


## Updates in the Treatment of Alcohol Use Disorder

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## Acknowledgments & Disclosures

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## Goals and Objectives

- Define background information about the current state of alcohol use in the United States
- Review concepts related to assessment of substance use using SBIRT framework
- Discuss treatment strategies for Alcohol Use Disorder (AUD)
- Understand the role of biomarkers for AUD




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## Substance Use in the United States

- Many potential sources of information
- Substance Abuse and Mental Health Services Administration (SAMSHA)
- National Survey on Drug Use and Health (NSDUH)

Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health

BEHAVIORAL HEALTH IS ESSENTIAL TO HEALTH

PREVENTION WORKS

TREATMENT IS EFFECTIVE

PEOPLE RECOVER

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## Background on NSDUH

- 36,284 completed interviews
  - COVID challenges with data collection
- Population includes civilian, noninstitutionalized individuals 12 y/o and older
- Notable Exclusions:
  - Individuals with no fixed address
  - Military personnel on active duty
  - Institutionalized Settings  
jails, nursing homes, mental institutions, long-term care hospitals

The NSDUH Report

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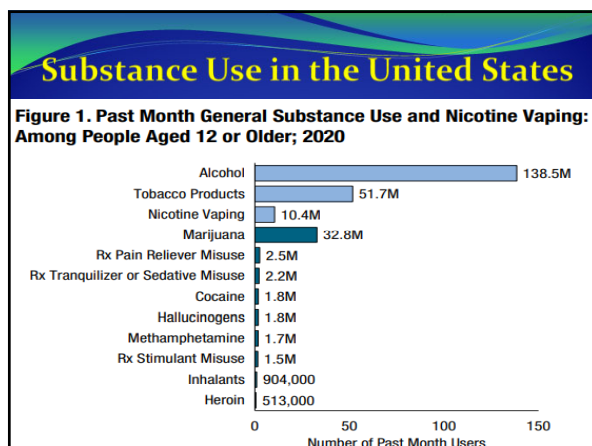
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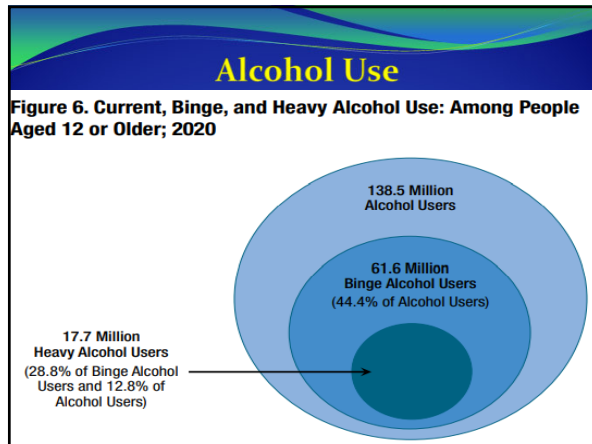
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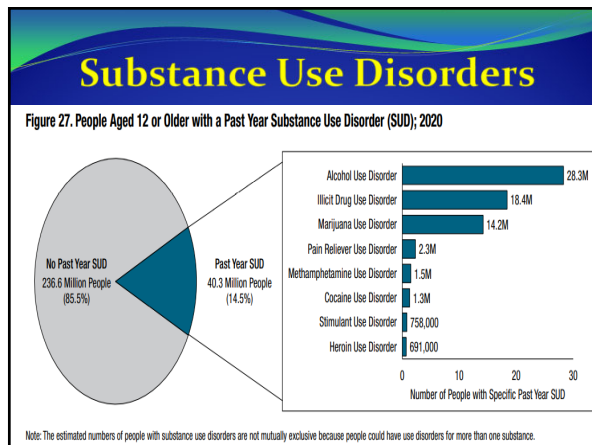
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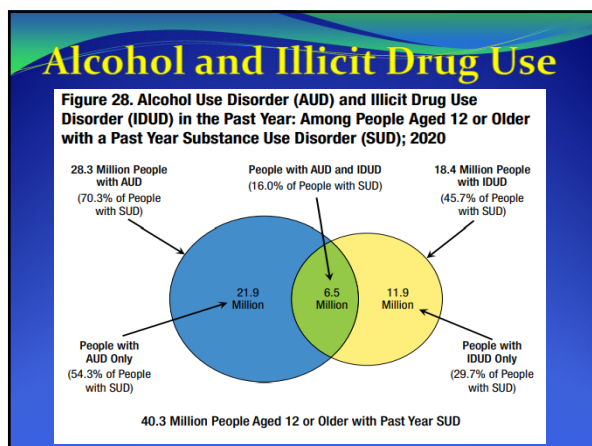
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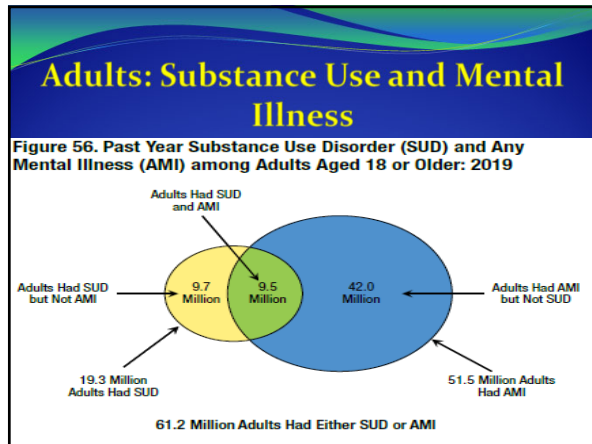
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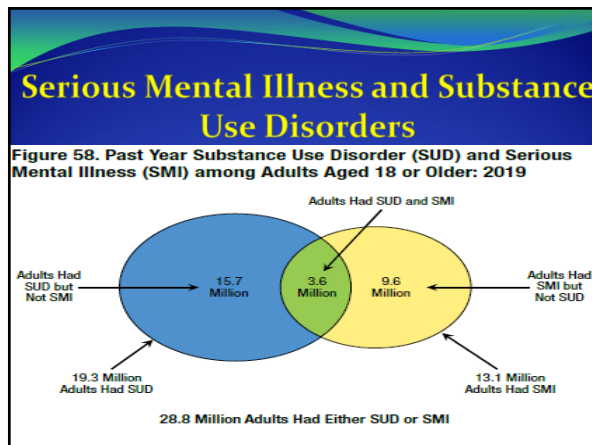
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### Dual Diagnosis Demographics

