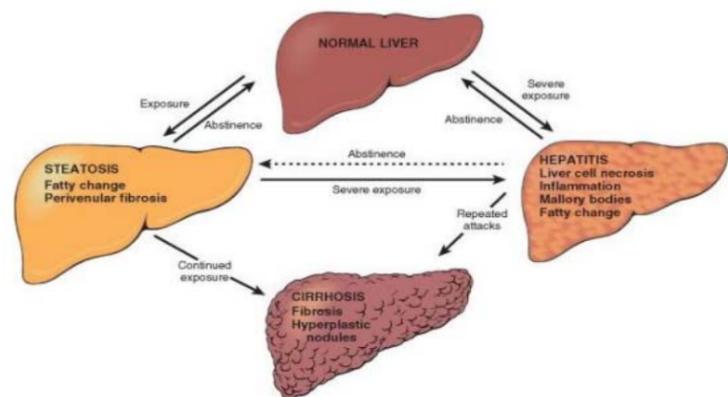


# Alcohol-Induced Liver Disease

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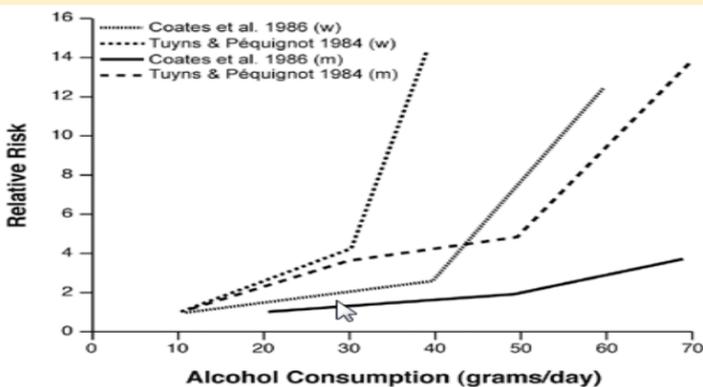
## 1 WHAT IS THE DISEASE?

- Alcoholic liver disease (ALD) is a term which encompasses the manifestations of alcohol overconsumption in the liver
- Fatty Liver (steatosis)**
- Alcoholic Hepatitis (AH)**
- Liver Fibrosis**
- Cirrhosis**
- Alcohol remains the second most common cause of cirrhosis in the US



Progression of alcoholic liver disease

- 44% of all deaths from liver disease were attributed to alcohol in the US
- Alcohol remains the 3<sup>rd</sup> most common preventable cause of death in the US
- Alcoholic cirrhosis remains the 2<sup>nd</sup> most common indication for liver transplantation



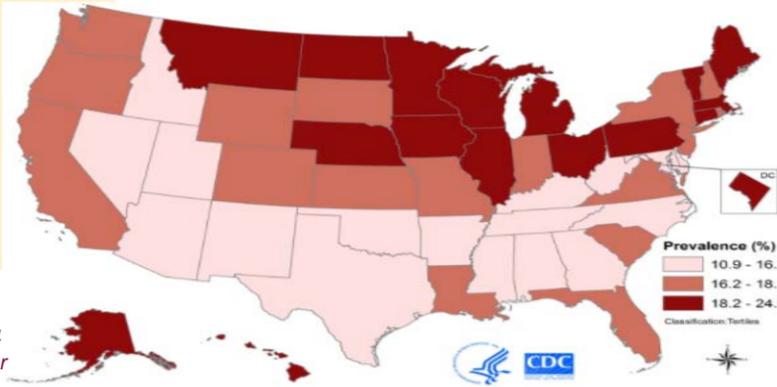
Alcohol consumption and incidence of cirrhosis of the liver in men (m) and women (w)

## 2 DISEASE BURDEN

- 60% of people in the US report drinking alcohol
- Alcohol use of more than 60 g/day is considered heavy drinking
  - 90% - 100% have fatty liver
  - 10% - 35% have alcoholic hepatitis
  - 8% - 20% have alcoholic cirrhosis
- Cirrhosis can result from a minimum intake of 30 g/day of alcohol in women and 50 g/day in men consumed over 5 years

## 3 RISK FACTORS & PREVENTION

- Age (40-50y)
- Gender (F > M)
- Race and ethnicity
- Obesity
- Protein calorie malnutrition
- Drinking patterns and type
- Hepatitis C virus
- Genetics



Prevalence of Binge Drinking Among US Adults, 2015. Binge drinking is defined as 4 or more drinks for a woman or 5 or more drinks for a man.

