



Actor portrayals

Understanding MASH



MASH stands for:
metabolic dysfunction-associated steatohepatitis.

What is MASH?

MASH affects your liver, an important organ that helps with digestion, energy storage, and removing harmful substances from the blood.

MASH is an advanced form of fatty liver disease. It develops when fat builds up in your liver, leading to inflammation and damage to liver cells. Over time, people living with MASH may develop liver complications, including:

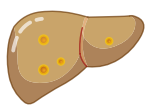
- Scarring (*fibrosis*)
- The most advanced liver scarring (*cirrhosis*)
- Liver failure
- Liver cancer
- The possible need for a liver transplant

MASH is part of a larger group of liver conditions called MASLD or *metabolic dysfunction-associated steatotic liver disease*. It is also known as fatty liver disease. MASLD includes different stages of fatty liver disease.

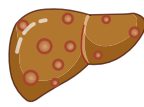
Fatty liver disease doesn't always progress. However, in some adults, it can reach any of the stages shown here.



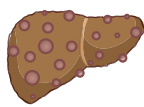
Healthy liver



Fatty liver



MASH with or without scarring



Cirrhosis

Causes and risk factors for MASH

MASH happens when fat builds up in your liver and leads to inflammation and liver cell damage. This is often linked to how your body processes sugar and fat. You may be at higher risk if you have certain health conditions, including:



Excess weight or obesity, especially with a large waist size



Type 2 diabetes, prediabetes, or insulin resistance



High blood pressure



Abnormal levels of fats in your blood, which may include:

- Low HDL ("good") cholesterol
- High triglycerides



Metabolic syndrome



Family history of cirrhosis



Persistently elevated liver enzymes



Fatty liver



Certain genetic factors

If you are living with any of these health conditions, ask your healthcare professional whether you should be screened for MASH.

Screening for MASH with liver scarring

MASH is often called a “silent” disease. This means that you may have few or no symptoms. A healthcare professional will use various tests to assess your liver. This may include some of the blood or imaging tests listed below. Other tests may also be recommended based on your specific situation.



Blood-based tests

Check for liver inflammation and scarring

- FIB-4 (Fibrosis-4) score
 - Age
 - AST (aspartate aminotransferase) level
 - ALT (alanine aminotransferase) level
 - Platelet count
- ELF™ (Enhanced Liver Fibrosis) test

Imaging-based tests

Check for liver stiffness

- VCTE (vibration-controlled transient elastography)
- MRE (magnetic resonance elastography)



Symptoms of MASH

MASH symptoms may be hard to identify. Even if you do not have any symptoms, the disease can cause harm and needs to be managed. Symptoms may occur in the presence of more advanced stages of fatty liver disease. It is best to screen, diagnose, and treat early to prevent and possibly stop disease progression. If symptoms do occur, you may experience:



Tiredness or fatigue



Nausea



Loss of appetite



Abdominal pain



Intense
itchiness



Easy bruising
and bleeding



Swollen
belly



Yellowing of the
skin (*jaundice*) or eyes