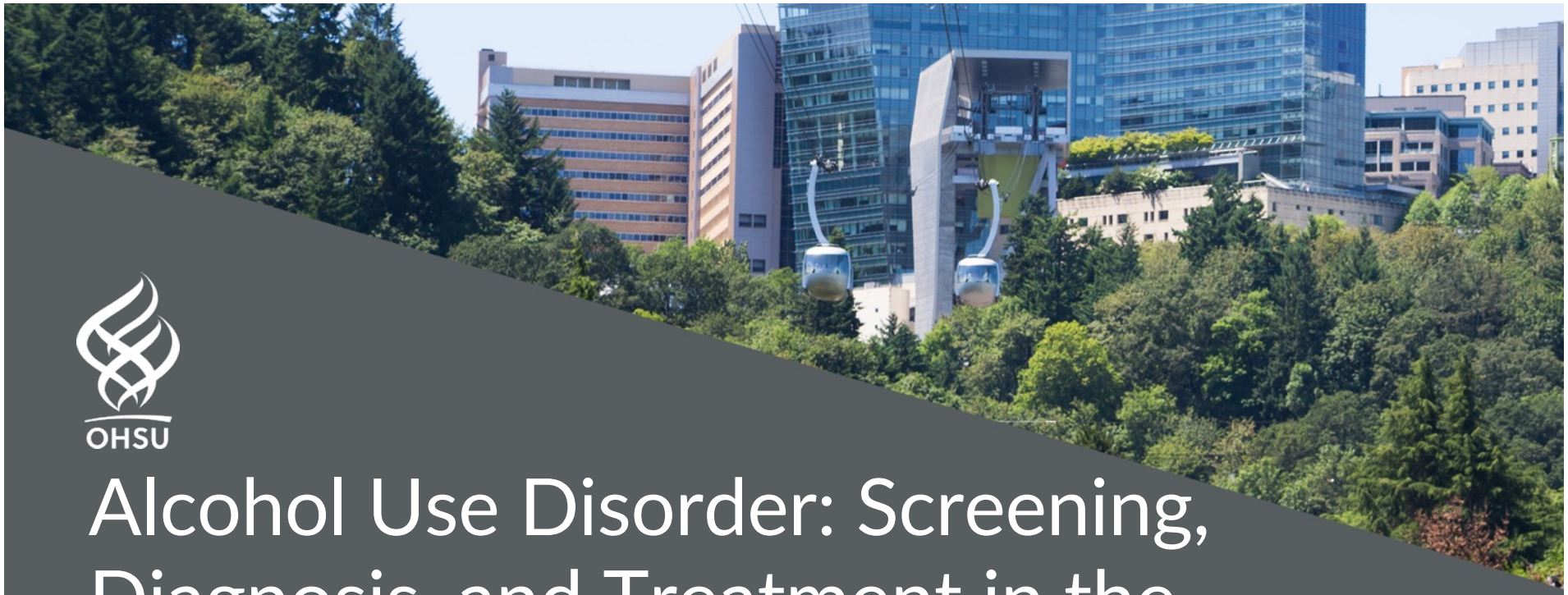


# Alcohol Use Disorder: Screening, Diagnosis, and Treatment in the Outpatient Clinic

Bradley M. Buchheit, MD, MS
Associate Professor of Medicine and Family Medicine
Oregon Health & Science University
October 7, 2024

# Disclosure

- I have no actual or potential conflicts of interest in relation to this program/presentation.
- I will be discussing off-label use of gabapentin to treat AUD. I will not be discussing any other unapproved uses of pharmaceuticals or devices.

# Learning Objectives:

At the conclusion of this activity, participants will be able to:

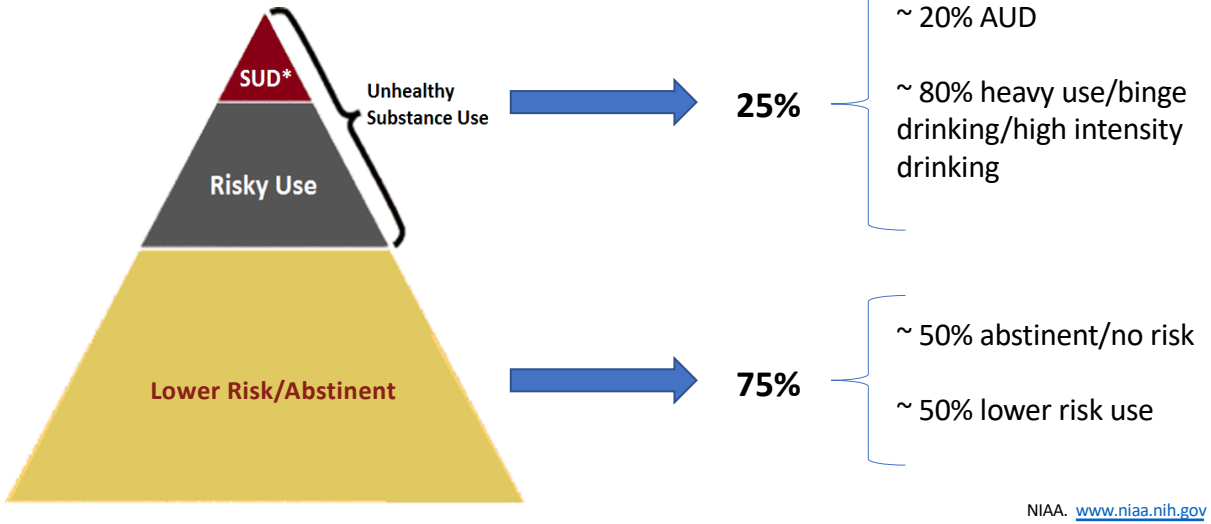
- Accurately and appropriately screen for and diagnose alcohol use disorder (AUD)
- List the standard-of-care, FDA-approved medication treatments for alcohol use disorder
- List behavioral interventions for alcohol use disorder
- Implement harm reduction for patients who are not currently interested in discontinuing substance use

