Identification of Alcohol Use Disorder and Treatment Options

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Disclosures

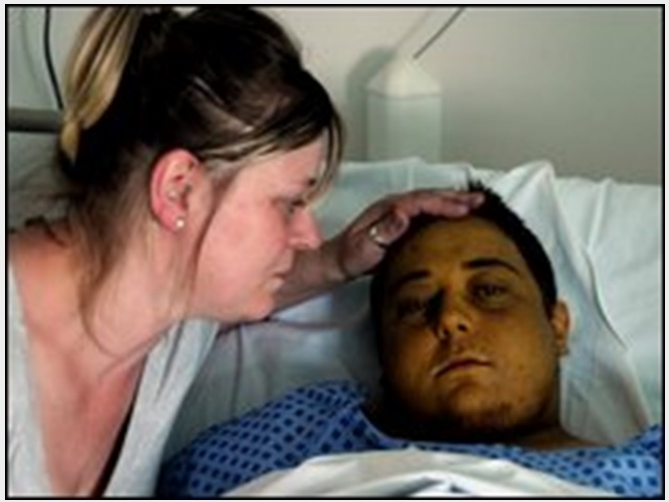
- Valerie Carrejo, MD, FAAFP, FASAM, has no financial relationships to disclose relating to the subject matter of this presentation.

- The faculty have been informed of their responsibility to disclose to the audience if they will be discussing off-label or investigational use(s) of drugs, products, and/or devices (any use not approved by the US Food and Drug Administration).
  - The off-label use of topiramate, gabapentin, baclofen, and ondansetron for the treatment of alcohol use disorder will be discussed.
- This activity has been independently reviewed for balance.

Do you know this patient?

54 yo male with a history of hepatitis C and alcohol use who is admitted after having a witnessed seizure.

The patient says “my doctor told me to quit drinking because I have cirrhosis”



Alcohol use affects us all

Why should we care?

Do We Know It Is a Problem?

- Alcohol is the most frequently used and misused substance in the United States. Alcohol misuse is especially problematic among youth and college-aged populations

- Excessive alcohol use can increase a person's risk of developing serious health problems in addition to those issues associated with intoxication behaviors and alcohol withdrawal symptoms

Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/data/taxonomy/term/91

Short-Term Health Risks

- Injuries, such as motor vehicle crashes, falls, drownings, and burns
- Violence, including homicide, suicide, sexual assault, and intimate partner violence
- Alcohol poisoning, a medical emergency that results from high blood alcohol levels
- Risky sexual behaviors, including unprotected sex or sex with multiple partners (sexually transmitted diseases [STDs], unintended pregnancies)
- Stillbirths, miscarriage, and fetal alcohol syndrome

Centers for Disease Control and Prevention. Alcohol use and your health. Accessed April 13, 2022. http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm

Long-Term Health Risks

- High blood pressure, heart disease, stroke, liver disease, and digestive problems
- Cancer of the breast, mouth, throat, esophagus, liver, and colon
- Learning and memory problems, including dementia and poor school performance
- Mental health problems, including depression and anxiety
- Social problems, including lost productivity, family problems, and unemployment
- Alcohol dependence and alcoholism

Centers for Disease Control and Prevention. Alcohol use and your health. Accessed April 13, 2022. http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm

Definitions and Data

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 oz of **fortified wine** (such as sherry or port; 3.5 oz shown)	=	2-3 oz of **cordial, liqueur, or aperitif** (2.5 oz shown)	=	1.5 oz of **brandy** (a single jigger or shot)	=	1.5 fl oz shot of **80-proof spirits** ("hard liquor")
												
about 5% alcohol		about 7% alcohol		about 12% alcohol		about 17% alcohol		about 24% alcohol		about 40% alcohol		about 40% alcohol

Two main agencies track data

Levels of consumption

- Moderate Drinking—According to the Dietary Guidelines for Americans, moderate drinking is up to 1 drink per day for women and up to 2 drinks per day for men

National Institute on Alcohol Abuse and Alcoholism. Alcohol Use in the United States. Accessed April 13, 2022. https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

Levels of consumption

Heavy Alcohol Use or Heavy Drinking

SAMSHA defines heavy alcohol use as binge drinking on 5 or more days in the past month

NIAAA defines heavy drinking as follows:

- For men, consuming more than 4 drinks on any day or more than 14 drinks per week
- For women, consuming more than 3 drinks on any day or more than 7 drinks per week

National Institute on Alcohol Abuse and Alcoholism. Alcohol Use in the United States. Accessed April 13, 2022. https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

Levels of consumption

Binge Drinking

SAMHSA defines binge drinking as drinking 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion on at least 1 day in the past 30 days

The NIAAA defines binge drinking as a pattern of drinking that produces blood alcohol concentrations (BAC) of greater than 0.08 g/dL. This usually occurs after 4 drinks for women and 5 drinks for men over a 2-hour period

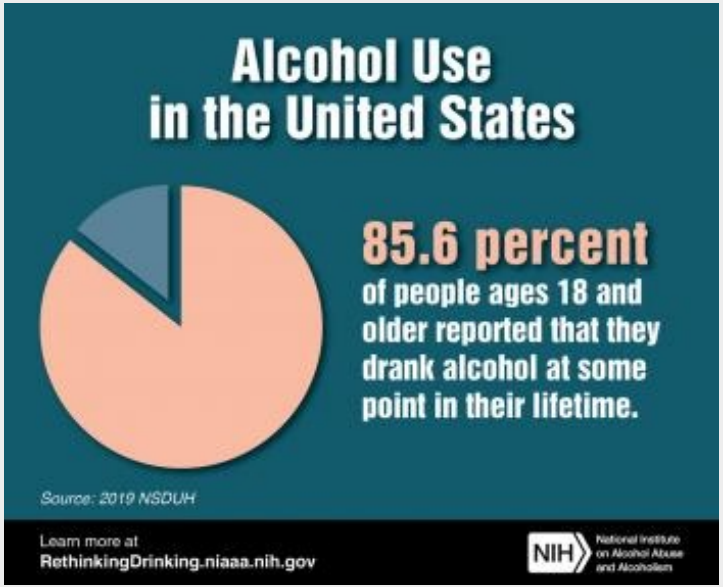
National Institute on Alcohol Abuse and Alcoholism. Alcohol Use in the United States. Accessed April 13, 2022. https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

