



# NAFLD/NASH Overview

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PCP/Endocrinologists



## Definition

Nonalcoholic fatty liver disease (NAFLD) is the overarching terms used to describe the build up of fat in the liver. Nonalcoholic steatohepatitis (NASH) is the aggressive form of NAFLD which involves the build up of liver fat associated with liver inflammation. This can result in liver scarring (fibrosis) which can lead to cirrhosis.



## Symptoms

- There are no specific symptoms associated with NAFLD/NASH. Majority of patients feel fine. Because of this, diagnosis is difficult.
- Complications typically become noticeable once a patient has progressed to cirrhosis.

# NAFLD & NASH Overview<sup>2</sup>



NAFLD is one of the most common causes of liver diseases worldwide - and can lead to cirrhosis requiring a liver transplant



Global prevalence of NAFLD is estimated at **24%**, with the highest rates reported from South America and the Middle East, followed by Asia, the U.S, and Europe



The major focus of clinical care is discerning those at highest risk of progressive liver disease



Being overweight in childhood and adolescence is associated with increased risk of NAFLD later in life



Patients with NAFLD have a high risk of liver-related morbidity and mortality along with metabolic comorbidities



Liver transplants – including follow-up care – are estimated to cost \$812,500 per patient, with around 7,000 liver transplants performed in the US each year<sup>3</sup>



## Overview

- Some people may have a higher likelihood of developing NAFLD/NASH. Genetics, diet, lifestyle, and certain health conditions may increase your chances of developing NAFLD/NASH.



## Common Risk Factors

- BMI > 30 (obese)
- Type 2 Diabetics
- Elevated Liver Enzymes
- Certain Gene Expressions (e.g. PNPLA3)
- Ethnicity
- Sedentary Lifestyle



## Genetic Factors

- Evidence from familial aggregation and twin studies have shown a heritable component to NAFLD