- Greater severity of illness
- Worse longitudinal course of illness across multiple domains
- Poorer psychosocial functioning
- Increased risk of psychiatric and substance use relapse

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## Dual Diagnosis Demographics

- Poorer medication compliance
- Higher rates of:
  - Violence
  - Suicide
  - Legal difficulties
  - Medical comorbidities
  - Family Stress
- Increased utilization of care, including ER visits and inpatient services




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## Things I've Heard in Practice...

- *I am depressed and anxious. If you could fix that, I wouldn't drink alcohol.*
- *I have to stop drinking now. If I don't, I am going to lose it all.*
- *What if I tried cutting back? Is that enough?*
- *Is my drinking really too much? Says who?*
- *I don't feel bad when I stop drinking so I don't have a problem right?*

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## Alcohol Use: What is Typical?

- National Institute on Alcohol Abuse and Alcoholism (NIAAA) defines alcohol use based on a "standard drink."
- Men: no more than four drinks in one day AND no more than 14 drinks per week
- Women: no more than three drinks in one day and no more than seven drinks per week
- Note this recommendation is also for all men and women over the age of 65.

Low-risk drinking limits		
	MEN	WOMEN
On any single DAY	No more than <b>4</b> drinks on any day	No more than <b>3</b> drinks on any day
Per WEEK	No more than <b>14</b> drinks per week	No more than <b>7</b> drinks per week

To stay low risk, keep within BOTH the single-day AND weekly limits.

Reference: niaaa.nih.gov

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## Alcohol: What is a Standard Drink?

12 fl oz of regular beer	8-9 fl oz of malt liquor (shown in a 12-oz glass)	5 fl oz of table wine	3-4 fl oz of fortified wine (such as sherry or port; 3.5 oz shown)	2-3 fl oz of cordial, liqueur, or aperitif (2.5 oz shown)	1.5 fl oz of brandy or cognac (a single jigger or shot)	1.5 fl oz shot of 80-proof distilled spirits
						
about 5% alcohol	about 7% alcohol	about 12% alcohol	about 17% alcohol	about 24% alcohol	about 40% alcohol	40% alcohol

Reference: [niaaa.nih.gov](https://www.niaaa.nih.gov)

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## What is Binge Drinking?

- SAMHSA defines binge drinking as:
  - Five or more alcohol drinks for males or
  - Four or more alcoholic drinks for females
  - On the same occasion (i.e., at the same time or within two hours) on at least one day in the past month.