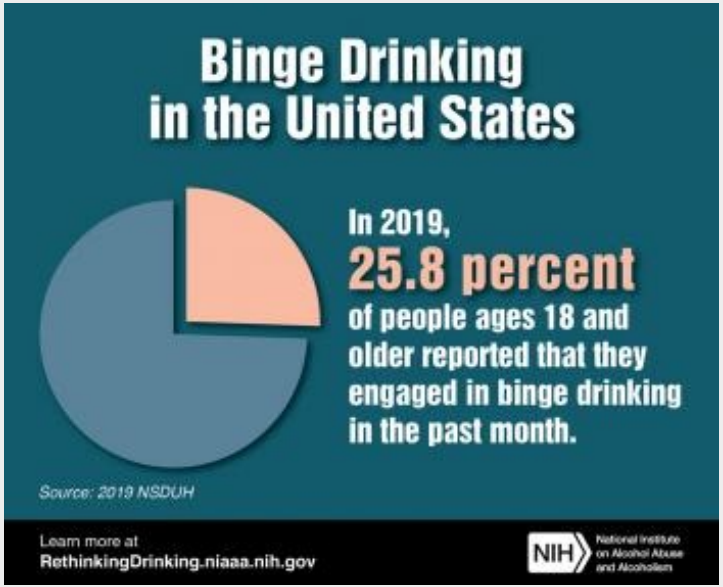
Levels of consumption

High-Intensity Drinking

Consumption of 2 or more times the gender-specific thresholds for binge drinking, which is to say 10 or more standard drinks (or alcoholic drink-equivalents) for males and 8 or more for females. High-intensity drinking is consistent with drinking at binge levels II and III. The levels correspond to one to two times (I), two to three times (II), and three or more times (III) the standard gender-specific binge thresholds

National Institute on Alcohol Abuse and Alcoholism. Alcohol Use in the United States. Accessed April 13, 2022. https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics





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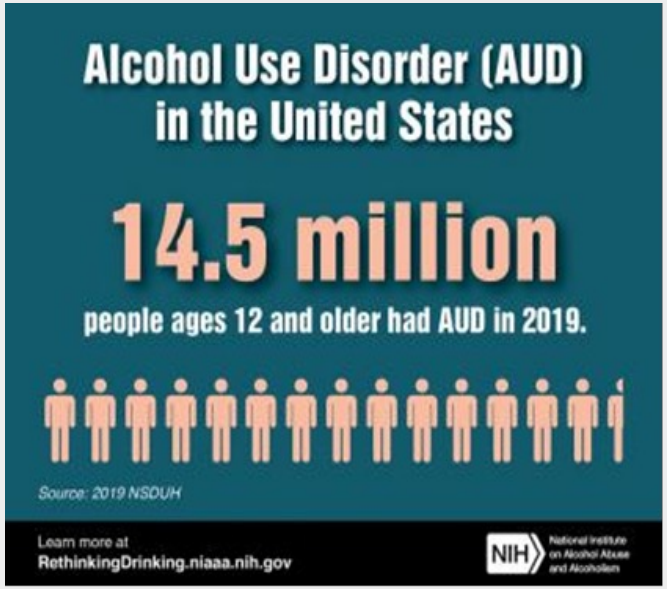

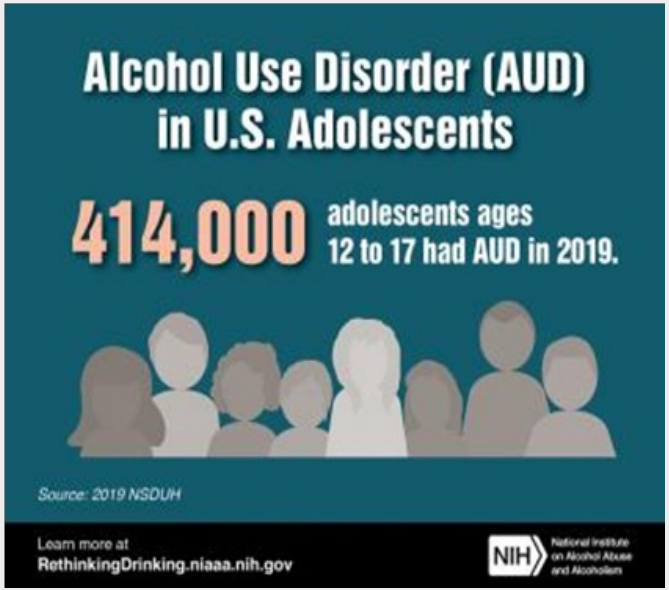

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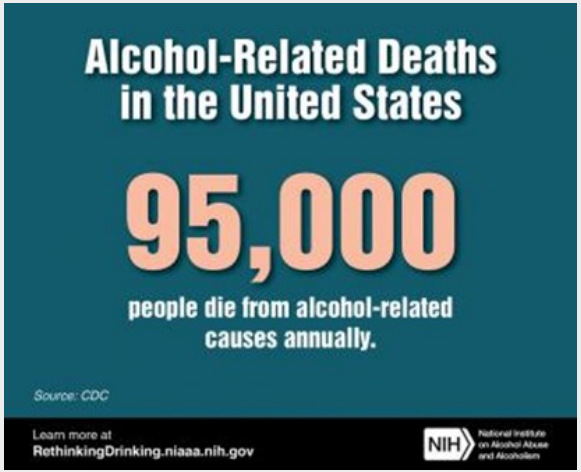

