



# Understanding Non-Alcoholic Fatty Liver Disease

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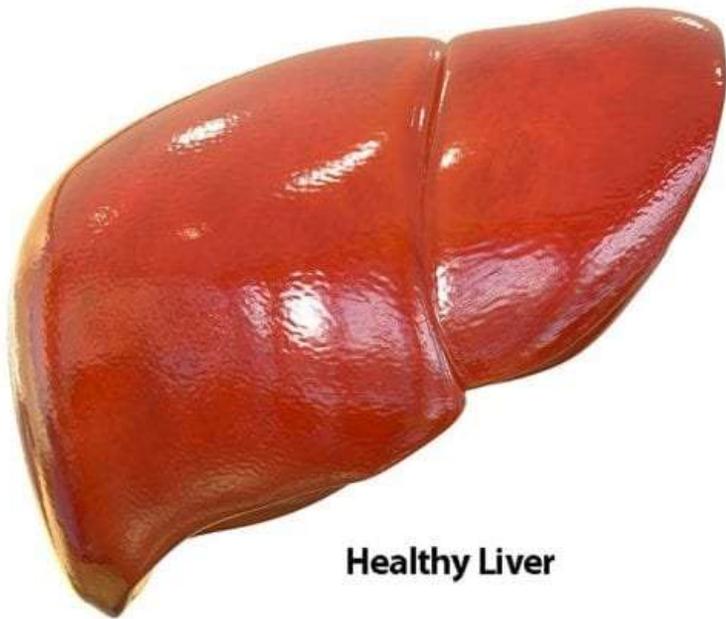
THE LIVER INSTITUTE AT METHODIST DALLAS

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# Non-Alcoholic Fatty Liver Disease:

- ▶ NAFLD occurs across a spectrum and can ultimately lead to permanent liver damage i.e cirrhosis
- ▶ NASH (Non-Alcoholic Steatohepatitis) is the most severe form of fatty liver and occurs just before a formal cirrhosis diagnosis
- ▶ Goals of treatment are aimed at identifying risk factors for NAFLD and optimizing therapies for those conditions
- ▶ Slowing progression of liver disease delays the onset of complications that reduce life expectancy

# Normal vs Fatty Liver

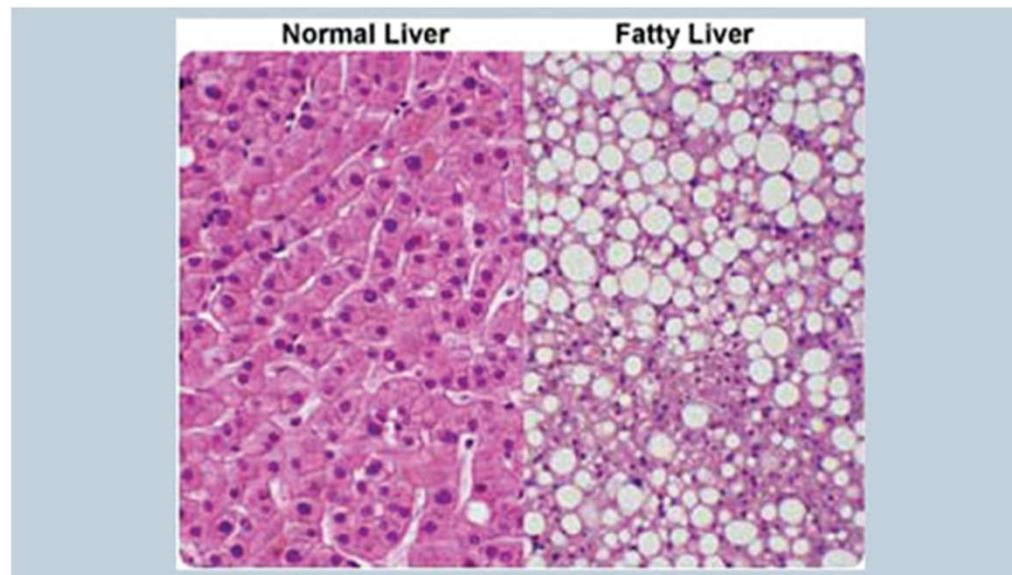


**Healthy Liver**



**Fatty Liver**

# Normal vs Fatty Liver:



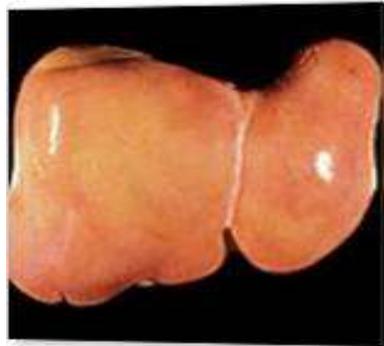
# Progression of Fatty Liver:

## NAFLD

All fatty livers, which are NOT the result of heavy alcohol consumption, fall under this category.

## STEATOSIS

Fatty infiltration of > 30% of the liver. Often reversible!!