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## SBIRT Model for Assessment

- Screening, Brief Intervention, and Referral to Treatment
- Unique in that it screens for various kinds of substance use
- Goal is to reduce the harm and societal costs associated with high-risk use

Reference: <https://www.samhsa.gov/sbirt>

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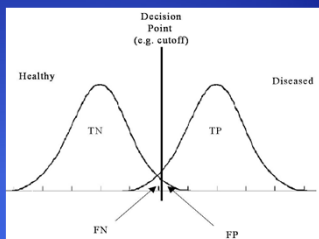
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## S: Screening

- Combination of Interview and Self-Report

- Validated Screening Tools

- AUDIT
- DAST
- ASSIST
- CRAFFT



Reference: <https://www.samhsa.gov/sbirt>

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## Alcohol Use Disorders Identification Test (AUDIT)

- Developed by the World Health Organization (WHO) to be used as a screening method for excessive drinking in primary care settings.
- Found to provide accurate measure of risk across gender, age, and cultures.



Reference: [http://apps.who.int/iris/bitstream/10665/67205/1/WHO\\_MSD\\_MSB\\_01.6a.pdf](http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_01.6a.pdf)

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## Alcohol Use Disorders Identification Test (AUDIT)

### The Alcohol Use Disorders Identification Test: Interview Version

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year." Explain what is meant by "alcoholic beverages" by using local examples of beer, wine, vodka, etc. Code answers in terms of "standard drinks". Place the correct answer number in the box at the right.

1. How often do you have a drink containing alcohol?

- (0) Never (Skip to Qs 9-10)
- (1) Monthly or less
- (2) 2 to 4 times a month
- (3) 2 to 3 times a week
- (4) 4 or more times a week

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

Reference: [http://apps.who.int/iris/bitstream/10665/67205/1/WHO\\_MSD\\_MSB\\_01.6a.pdf](http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_01.6a.pdf)

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## Alcohol Use Disorders Identification Test (AUDIT)

Domains and Item Content of the AUDIT

Domains	Question Number	Item Content
Hazardous Alcohol Use	1	Frequency of drinking
	2	Typical quantity
	3	Frequency of heavy drinking
Dependence Symptoms	4	Impaired control over drinking
	5	Increased salience of drinking
	6	Morning drinking
Harmful Alcohol Use	7	Guilt after drinking
	8	Blackouts
	9	Alcohol-related injuries
	10	Others concerned about drinking

Reference: [http://apps.who.int/iris/bitstream/10665/67205/1/WHO\\_MSD\\_MSB\\_09.6a.pdf](http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_09.6a.pdf)

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## Scoring the Alcohol Use Disorders Identification Test (AUDIT)

- Scores between 8 and 15 are most appropriate for simple advice focused on the reduction of hazardous drinking.
- Scores between 16 and 19 suggest brief counseling and continued monitoring.
- AUDIT scores of 20 or above clearly warrant further diagnostic evaluation for alcohol dependence.

Reference: [http://apps.who.int/iris/bitstream/10665/67205/1/WHO\\_MSD\\_MSB\\_09.6a.pdf](http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_09.6a.pdf)

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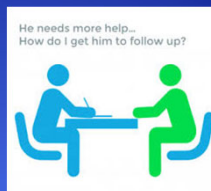
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## BI: Brief Intervention

- Used when screening suggests a moderate risk.
- Utilizes motivational interviewing techniques.
- Understand the patient's views about their use and engage in a dialogue for change.



Reference: <https://www.samhsa.gov/sbirt>

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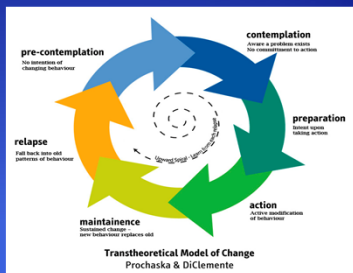
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## Stages of Change

- Pre-contemplation
- Contemplation
- Preparation
- Action
- Maintenance



Reference: Textbook of Substance Abuse Treatment, Fifth Edition

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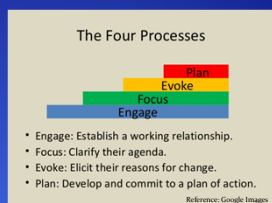
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## Motivational Techniques