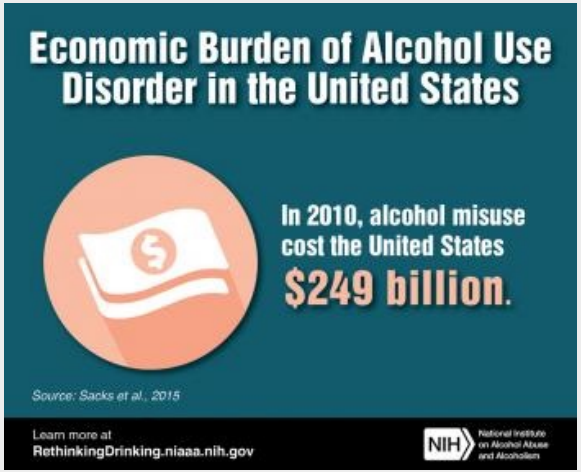

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Who do we treat?

- Only about 13 percent of persons with alcohol dependence receive specialized addiction treatment
- Only 24 percent seek any kind of help
- Only the most severely dependent drinkers attend alcohol rehabilitation programs
- For those who do, there is a 10-year gap between the onset of the disorder (21 years of age, on average) and first treatment

Substance Abuse and Mental Health Services Administration. Mental Health and Substance Use Disorders. Accessed April 13, 2022. http://www.samhsa.gov/disorders/substance-use

When use becomes a disorder

- Problem drinking that becomes severe is given the medical diagnosis of “alcohol use disorder” (AUD)

- 2019 NSDUH, 7.2 percent of people ages 12 and older with AUD received any kind of treatment
    - 6.9 percent of males and 7.8 percent of females
    - 6.5 percent of adolescents ages 12 to 17
- Less than 4 percent of people with AUD were prescribed a medication approved by the FDA to treat their disorder
- People with AUD were more likely to seek care from a primary care physician for an alcohol-related problem, rather than specifically for drinking too much alcohol

National Institute on Alcohol Abuse and Alcoholism. Understanding alcohol use disorder. Accessed April 13, 2022. https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders

Screening and Diagnosis

Who should we screen?

- USPSTF

Population	Recommendation	Grade
Adults 18 years or older, including pregnant woman	The USPSTF recommends screening for unhealthy alcohol use in primary care settings in adults 18 years or older, including pregnant women, and providing persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce unhealthy alcohol use.	B
Adolescents aged 12 to 17 years	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening and brief behavioral counseling interventions for alcohol use in primary care settings in adolescents aged 12 to 17 years.	I

U.S. Preventive Task Force. Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Health Interventions. Accessed April 13, 2022. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/unhealthy-alcohol-use-in-adolescents-and-adults-screening-and-behavioral-counseling-interventions

How should we screen?

- Use validated screening tools
- Does not take a lot of time
- Can be done in primary care, ED visits, mental health visits, addiction treatment centers

How should we screen?

- Alcohol Use Disorders Identification Test (AUDIT) Questionnaire

- Abbreviated AUDIT-Consumption (AUDIT-C)

- Single question of alcohol use
- “How many times in the past year have you had five (for men) or four (for women and all adults older than 65 years) or more drinks in a day?”
- This single question screen has been shown to be as sensitive and specific as other screening methods

- T-ACE
- CAGE

Comparison of Screening Tools

Test Name	Format of questions	Comments
Single question	How many times in the past year have you had X drinks in a day? X= 5 for men, 4 for women	Advantage: simple, quick, easy to administer Disadvantage: patients who do not exceed the single-day drinking limit but drink enough to exceed the weekly limit may be missed
AUDIT	10 multiple choice questions Score >8 is positive	Advantage: globally accepted, 94% accuracy across ethnic and gender groups Disadvantage: full test takes a bit of time
T-ACE	Tolerance Annoyed Cut down Eye opener	Developed for use in pregnant women Advantage: short, valuable lifetime history, more sensitive than CAGE
CAGE	Cut down Annoyed Guilty Eye opener	Advantage: easy to use, short Disadvantage: not accurate for elderly, white women, or African or Hisptanic-Americans

Taken from Table 1: Journal of Family Practice. December 2021. Vol 70 No 10

UNITS

Pint of Regular Beer/Lager/Cider

Alcopop or Can of Lager

Glass of Wine (175ml)

Single Measure of Spirits

Bottle of Wine

Alcohol Users Disorders Identification Test (AUDIT)

Questions	Scoring System 0	1	2	3	4	Your Score
How often do you have a drink that contains alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many standard alcoholic drinks do you have on a typical day when you are drinking?	1 - 2	3 - 4	5 - 6	7 - 8	10+	
How often do you have 6 or more standard drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often in the last year have you found you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often in the last year have you failed to do what was expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often in the last year have you needed an alcoholic drink in the morning to get you going?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often in the last year have you had a feeling of guilt or regret after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often in the last year have you not been able to remember what happened when drinking the night before?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Have you or someone else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
Has a relative/friend/doctor/health worker been concerned about your drinking or advised you to cut down?	No		Yes, but not in the last year		Yes, during the last year	

Scoring: 0-7 = sensible drinking, 8-15 = hazardous drinking, 16-19 = harmful drinking and 20+ = possible dependence

Counsel all patients who drink

- Advise to stay within recommended limits
- For healthy **men up to age 65—** no more than **4** drinks in a **day** AND no more than **14** drinks in a **week**
- For healthy **women** (and healthy **men over age 65)—** no more than **3** drinks in a **day** AND no more than **7** drinks in a **week**

Counsel all patients who drink

- Recommend lower limits or abstinence as medically indicated; for example, for patients who
  - take medications that interact with alcohol
  - have a health condition exacerbated by alcohol
  - want to become pregnant or who are pregnant
- Express openness to talking about alcohol use and any concerns it may raise
- Rescreen annually

Risky Drinking

- State your concern and recommend clearly

  “You are drinking more than is medically safe”

  “I encourage you to cut back or quit drinking”

  “Are you willing to consider making this change?”