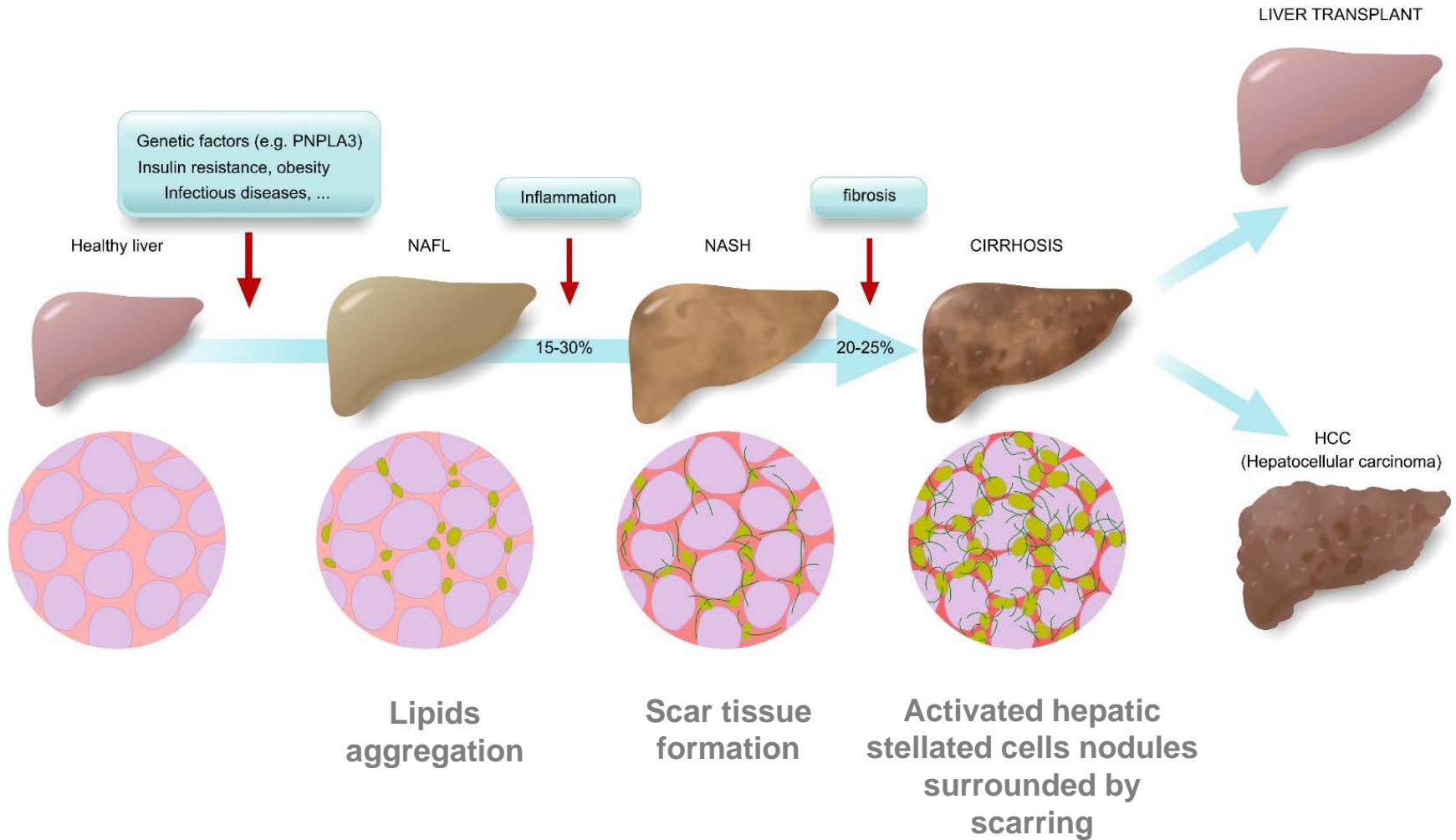


## Environmental Factors

The most relevant environmental factors are dietary habits:

- Alcohol consumption and the presence of obesity act together to increase the risk of liver disease morbidity and mortality
- Eating processed foods and/or foods with a high content of fat, salt, and sugar or corn syrup

# Disease Progression of NAFLD/NASH



# Screening for NAFLD/NASH

## MONITOR & SCREEN

### Standard of Care Blood Tests

**Screening for NAFLD/NASH starts with routine blood tests in primary care & endocrinology settings**

- Who to assess:
  1. Elevated liver enzymes
  2. Type 2 DM
  3. Hepatic Steatosis

### Additional Non-Invasive Testing

**Utilize FIB-4, FibroScan and other non-invasive tests**

- FIB-4 scores can usually be calculated based on existing patient data (AST/ALT/Platelet count/Age) – [click here](#) to view the calculator

## DISEASE MANAGEMENT

### Low-Medium Concern

**F1 to F2 levels of Fibrosis suspected**

- Lifestyle & Weight Management
  1. Suggest changes to current lifestyle that are sustainable
  2. Enroll patient in weight management/nutrition sessions
    - Reducing body weight by 10% has shown to halt and even reverse disease progression

### Medium-High Concern

**F2 to F4 levels of Fibrosis Suspected**

- Lifestyle & Weight Management
  - Same regiment as lower concern
- Refer to Hepatology

1. <https://www.cedars-sinai.edu/Patients/Health-Conditions/Non-alcoholic-Steatohepatitis-NASH-.aspx>
2. Younossi, Z., Anstee, Q., Marietti, M., Hardy, T., Henry, L., Eslam, M., George, J. and Bugianesi, E. (2017). Global burden of NAFLD and NASH: trends, predictions, risk factors and prevention. *Nature Reviews Gastroenterology & Hepatology*, 15(1), pp.11-20.
3. <http://www.milliman.com/uploadedFiles/insight/2017/2017-Transplant-Report.pdf>