## 4 DIAGNOSIS & SCREENING

Combination of documented alcohol abuse and evidence of liver disease

### History

CAGE Questionnaire for Detecting Alcoholism		
Question	Yes	No
C: Have you ever felt you should Cut down on your drinking?	1	0
A: Have people Annoyed you by criticizing your drinking?	1	0
G: Have you ever felt Guilty about your drinking?	1	0
E: Have you ever had a drink first thing in the morning (Eye opener)?	1	0

A total score of 0 or 1 suggests low risk of problem drinking  
A total score of 2 or 3 indicates high suspicion for alcoholism  
A total score of 4 is virtually diagnostic for alcoholism

CAGE screening questionnaire for alcohol abuse

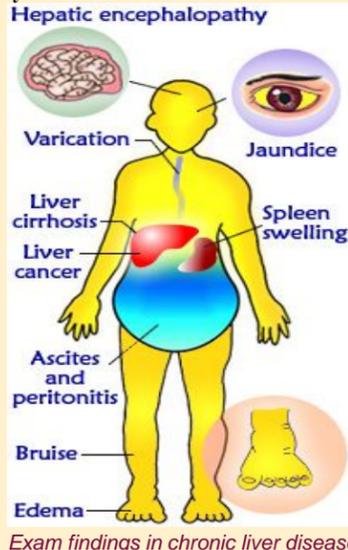
### Laboratory Data

- No available test specific for alcohol abuse
- Abnormal liver enzymes (AST, ALT)
- Abnormal liver function (INR, Total Bilirubin, Albumin)

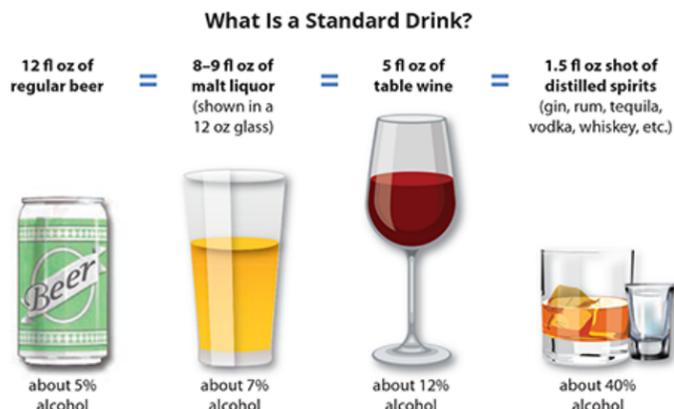
### Imaging

- Abdominal ultrasound, CT, MRI
- Fatty liver, nodularity, ascites, hepatosplenomegaly

### Physical Exam



Exam findings in chronic liver disease



### How Much is Too Much?



## 5 TREATMENT

### Alcohol Avoidance

- Improves survival at all stages of liver disease
- Intensive outpatient programs
- Relapse rates ~ 70% at 1 year

### Nutrition

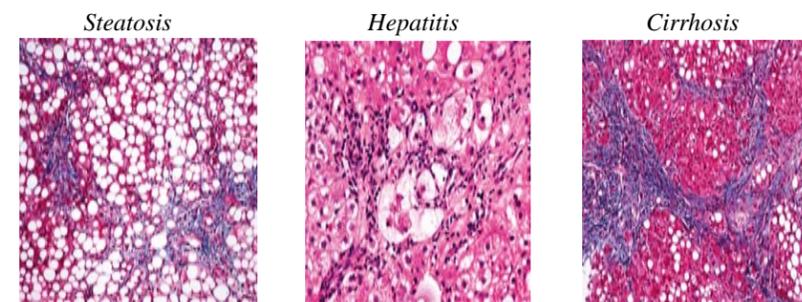
- Nearly all patients with ALD have some degree of malnutrition
- Poor nutrition decreases survival

### Alcoholic Hepatitis Specific Treatment

- AVOID ALCOHOL**
- Prednisolone** (steroid therapy)
  - Helps reduce liver inflammation
- No survival benefit** with Pentoxifylline, Milk Thistle, Vitamin E

### Liver Transplantation

- Documented sobriety for 6 months
- Similar survival compared to other causes of cirrhosis



Liver biopsy findings in alcoholic liver disease

## 6 RECENT ADVANCEMENTS

### Potential Targeted Therapy for Alcoholic Hepatitis

#### Medications

- Probiotics
- Zinc
- Antibiotics
- Anti-inflammatory medications

#### Early Liver Transplantation

- Not standard of care
- Selective screening is crucial
- Failure to respond to steroids
- Ethically controversial
- Severity of disease may not allow for 6 month sobriety
- Survival benefit
- Comparable graft outcomes
- Small percentage of alcohol relapse

## REFERENCES

Singal, et al. Clinical Liver Diseases (2013).  
Sacks, et al. Am J Prev Med (2015).  
AASLD.org  
U.S. Department of Health and Human Services  
Pageaux, et al. Gut (1999).  
Liang, et al. World Journal of Gastroenterology (2015).  
Shashtry, et al. World Journal of Gastroenterology (2016).