  “I am concerned your alcohol use is contributing to your hypertension”

DSM-V Diagnostic Criteria for Alcohol Use Disorder

- A problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
  - Alcohol is often taken in larger amounts or over a longer period than was intended.
  - There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
  - A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.
  - Craving, or a strong desire or urge to use alcohol.
  - Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
  - Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
  - Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
  - Recurrent alcohol use in situations in which it is physically hazardous.
  - Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
  - Tolerance, as defined by either of the following:
    - A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
    - A markedly diminished effect with continued use of the same amount of alcohol.
  - Withdrawal, as manifested by either of the following:
    - The characteristic withdrawal syndrome for alcohol (refer to Criteria A and B of the criteria set for alcohol withdrawal).
    - Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

DSM–IV		DSM–5		
In the past year, have you:		In the past year, have you:		
Any 1 = ALCOHOL ABUSE	Found that drinking—or being sick from drinking—often interfered with taking care of your home or family? Or caused job troubles? Or school problems?	1	Had times when you ended up drinking more, or longer, than you intended?	The presence of at least 2 of these symptoms indicates an **Alcohol Use Disorder (AUD).** The severity of the AUD is defined as: **Mild:** The presence of 2 to 3 symptoms **Moderate:** The presence of 4 to 5 symptoms **Severe:** The presence of 6 or more symptoms
	More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex)?	2	More than once wanted to cut down or stop drinking, or tried to, but couldn't?	
	More than once gotten arrested, been held at a police station, or had other legal problems because of your drinking? ****This is not included in DSM–5****	3	Spent a lot of time drinking? Or being sick or getting over other aftereffects?	
	Continued to drink even though it was causing trouble with your family or friends?	4	Wanted a drink so badly you couldn't think of anything else? ****This is new to DSM–5****	
Any 3 = ALCOHOL DEPENDENCE	Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?	5	Found that drinking—or being sick from drinking—often interfered with taking care of your home or family? Or caused job troubles? Or school problems?	
	Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, restlessness, nausea, sweating, a racing heart, or a seizure? Or sensed things that were not there?	6	Continued to drink even though it was causing trouble with your family or friends?	
	Had times when you ended up drinking more, or longer, than you intended?	7	Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?	
	More than once wanted to cut down or stop drinking, or tried to, but couldn't?	8	More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex)?	
	Spent a lot of time drinking? Or being sick or getting over other aftereffects?	9	Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?	
	Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?	10	Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?	
	Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?	11	Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, restlessness, nausea, sweating, a racing heart, or a seizure? Or sensed things that were not there?	

Is your patient ready to change?

No

- Don’t be discouraged
- Restate your concern
- Encourage reflection
- Reaffirm your willingness to help

Yes

- Help set goals
- Agree on a plan
  - specific steps/goals
  - how will it be tracked
  - arrange follow-up
- Provide tools
- Offer referral for counseling
- Discuss medication options

Behavioral and Medical Interventions

Behavioral Health Supports Short-Term Goals

- Developing the skills needed to stop or reduce drinking
- Helping to build a strong social support system
- Working to set reachable goals
- Supporting adherence to medication for alcohol use disorder
- Coping with or avoiding the triggers that might cause relapse
- Involving family, community, and employment resources

Behavioral Health Supports Long-Term Goals

- Restoration of self-esteem
- Resolution of alcohol-related social problems
- Resolution of alcohol-related legal problems
- Improvement of physical health
- Lasting abstinence from alcohol use

Behavioral Support

- Counseling
  - Motivational interviewing
  - Cognitive-behavioral therapy
  - Marital and family therapy
- Brief interventions
  - Mutual Help Groups
  - Alcoholics anonymous
  - Other 12-step programs
  - Al Anon for family members
- Online recovery services

Motivational Interviewing (MI)

- Evidence-based counseling technique eliciting behavioral change by helping the patient explore and resolve ambivalence about change

- 2011 meta-analysis of 59 randomized trials
- Motivational Interviewing (MI) reduced substance use over the course of the trial (standardized mean difference 0.79, 95% CI 0.48-1.09) compared with a control condition.
- No differences in efficacy were seen for MI by type of substance
- No difference in substance use was seen when MI was compared with treatment as usual for substance use disorder, other active treatments, and receiving substance use disorder assessment and feed

Motivational interviewing for substance abuse. Smedslund G, Berg RC, Hammerstrom KT, Steiro A, Leiknes, KA, Dahl HM, Karlsen K. Cochrane Database Syst Rev. 2011. PMID 21563163

Cognitive Behavioral Therapy (CBT)

- Structured goal-directed form of psychotherapy in which patients learn how their thought processes contribute to their behavior.
- Increased cognitive awareness, combined with other adaptive behavioral techniques, leads to change in thoughts and emotions.

