nonalcoholic Fatty Liver Disease can be prevented and/or reversed through healthy eating and exercise. By following a healthier diet, getting some exercise, and following your doctor's advice, you can maintain and preserve your liver health.



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