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

 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.

 HAVE TWO FRIENDS?

 DID YOU KNOW?
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 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

NASH KNOW ledge
THE SILENT EPIDEMIC

NASH KNOW ledge
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 website nash-now.org

Unhealthy diet choices can lead to a fatty liver

People who DO NOT abuse alcohol can develop cirrhosis

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

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

**WHAT CAUSES LIVER FAT?**

- **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

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

**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

**PRINCIPAL RISK 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

**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.

<table>
<thead>
<tr>
<th>OLD TERMS</th>
<th>NEW TERMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty Liver Disease</td>
<td>Steatotic Liver Disease</td>
</tr>
<tr>
<td>Nonalcoholic Fatty Liver Disease (NAFLD)</td>
<td>Metabolic Dysfunction-Associated Liver Disease (MASLD)</td>
</tr>
<tr>
<td>Nonalcoholic Steatohepatitis (NASH)</td>
<td>Metabolic Dysfunction-Associated Liver Steatohepatitis (MASH)</td>
</tr>
</tbody>
</table>

**CHILDREN ARE ALSO AT RISK**

- **38%** of obese children
- **1%** of 2 to 4-year-olds
- **17%** of 15 to 19-year-olds
- **8%** of normal weight teens