- Meta-analysis of 53 trials found CBT to have modest positive effect on outcomes for alcohol and other drug dependence when compared to control conditions and no treatment

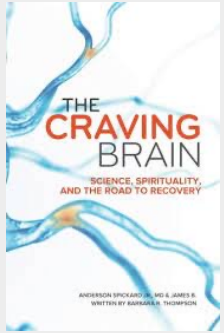
Cognitive-behavioral treatment with adult alcohol and illicit drug users; a meta-analysis of randomized controlled trials. Magill M, Ray LA. J Stud Alcohol Drugs. 2009;70(4):516. PMID 19515291

Mutual Help Groups

- Common component of treatment for alcohol use disorder
- Emphasize achieving abstinence through group sharing and support
- Best known mutual help group is Alcoholic Anonymous (AA)

- No studies that directly address the efficacy of AA
- Studies do show that psychotherapy with a mental health clinician that facilitates involvement with AA may be helpful
- - Clinicians can make the first call, help locate meetings, request attendance

12 steps of Alcoholics Anonymous



1. We admitted we were powerless over alcohol — that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these Steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs

Other behavioral interventions

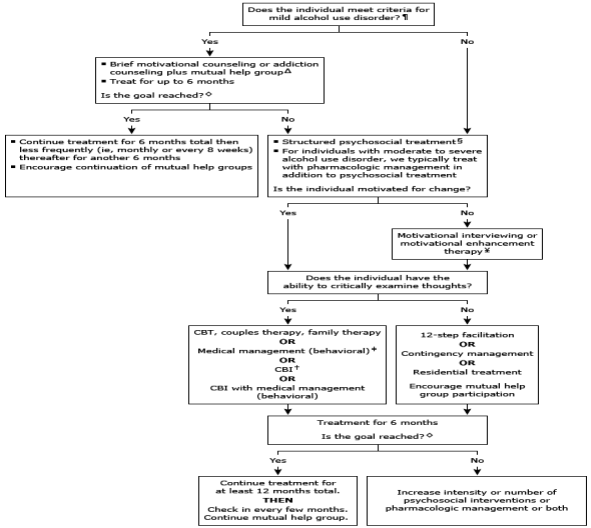
- Contingency management – offers incentives to encourage abstinence
- Combined behavioral intervention – combines elements of CBT, 12-step facilitation, motivational interviewing, and support system involvement.
- Online group support – SMART (Self-Management and Recovery Training) offers free treatment advice online as well as group meetings

Residential Treatment

- Provides 24-hour, substance-free environment
- Psychosocial model – emphasizes individual and group counseling, social skills training and mutual help groups
- Supportive rehabilitative model – adds work training and other specialized rehabilitation services to psychosocial model
- Intensive treatment model – adds medical and psychiatric services, couples and family counseling and nutrition services to the supportive rehabilitative model

Alcohol use disorder: Psychosocial treatment. UpToDate accessed 4/25/22.

Psychosocial treatment for alcohol use disorder*



Time frames for treatment are based on expert opinion and consistent with available evidence but may be individualized.

CBT: cognitive-behavioral therapy; CBI: combined behavioral intervention.

* For individuals with mild, moderate, or severe alcohol use disorder who have undergone medically managed withdrawal or in whom medically managed withdrawal is not indicated. Refer to other UpToDate content for description of medically managed withdrawal.

¶ Severity is based on the number of the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5) diagnostic criteria the individual meets.

Δ Brief motivational counseling, addiction counseling, and mutual help groups are discussed in other UpToDate content.

◇ Abstinence remains the primary goal of treatment of alcohol use disorder. However, other goals such as reduced heavy drinking or lower risk use are appropriate goals for individuals who are not ready to stop drinking.

§ Structured psychosocial treatments include motivational interviewing, CBT, medical management (behavioral), CBI, and couples and family therapy.

¥ Motivational enhancement therapy is a 4-session variant of motivational interviewing. Continue motivational interviewing or motivational enhancement therapy until the individual shows a readiness to change. Refer to other UpToDate content.

ǂ Medical management (behavioral), also called "medical management," is a manual-based psychotherapy that mimics management of medical conditions. Refer to other UpToDate content.

† CBI is an intervention combining elements of CBT, 12-step facilitation, motivational interviewing, and support system involvement. Refer to other UpToDate content.

Your patient has alcohol use disorder, now what?

Laboratory evaluation

- Complete Blood Count
  Mean corpuscular volume (MCV) may be elevated in alcohol induced macrocytic anemia
  Platelets may be suppressed in heavy drinkers
- Liver function testing
  AST commonly elevated over ALT
  Elevated GGT plus elevated AST has high specificity for heavy alcohol use
- Chemistry
  Assess renal function and glucose
- HIV, Hepatitis C and other sexual transmitted infection testing
- Pregnancy test in women

AST: aspartate transaminase, ALT: alanine aminotransferase, GGT: gamma-glutamyl transferase

Assess for risk of alcohol withdrawal

- Definitions of withdrawal:
  - Simple withdrawal- sweating, tremor, anxiety, palpitations
  - Complicated withdrawal- seizure or delirium tremens

- Risk factors for ANY withdrawal:
  - Former history of withdrawal
  - Conscious with a B.A.L. over 0.3%

- Risk factors for complicated withdrawal
  - Former history of withdrawal seizure or delirium tremens
  - Traumatic brain injury
  - Acute illness

CIWA-AR

- Clinical Institute Withdrawal Assessment Scale for Alcohol
  - Nausea and vomiting
  - Paroxysmal sweats
  - Anxiety
  - Agitation
  - Tremor
  - Headache
  - Auditory disturbance
  - Visual disturbance
  - Tactile disturbance
  - Orientation

Clinical Institute Withdrawal Assessment Scale for Alcohol, revised (CIWA-Ar)

Nausea and vomiting
0 No nausea or vomiting
1
2
3
4 Intermittent nausea with dry heaves
5
6
7 Constant nausea, frequent dry heaves and vomiting

Paroxysmal sweats
0 No sweats visible
1 Barely perceptible sweating, palms moist
2
3
4 Beads of sweat obvious on forehead
5
6
7 Drenching sweats

Anxiety
0 No anxiety, at ease
1
2
3
4 Moderately anxious, guarded
5
6
7 Acute panic state, consistent with severe delirium or acute schizophrenia