- Autonomy
- Listening
- Double-sided reflections
- OARS (Open-ended questions, Affirmations, Reflective listening, Summaries)



Reference: Textbook of Substance Abuse Treatment, Fifth Edition

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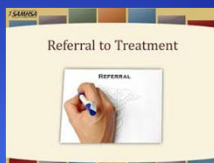
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## RT: Referral to Treatment

- Used when screening suggests a high risk
- Assisting patients with referral to specialized treatment
- Following up to ensure collaboration



Reference: <https://www.samhsa.gov/sbirt>

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## American Society of Addiction Medicine (ASAM) Criteria

- Most widely used and researched patient placement criteria tool for addiction treatment
- Broad range of levels of care
- Research demonstrates that treatment for addictive disorders can be effective although there is no single model of care appropriate for everyone



Reference: Textbook of Substance Abuse Treatment, Fifth Edition

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## ASAM Placement Criteria

**AT A GLANCE: THE SIX DIMENSIONS OF MULTIDIMENSIONAL ASSESSMENT**

ASAM's criteria uses six dimensions to create a holistic, biopsychosocial assessment of an individual to be used for service planning and treatment across all services and levels of care. The six dimensions are:

<b>1</b>	<b>DIMENSION 1</b>	<b>Acute Intoxication and/or Withdrawal Potential</b> Exploring an individual's past and current experiences of substance use and withdrawal
<b>2</b>	<b>DIMENSION 2</b>	<b>Biomedical Conditions and Complications</b> Exploring an individual's health history and current physical condition
<b>3</b>	<b>DIMENSION 3</b>	<b>Emotional, Behavioral, or Cognitive Conditions and Complications</b> Exploring an individual's thoughts, emotions, and mental health issues

Reference: <https://www.asam.org/resources/the-asam-criteria/about>

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## ASAM Placement Criteria

<b>4</b>	<b>DIMENSION 4</b>	<b>Readiness to Change</b> Exploring an individual's readiness and interest in changing
<b>5</b>	<b>DIMENSION 5</b>	<b>Relapse, Continued Use, or Continued Problem Potential</b> Exploring an individual's unique relationship with relapse or continued use or problems
<b>6</b>	<b>DIMENSION 6</b>	<b>Recovery/Living Environment</b> Exploring an individual's recovery or living situation, and the surrounding people, places, and things

Reference: <https://www.asam.org/resources/the-asam-criteria/about>

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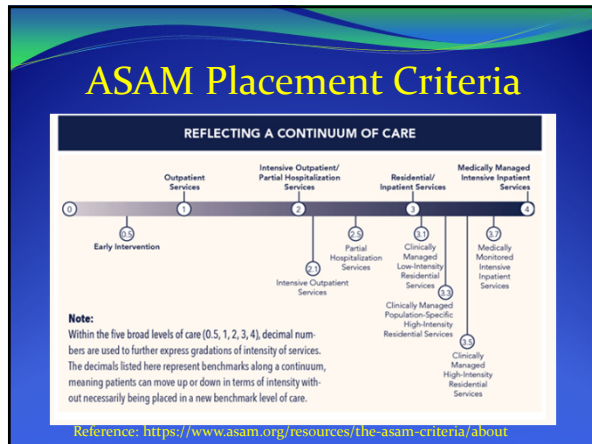
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## Things I've Heard in Practice...

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- *I have to stop drinking now. If I don't, I am going to lose it all.*
- *What if I tried cutting back? Is that enough?*
- *Is my drinking really too much? Says who?*
- *I don't feel bad when I stop drinking so I don't have a problem right?*

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## Alcohol Withdrawal Syndrome

- Overactive Autonomic Nervous System
- Symptoms present 6-48 hours after heavy alcohol consumption decreases
- Up to 50% of patients with AUD will have some withdrawal symptoms, but only small % require medical treatment for detox

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## Alcohol Withdrawal Syndrome

- Common Symptoms (typically diminish over 24-48 hours)
  - Headache
  - Tremor
  - Sweating
  - Agitation
  - Anxiety and Irritability
  - Nausea and Vomiting
  - Heightened sensitivity to light and sound
  - Disorientation
  - Difficulty Concentrating
  - Transient Hallucinations





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## Alcohol Withdrawal Syndrome

- Delirium Tremens (DT)
  - Severe agitation, tremor, disorientation, persistent hallucinations, and large increases in heart, respiratory rate, pulse, and blood pressure
  - Generally occurs in 5% of patients undergoing alcohol withdrawal and appears 2-4 days after the last use of alcohol




