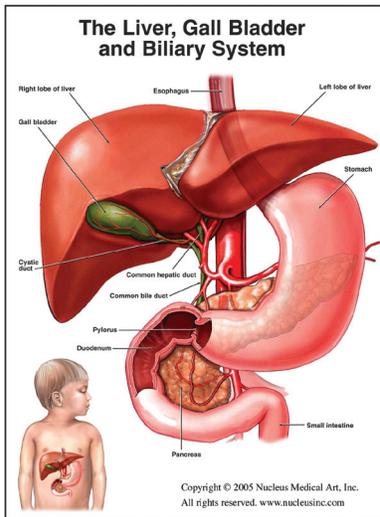


# Nonalcoholic Fatty Liver Disease

## WHAT YOU NEED TO KNOW

### What does the liver do?



The liver is an important organ in the body. It has many different jobs:

- Makes bile (a yellow-green fluid that helps digest food and absorb nutrients)
- Breaks down food into energy
- Stores energy for between meals and overnight
- Manages cholesterol and other fats
- Makes proteins, like the ones that help blood clot
- Cleans harmful chemicals out of the blood

### What is Nonalcoholic Fatty Liver Disease (NAFLD)?

NAFLD or “fatty liver” is a liver disease that happens slowly over time. It starts when fat builds up inside the liver. Over time, too much fat stays in the liver. NAFLD can be mild or severe.

- In mild cases, children only have fat build-up.

- In severe cases—also called Non-Alcoholic SteatoHepatitis (NASH)—fat is combined with liver damage (inflammation or irritation) which can cause scar tissue. The scar tissue is called “fibrosis.” As fibrosis builds up, it may lead to cirrhosis (pronounced see-row-sis). Cirrhosis happens when the liver is scarred and no longer works properly.

### What causes NAFLD?

NAFLD usually happens in children and teenagers who are overweight or gain too much weight. Most of the time, fatty liver happens with other health problems, such as:

- Pre-diabetes, insulin resistance or diabetes
- High triglycerides
  - Triglycerides are a type of fat found in your blood. They are used for energy.
- Being overweight

### Can NAFLD cause health problems in children?

NAFLD can damage the liver, so it is important your child be carefully diagnosed and treated. NAFLD:

- Increases the chances of heart attacks and strokes
- Could lead to liver failure with cirrhosis, which may require a liver transplant in some cases

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Because NAFLD looks like alcoholic liver disease in adults,  
“nonalcoholic” was included in the name when it was first discovered.

## How is NAFLD diagnosed?

- Blood tests (liver enzymes): to see if there is liver damage and to rule out other causes of your child's liver problems
  - Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) are both commonly called liver enzymes. When there is damage or inflammation in the liver, these numbers usually go up.
  - AST and ALT are not specific to one disease and can be high from many different types of liver problems. More testing is usually needed to figure out what caused the elevation in the liver enzymes.
- Ultrasound or MRI: to look for fat or other abnormalities in the liver
- Liver biopsy: may be used for diagnosis

## How is NAFLD treated?



Children with NAFLD benefit the most from stopping their weight gain. We encourage children and their families to follow key health behaviors:

- Avoid sugar drinks
- Drink mostly water and some low fat milk
- Get at least 60 minutes of physical activity every day
- Limit TV and screen time to one hour or less per day
- Make half your plate vegetables at mealtimes
- Eat breakfast everyday

Other things that can harm the liver should be avoided, like drinking alcoholic beverages.

Some treatments are available. Studies in teens with NAFLD have shown some benefit from the natural form of Vitamin E. And there are new research studies focused on finding medicines to cure NAFLD. Your child's doctor may start a medicine after discussing the risks and benefits.

## What can I do to help my child?

Work together as a family to improve your healthy habits. Small changes can make a big difference over time.

- Start with one new healthy habit today.
- Continue to add healthy changes over the coming weeks and months.
- Work with your child's doctor to get any tests that are needed.
- Follow treatment recommendations.

NAFLD can get better with medical care, healthy habits and sometimes medications.

## Contact information

For more information, visit [www.gastrokids.org](http://www.gastrokids.org)

To support research efforts in childhood liver diseases, including NAFLD, visit  
[www.naspghanfoundation.org](http://www.naspghanfoundation.org)