Agitation
0 Normal activity
1 Somewhat more than normal activity
2
3
4 Moderately fidgety and restless
5
6
7 Paces back and forth during most of the interview or constantly thrashes about

Tremor
0 No tremor
1 Not visible, but can be felt at fingertips
2
3
4 Moderate when patient's hands extended
5
6
7 Severe, even with arms not extended

Headache
0 Not present
1 Very mild
2 Mild
3 Moderate
4 Moderately severe
5 Severe
6 Very severe
7 Extremely severe

Auditory disturbances
0 Not present
1 Very mild harshness or ability to frighten
2 Mild harshness or ability to frighten
3 Moderate harshness or ability to frighten
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Visual disturbances
0 Not present
1 Very mild photosensitivity
2 Mild photosensitivity
3 Moderate photosensitivity
4 Moderately severe visual hallucinations
5 Severe visual hallucinations
6 Extremely severe visual hallucinations
7 Continuous visual hallucinations

Tactile disturbances
0 None
1 Very mild paresthesias
2 Mild paresthesias
3 Moderate paresthesias
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Orientation and clouding of sensorium
0 Oriented and can do serial additions
1 Cannot do serial additions
2 Disoriented for date by no more than 2 calendar days
3 Disoriented for date by more than 2 calendar days
4 Disoriented for place and/or patient
Total score is a simple sum of each item score (maximum score is 67).
Score:
<10: Very mild withdrawal
10-15: Mild withdrawal
16-20: Modest withdrawal
>20: Severe withdrawal

Adapted from Sullivan JT, Sykora K, Schneiderman J, et al. Br J Addict 1989; 84:1353.

CIWA-AR

- Score < 8
  - Patient may not need medical detoxification
- Score 8 – 15
  - Patient may be a candidate for ambulatory detoxification
- Score > 15
  - Patient is likely a candidate for inpatient detoxification

Consider acute detoxification

- Inpatient detoxification is recommended if risk for significant alcohol withdrawal
- Outpatient management of alcohol withdrawal
- May be fixed schedule or symptom triggered
  - Chlordiazepoxide taper (Librium)
    - Metabolized by the liver
    - Do not use if suspect significant liver disease
  - Lorazepam taper (Ativan)
  - Oxazepem taper (Serax)
  - Carbamazepine taper

Ambulatory detoxification protocols

Reduce moderate withdrawal symptoms and risk for serious withdrawal symptoms - fixed dosing
If withdrawal symptoms are moderate (ie, CIWA score between 8 and 15) then use one of the following protocols:
Long-acting benzodiazepine protocol - (Chlordiazepoxide)
Day 1 - 50 mg every 6 to 12 hours
Day 2 - 25 mg every 6 hours
Day 3 - 25 mg twice a day
Day 4 - 25 mg at night
Shorter-acting benzodiazepine protocol (Oxazepam)
Day 1 - 30 mg every 6 hours
Day 2 - 30 mg every 8 hours
Day 3 - 30 mg every 12 hours
Day 4 - 30 mg at night
Anti-convulsant Protocol (Carbamazepine)
Day 1 - 200 mg every 6 hours
Day 2 - 200 mg every 8 hours
Day 3 - 200 mg every 12 hours
Day 4 - 200 mg one dose
Reduce or prevent mild withdrawal symptoms - symptom triggered
If withdrawal symptoms are not present or mild (ie, CIWA score less than 8) then use one of the following protocols:
Long-acting benzodiazepine protocol - (Chlordiazepoxide)
Day 1 - 50 mg every 6 to 12 hours as needed
Days 2 to 5 - 25 mg every 6 hours as needed
Shorter-acting benzodiazepine protocol (Oxazepam)
Day 1 - 30 mg every 6 hours as needed
Days 2 to 5 - 15 mg every 6 hours as needed
Nutritional support
Thiamine 100 mg for 3 days, multivitamins maintenance

Medication Assisted Treatment

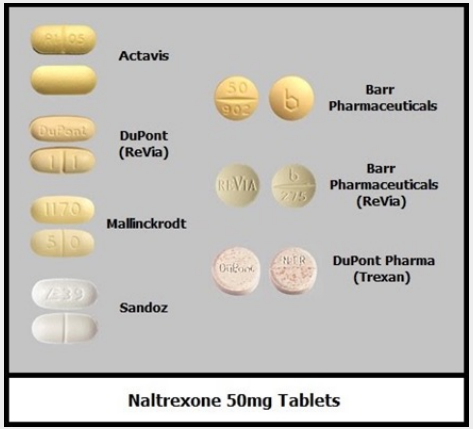
- There are 4 medications have been FDA approved for MAT for alcohol use disorder
- Three oral medications
  - Naltrexone (Depade, ReVia)
  - Acamprosate (Campral)
  - Disulfuram (Antabuse)
- One long-acting injectable medication
  - Extended-release injectable naltrexone (Vivitrol)

Naltrexone FDA approved 1994

- Usual adult dosing
  - 50 mg daily oral dose
  - 380mg IM monthly dose
  - Patient must be opioid free for 7-10 days prior to first dose
- Action
  - Blocks opioid receptors resulting in reduced craving and reduced reward to drinking
  - Patient cuts back on alcohol use over time
- Contraindications
  - Currently using opioids or in acute opioid withdrawal
  - Anticipated need for opioid analgesics
  - Acute hepatitis or liver failure
  - Must stop taking 48-72 hours prior to surgery

Naltrexone

- Precautions
  - Hepatic disease, renal impairment, suicide attempt or depression, pregnancy
- Serious adverse reactions
  - Will precipitate severe opioid withdrawal if patient is dependent on opioids
  - Hepatotoxicity (not at recommended doses)
- Common side effect
  - Nausea, vomiting, decreased appetite
  - Headache, dizziness
  - Fatigue, somnolence
  - Anxiety