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## Alcohol Withdrawal Syndrome

- Seizures can occur in up to 25% of withdrawal instances and can occur as soon as 24 hours after last drink
- Wernicke's Encephalopathy
  - Thiamine Supplementation
    - PO vs IM or IV administration
- Folic Acid Supplementation




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## Alcohol Detox

- Possible Candidates for Outpatient Detox
  - Mild-moderate alcohol withdrawal symptoms
  - No major medical or psychiatric comorbidities
  - No prior history of alcohol withdrawal seizures or DTs
  - Stable support at home
  - Frequent follow-up at treatment centers




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## Alcohol Detox

- Possible Candidates for Inpatient Detox
  - History of severe withdrawal symptoms
  - History of DTs or withdrawal seizures
  - Multiple past detoxes
  - Comorbid medical or psychiatric illness
  - Recent high levels of alcohol consumption
  - Lack of reliable support network
  - Pregnancy




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## Alcohol Detox Strategies

- Benzodiazepines
  - Gold standard
    - Reduce the severity of withdrawal and also reduce risk of withdrawal seizures and/or DTs
  - Loading Approach vs. Clinical Institute of Withdrawal Assessment for Alcohol (CIWA-Ar)
  - Benzodiazepine selection
- Antiseizures Medications
  - Depakote
  - Tegretol
- Gabapentin
  - Support for outpatient detox in lower risk populations
  - Data to address cravings




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## Pharmacotherapy for AUD

- Disulfiram (Antabuse)
  - Inhibits acetaldehyde dehydrogenase
- Build-up of acetaldehyde
  - Diaphoresis
  - Palpitations
  - Facial Flushing
  - Nausea
  - Vertigo
  - Hypotension
  - Tachycardia
- Not for Everyone
  - Coronary Artery Disease or Heart Failure
  - Psychosis
  - History of Liver Disease
  - Medications (Metronidazole)




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## Pharmacotherapy for AUD

- Acamprosate
  - Targets hyperactive glutamatergic state
- Mixed Data in terms of efficacy
- More helpful for those already detoxed as opposed to those who want to reduce drinking
- Side Effects: Diarrhea, Nausea, Vomiting, Headache Dizziness
- Pearls: Renal Metabolism, TID Dosing




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## Pharmacotherapy for AUD

- Naltrexone
  - Opioid Receptor Antagonist
- Most effective at reducing heavy drinking
- Numerous meta analyses support efficacy in reducing relapse to heavy drinking when compared to placebo
- Side Effects:
  - Nausea, Headache, Dizziness, Insomnia




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## Pharmacotherapy for AUD

- Naltrexone and Possible Liver Dysfunction
  - Early Clinical Trials
  - More Recent Data
- Providers Clinical Support System Reference



**Topic:** Monitoring of Liver Function Tests in Patients Receiving Naltrexone or Extended-Release Naltrexone

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## Evidence-Based Therapies for AUD

- Brief Intervention
- Motivational
- Relapse Prevention
- Acceptance and mindfulness
- 12-step facilitation
- Contingency Management




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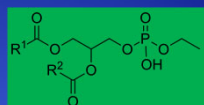
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## Biomarkers for AUD

- Phosphatidyl Ethanol (PEth)
  - Cellular membrane phospholipid
  - Good at detecting heavy alcohol consumption
    - 50g of alcohol, for up to 3 weeks
  - Higher sensitivity and specificity for differentiating those with AUD from abstainers and social drinkers




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## Biomarkers for AUD

- Carbohydrate-Deficient Transferrin (CDT)
  - Molecule deficient in carbohydrate sialic acid that carries iron
    - Alcohol disrupts the ability for sialic acid to attach to transferrin
  - Most widely used and studied biomarker
  - Highly sensitive to heavy alcohol consumption (>40g per day)
  - CDT remains elevated for up to 3 weeks after alcohol consumption
  - Useful in assessing pattern and severity of alcohol use during treatment




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## Biomarkers for AUD

- Gamma Glutamyl Transpeptidase (GGT)
  - Glycoprotein enzyme involved in digestion
  - After heavy alcohol consumption, GGT rises and remains elevated for 2-6 weeks
  - Specificity is reduced with comorbid medical issues
    - Nonalcoholic liver disease, nephrotic syndrome, pancreatitis




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## Questions?



Contact: [Lewis@muscc.edu](mailto:Lewis@muscc.edu)

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