

## WHAT IS FATTY LIVER?

- Excess fat in the liver (5 to 10% of the liver's weight)
- There are usually no symptoms associated with the condition until it advances and, as a result, most are unaware they have fatty liver
- Fatty liver affects as many as 100 million Americans (including about six million children under the age of 14)
- Fatty liver is too often dismissed as not being a serious condition
- 20-25% of those will see the condition become more serious

## ARE YOU AT RISK?

- A more complete list of risk factors is shown elsewhere in this brochure, but if you have type 2 diabetes, are obese or have elevated liver enzymes you should be screened for fatty liver
- Ask your primary care physician or your diabetes doctor to order more blood tests or an ultrasound
- Fatty liver can be reversed through lifestyle changes

## SUGGESTED DIET CHANGES

- Drink water instead of soda, sports drinks and juices
- Cut back or eliminate alcohol
- Eat fruit, don't drink it
- Reduce red meat and replace with tuna, shellfish, chicken and turkey
- Replace white rice with brown rice
- Snack on nuts and seeds, not chips or baked goods
- Eat more fruits and vegetables
- Replace white flour pasta with whole wheat pasta
- Replace sugary cereals with oatmeal and eggs

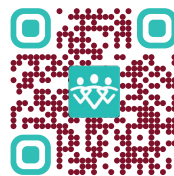
## AN ACTION PLAN

- Ensure your diet is healthy for your liver and exercise more. If you are obese or possess excess abdomen fat it is vitally important to begin losing weight.
- Talk to your doctor about your concerns and ask for a test such as FIB-4 to determine if you are at risk for advanced liver disease.
- If these tests confirm that you are at risk, ask for a referral to a liver specialist.
- The specialist may suggest additional blood tests such as the ELF™ (Enhanced Liver Fibrosis test) or imaging tests including ultrasounds and MRIs to further assess and monitor your condition.



### LIVER EDUCATION ADVOCATES

is a non-profit founded by a liver patient with a mission to increase awareness and provide education related to fatty liver.  
For more information visit our [liveradvocates.org](http://liveradvocates.org)



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### LIVER EDUCATION ADVOCATES

## HAVE TWO FRIENDS?

*Chances are, one of you has a fatty liver,  
not due to alcohol.*



## DID YOU KNOW?

*People who DO NOT  
abuse alcohol can develop cirrhosis*

*Unhealthy diet choices  
can lead to a fatty liver*

*Men, women, AND children of all ages  
can be affected by fatty liver*

*Most people who have fatty liver  
have no idea and show NO SYMPTOMS*

## YOUR LIVER

- The liver is located in the abdomen, under the rib cage on the right side
- The liver weighs roughly three pounds and is shaped like a football
- The liver is the hardest working organ in the human body, performing over 500 functions
- The liver's most important functions:
  - Eliminating toxins
  - Processing food and drinks into energy and nutrients
  - Helping control blood pressure
  - Assisting the immune system
  - Regulating blood clotting

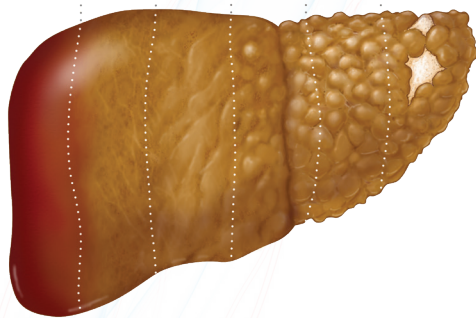


## DISEASE PROGRESSION

- Fatty liver starts when too much fat (5 to 10% of the liver's weight) builds up in the liver  
**medical term: NAFLD or MASLD**
- Continued fat buildup causes the liver to swell leading to damaged liver tissues  
**medical term: NASH or MASH**
- Over time, scar tissue develops and replaces healthy tissue  
**medical term: Fibrosis, or F1-F3**
- Scar tissue causes the liver to stiffen and reduces blood flow, affecting the liver's ability to function  
**medical term: cirrhosis, or F4**
- Cirrhosis can lead to liver cancer, the need for a liver transplant or can be fatal

## FIBROSIS STAGES

F0   F1   F2   F3   F4   Cancer



## TALKING WITH YOUR DOCTOR

Your doctor may use medical terms when discussing liver disease. The medical terminology is in a state of transition due to the decision to rename liver disease not due to alcohol. Here is a comparison of the old and new terminology.

### OLD TERMS

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

### NEW TERMS

Steatotic Liver Disease  
Metabolic Dysfunction-Associated Liver Disease (MASLD)  
MASLD + Moderate Alcohol Consumption (MetALD)  
Metabolic Dysfunction-Associated Liver Steatohepatitis (MASH)

## PRINCIPAL RISK FACTORS

### Medical Factors

- Overweight or Obese
- Type 2 Diabetes
- Metabolic syndrome which occurs when any 3 of the following are present:
  - Abdominal Fat
  - High Blood Pressure
  - Elevated Sugar Levels
  - Abnormal Cholesterol
- Heart Disease
- Sleep Apnea
- Insulin resistance related to obesity and physical inactivity

### Other Factors

- Genetics
- Ethnicity: About 50% of U.S. Hispanics have a fatty liver
- Gender: Males are more likely to have a fatty liver than females
- Exposure to toxins

## WHAT CAUSES LIVER FAT?

- Unhealthy Diet
  - Too much sugar
  - Too much processed food
  - Not enough fiber
  - Too many carbs
- Not enough exercise

## FATTY LIVER CAN BE REVERSED THROUGH LIFESTYLE CHANGES

- Losing 5 to 10% of your body weight, though difficult, is usually the best thing you can do
- Other changes are also effective:
  - Reducing sugar in your diet
  - Cutting back on processed food
  - Eliminating alcohol
  - Taking Vitamin E with doctor consent
  - Controlling blood pressure, cholesterol, and blood sugar
- Early detection is critical
- As scar tissue replaces healthy tissue, liver disease becomes harder to reverse
- Reversal is unlikely once cirrhosis develops

## CHILDREN ARE ALSO AT RISK

- It's estimated that up to 10% of children have fatty liver, largely due to obesity
- Normal weight children can also develop fatty liver
- Fatty liver in children is linked to the excessive intake of sugar

### It Affects

**38%**  
of obese children

**1%**  
of 2 to 4-year-olds

**17%**  
of 15 to 19-year-olds

**8%**  
of normal weight teens