Naltrexone

- Cochrane review of 50 randomized controlled trials
- 7793 patients
- Number needed to treat to reduce heavy drinking of 12
- Number needed to treat to decrease daily drinking of 25

- A Systematic Review
- Number needed to treat for abstinence 20
- Number needed to treat for decreased heavy drinking of 12

- Naltrexone trials showed reduced alcohol cravings and relapse
- Most studies show Naltrexone may be better for reducing heavy drinking rather than abstinence

Pharmacotherapies for Alcohol Use Disorder. Mayo Clin Proc. Sept 2020:95(9):1964-1977. https://doi/org/10/1016/j.mayop.2020.01.030

Acamprosate FDA approved 2004

- Usual adult dosing
  - 666mg (two 333mg tablets) three times per day
  - Renal impairment (CrCl 30-50 mL/min) reduce dose to 333mg three times per day
- Action
  - Affects glutamate and GABA neurotransmitter systems
- Contraindications
  - Severe renal impairment (CrCl <30mL/min)

CrCl- creatinine clearance; GABA=gamma-aminobutyric acid

Acamprosate

- Precautions
  - Moderate renal impairment, reduce dose to 333mg TID
  - Depression or suicidal ideation and behavior
  - Pregnancy
- Serious adverse reactions
  - Rare events of suicidal ideation and behavior
- Common side effect
  - Diarrhea
  - Somnolence

Acamprosate

- Better outcomes have been noted in those with an increased length of sobriety before treatment initiation

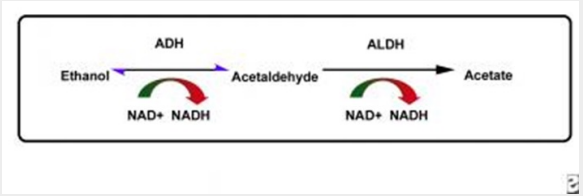
- Systematic Review using 27 studies and 7519 patients
- Number needed to treat of 12 to return to any drinking

- Cochrane review of 24 trials including 6915 patients
- Number needed to treat of 9 for reducing risk of any drinking

- Meta-analysis of naltrexone and acamprosate
- Acamprosate primarily supports abstinence vs naltrexone which supports reduction in drinking

Pharmacotherapies for Alcohol Use Disorder. Mayo Clin Proc. Sept 2020:95(9):1964-1977. https://doi/org/10/1016/j.mayop.2020.01.030

Disulfiram FDA approved 1949



- Usual adult dosage
  - Oral dose: 250mg daily (range 125mg to 500mg)
  - Do not take for at least 12 hours after last drink
- Action
  - Inhibits immediate metabolism of alcohol
  - Build up of acetaldehyde causes flushing, nausea, sweating and tachycardia
- Contraindications
  - Concomitant use of alcohol containing products
  - Coronary artery disease
  - Hypersensitivity to rubber derivatives
- Precautions
  - Hepatic cirrhosis, cerebral vascular disease, psychosis, diabetes, epilepsy, hypothyroidism, renal impairment, pregnancy

Disulfiram

- Serious adverse reactions
  - Disulfiram-alcohol reaction
  - Hepatotoxicity
  - Optic neuritis
  - Peripheral neuropathy
  - Psychotic reactions
- Common side effect
  - Metallic after-taste
  - Dermatitis
  - Transient drowsiness

Medications do work for alcohol use disorder

Alcohol use disorder

- Naltrexone NNT 12 to reduce heavy drinking
- Naltrexone NNT 20 for abstinence
- Acamprosate NNT 12 for return to drinking
- Acamprosate NNT 9 for reduced drinking

- Yet 70% of patients with hypertension receive treatment compared to less than 10% of those with alcohol use disorder

Common chronic diseases

- Aspirin NNT of 50 to prevent cardiovascular disease
- Antibiotics NNT of 16 to treat otitis media
- Antihypertensives NNT 67 for prevention of stroke
- Antihypertensives NNT 125 to prevent death
- Metformin NNT 14 for mortality improvement

Pharmacotherapies for Alcohol Use Disorder. Mayo Clin Proc. Sept 2020:95(9):1964-1977. https://doi/org/10/1016/j.mayop.2020.01.030

Secondary Agents

Topiramate

- Preferred for patients who have a seizure disorder
- Administration:
  Start at 25mg daily and titrate upward
  Max dose of 300mg/day
- Adverse effects include cognitive impairment (word-finding difficulty), paresthesia, weight loss, headache, fatigue, dizziness and depression
- Contraindication: allergy to topiramate, lower doses for renal impairment CrCl <50 mL/min

A meta-analysis of topiramate's effects for individuals with alcohol use disorders

- Meta-analysis of seven clinical placebo-controlled trials

- Demonstrated efficacy of topiramate with higher rates of abstinence and lower rates of heavy drinking

- Conclusion:

"Topiramate can be a useful tool in the treatment of AUDs. Its efficacy, based on current sample of studies, seems to be of somewhat greater magnitude than that of the most commonly prescribed medications for AUDs (naltrexone and acamprosate).

Further research is necessary.

