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# Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)

## What is the liver, and what does it do?

- It helps process the food we eat.
- It removes waste and toxic substances from the blood.
- It helps make proteins and hormones that the body needs to function.

## What is metabolic dysfunction-associated steatotic liver disease (MASLD)?

Metabolic dysfunction-associated steatotic liver disease (MASLD) or simply “steatotic liver disease” is a problem caused when too much fat stays in the liver. Extra fat in the liver can happen in children and in adults. It also can happen in adults and adolescents who drink alcohol.

MASLD can be mild to severe.

**MASH:** Some people with a steatotic liver have a more severe form that includes damage (inflammation) inside the liver. This is called metabolic dysfunction-associated steatohepatitis or MASH.

**Cirrhosis:** Over time, MASH can cause scar tissue to develop in the liver. Eventually, the scar tissue replaces healthy liver cells, and the liver cannot work. This is called cirrhosis.

## Why was there a change in the name for this liver disease?

MASLD was formerly known as fatty liver disease or non-alcoholic fatty liver disease (NAFLD). It is the most common chronic liver disease around the world, affecting more than 30% of global population. The worldwide liver community agreed that better terms for this liver disease were

needed that did not make people embarrassed and that clearly separated this condition from alcohol consumption.

## What causes a steatotic liver?

A steatotic liver is a very common disorder affecting around one in ten children in the United States. The most common cause of steatosis build-up in the liver is too much weight gain.

Approximately half of overweight and obese children may have a steatotic liver. Children who gain more belly fat may have more risk of a steatotic liver. Other risk factors for a steatotic liver are having a family member with a steatotic liver, type 2 diabetes, insulin resistance, or polycystic ovary syndrome.

## How is steatotic liver disease diagnosed?

A steatotic liver is usually suspected in children who are overweight with a body mass index (BMI) >85%.

If your pediatrician suspects a steatotic liver, they will send a blood test to check your child's liver function. In a child with a steatotic liver, a blood test will frequently show elevated levels of a protein called ALT (alanine aminotransferase). This result suggests there is liver inflammation. Sometimes a pediatrician also will perform an abdominal ultrasound, which can show if there is too much steatosis in the liver.

Other conditions such as viral hepatitis, autoimmune hepatitis, and metabolic diseases can also cause steatosis accumulation in the liver. Your doctor will perform appropriate blood tests to make sure your child has no other liver diseases.

Once a diagnosis of a steatotic liver is confirmed, other tests can be used to measure how severe it is. An MRI (magnetic resonance imaging) scan can measure how much steatosis is in the liver and can look for scar tissue (fibrosis). A liver biopsy in some cases also can be helpful to measure inflammation and scar tissue.

## How is a steatotic liver treated?

The first treatment for a steatotic liver is to try changing the diet by reducing added sugars. This includes limiting things like sugar sweetened beverages, sugary foods, and all juices. The American Heart Association recommends 25 grams or less per day of added sugars for children, and kids with fatty liver may need even less.

In addition to changing the diet, increasing exercise may promote weight loss and reduce a steatotic liver. It can be helpful to increase daily physical activity like playing sports, going to a playground, walking, and other activities. Current recommendations suggest 30–60 minutes of activity per day, and kids with a steatotic liver may need even more.

Because a steatotic liver does not always improve with a better diet and exercise, sometimes in kids with a steatotic liver are treated with medication. At this time, there is no approved medication for a steatotic liver. Research studies are currently testing medications to help with a steatotic liver, especially when there is inflammation and scar tissue. Ask your doctor about research studies in your area or visit [Clinicaltrials.gov](https://clinicaltrials.gov).

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