## STEATOHEPATITIS (NASH)

Steatosis WITH inflammation or oxidative stress and scarring/fibrosis



# Who's at risk?

- **Metabolic Syndrome**
  - Diabetes or insulin resistance
  - Dyslipidemia
  - Hypertension
  - Abdominal obesity
- **Certain drugs**
  - Amiodarone
  - Tamoxifen
  - Steroids (long-term)
- **Genetic predisposition**



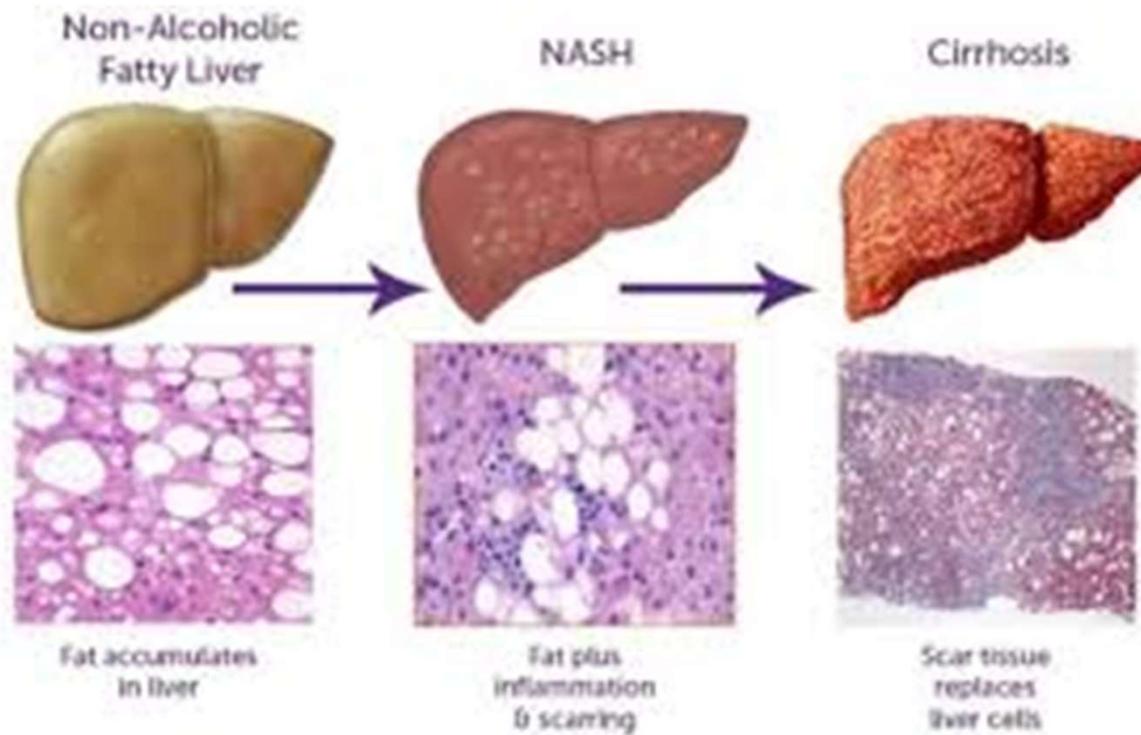
# Management:

- ▶ Fatty liver is often found incidentally on imaging performed for other conditions
- ▶ A new fatty liver diagnosis is managed with:
  - ▶ Lifestyle changes
  - ▶ Weight loss (5-7% of body weight makes a difference)
  - ▶ Glycemic control
  - ▶ Lipid management
  - ▶ Vitamin E may be hepatoprotective in some patients
- ▶ **The GOAL is to control inflammation or oxidative stress**

# Effects of Oxidative Stress:



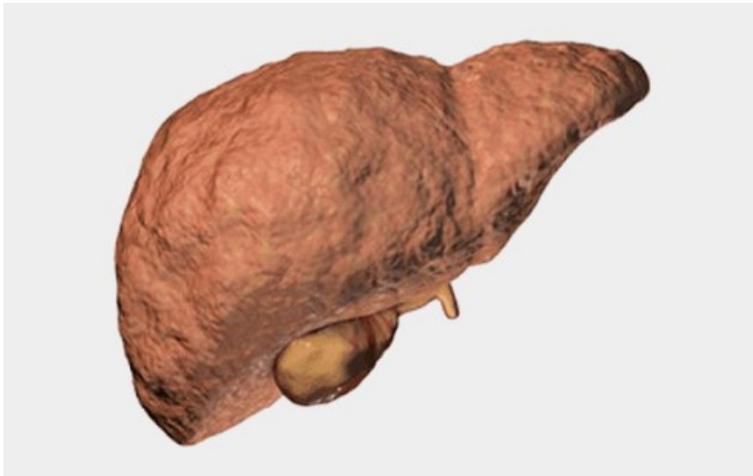
# Effects of Oxidative Stress:



# End Stage Liver Disease:

## FIBROSIS

(Fibroscan or biopsy)



## CIRRHOSIS

(Imaging or biopsy)



# End Stage Liver Disease:

- ▶ There is no definitive treatment for permanent scarring of the liver other than transplant.
- ▶ Care is supportive based on each patient's unique symptoms:
  - ▶ Management of ascites or edema
  - ▶ Preventing encephalopathy
  - ▶ GI bleeding precautions/treatment
  - ▶ Screening and treatment of liver cancers
  - ▶ Treatment of renal and/or pulmonary manifestations
  - ▶ Nutritional support for ALL

# PEARLS for Patients:

- ▶ Mission #1 is to stay as healthy as possible
  - ▶ Vaccines for Hepatitis A, Hepatitis B, Influenza, Pneumococcal
  - ▶ Take all medications as prescribed. Nothing extra!
- ▶ Heavy alcohol use correlates with progression of liver disease. There is no magic or “safe” quantity of EtOH
- ▶ Weight loss and exercise do help!
- ▶ No two patients will have the same course of illness



# PEARLS for Patients:

- ▶ Fatty liver, fibrosis nor cirrhosis can be corrected with a “detox”, “cleanse” or vitamin and in some instances, may make liver disease worse.
- ▶ Livers and Kidneys are the last organs to give up and the most difficult to support once they are damaged. Prevention is key!
- ▶ At some point, most ESLD patients will need help at home. Establish and maintain a good support system sooner rather than later.

# References:

- ▶ Common liver diseases and transplantation. Brown, Robert S. 2013
- ▶ Epidemiology, clinical features and diagnosis of nonalcoholic fatty liver disease in adults. Uptodate.com 12/14/2020
- ▶ Google Images