Blodgett JC, et al "A meta-analysis of topiramate's effects for individuals with alcohol use disorders" Alcohol Clin Exp Res. 2014;38(6):1481

Topiramate

- Consider as a second-line medication to reduce heavy drinking
- Benefit in patients with migraine headaches, obesity or binge eating disorder

Gabapentin

- Administration

  Start 300mg per day and titrate by 300mg every 1 to 2 days to total of 600mg TID

- Adverse effects: dizziness, drowsiness, nausea, diarrhea, mood changes, risk for misuse and addiction

- Contraindications: allergy to gabapentin, lower dose for renal impairment CrCl <50 mL/min

A meta-analysis of the efficacy of gabapentin for treating alcohol use disorder

- Meta-analysis of seven placebo-controlled randomized controlled trials

- The aims of this study were to estimate gabapentin's effect on six alcohol-related outcomes, test potential moderators, examine publication bias and evaluate the quality of the studies

- Conclusion:
- Although gabapentin appears to be more efficacious than placebo in treating AUD, the only measure in which the analysis clearly favors the use of gabapentin is a reduction in heavy drinking days

Kranzler, HR et al. "A meta-analysis of the efficacy of gabapentin for treating alcohol use disorder" Addiction. 2019;114(9):1547

Gabapentin

- Consider in patients with concurrent conditions of neuropathy, restless legs syndrome, insomnia or anxiety
- Can be used for acute withdrawal to prevent withdrawal symptoms and continued to help with cravings
- Some studies show up to 6% of the population has misused gabapentin for recreational use, self-medication or intentional self-harm, either alone or in combination with other substances

Evoy, K.E., Covvey, J.R., Peckham, A.M. et al. Gabapentinoid misuse, abuse and non-prescribed obtainment in a United States general population sample. Int J Clin Pharm 43, 1055–1064 (2021). https://doi.org/10.1007/s11096-020-01217-8

Baclofen

- Indicated for spasticity
- Gaba receptor agonist that helps restore GABA supply
- Renally metabolized
- In 2014, baclofen was given temporary recommendation in France for treating alcohol use disorder

- Meta analysis of 13 randomized controlled trials
- Baclofen associated with greater time to first lapse of drinking and greater likelihood of abstinence compared to placebo

- Cochrane Review did not replicate any positive results

Pharmacotherapies for Alcohol Use Disorder. Mayo Clin Proc. Sept 2020:95(9):1964-1977. https://doi/org/10/1016/j.mayop.2020.01.030

“Abstinence and “Low-Risk” Consumption 1 Year After the Initiation of High-Dose Baclofen: A Retrospective Study Among “High-Risk” Drinkers

- Aim
  - To assess the proportions of “high-risk” drinkers’ abstinent or with “low-risk” consumption levels 1 year after the initiation of high-dose baclofen
- Methods
  - Retrospective open study
  - Outcome was to assess the level of alcohol consumption in the 12th month of treatment

Rigal L, et al. Abstinence and “low-risk” consumption 1 year after the initiation of high-dose baclofen: a retrospective study among “high-risk” drinkers. *Alcohol Alcoholism* 2012;47(4):439-442.

Baclofen

- Results
  - 132 or 181 patients completed study
  - After 1 year, 80% of the 132 were either abstinent (*n*=78) or drinking at low risk levels (n=28) in their 12th month of treatment
  - Mean baclofen dose was 129 ± 71 mg/day
- Conclusion
  - High-dose baclofen should be tested in randomized placebo-controlled trials among high-risk drinkers

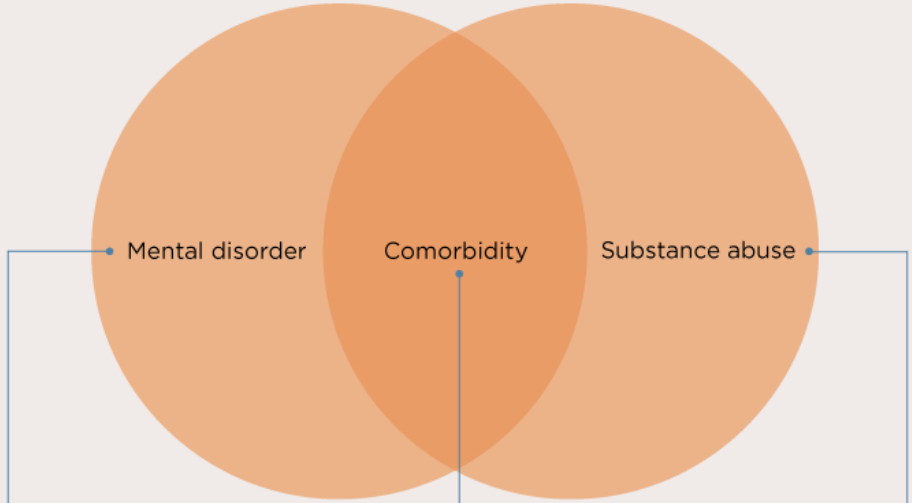
Rigal L, et al. Abstinence and "low-risk" consumption 1 year after the initiation of high-dose baclofen: a retrospective study among "high-risk" drinkers. *Alcohol Alcoholism* 2012;47(4):439-442.

Ondansetron

- FDA approved for nausea
- Selective 5-HT3 receptor antagonist
- --This receptor is activated by serotonin when alcohol is consumed, releasing dopamine
- Dosed 1 to 4 ug/kg by mouth twice per day
- Side effects: constipation, diarrhea, headache
- May be most effective in those who develop alcohol use disorder before age 25 years

Pharmacotherapies for Alcohol Use Disorder. Mayo Clin Proc. Sept 2020:95(9):1964-1977. https://doi/org/10/1016/j.mayop.2020.01.030

Co-Occurring Disorders



A diagnosable mental, behavioral, or emotional disorder (other than substance abuse) that interferes with major life activities

Two or more disorders occurring in the same person; interactions between illnesses can worsen the course of both

The DSM-IV* defines as either substance abuse or substance dependence, while the DSM-V uses the term substance use disorder

*Diagnostic and Statistical Manual of Mental Disorders

MentalHelp.net

Questions?

Suggested Readings

ECHO ACCESS: Alcohol Use Disorder Protocol.

Mason BJ, et al. Gabapentin treatment for alcohol dependence: a randomized controlled trial. *JAMA Intern Med* 2014;174(1):70-77.

Willenbring ML, et al. Helping patients who drink to much: an evidence-based guide for primary care physicians. *Am Fam Physician* 2009;80(1):44-50.