# Background:

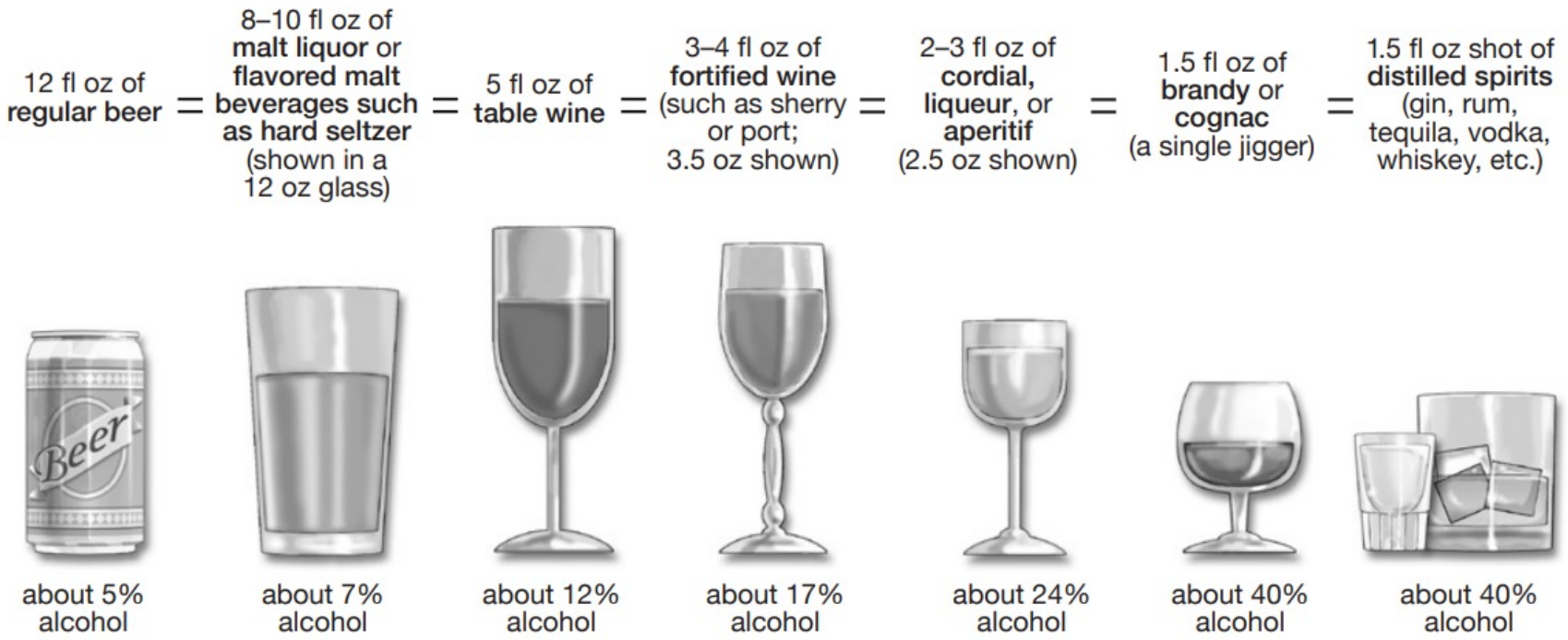
- 28.9 million, or 10.2%, of US adults (age 12+) have an alcohol use disorder (AUD)
- 178,000 people die from alcohol related causes annually
- 4th leading cause of preventable death in US
- 7.9% of people with AUD receive ANY treatment
- ~2% of people with AUD receive an FDA approved medication
- Alcohol contributes to ~7.1% of all ED visits nationwide
- Only 1 out of 6 US adults report ever having been asked by a healthcare professional about their drinking behavior

www.niaaa.nih.gov
Kranzler and Soyka. JAMA. 2018. 320 (8): 815-824
Centers for Disease Control and Prevention (CDC). Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI). Annual Average for United States 2011–2015 Alcohol-Attributable Deaths Due to Excessive Alcohol Use, All Ages. Available at: https://nccd.cdc.gov/DPH_ARDI/Default/Default.aspx.

# Alcohol Use in Primary Care




NIAA. www.niaa.nih.gov




*Each drink shown above represents one U.S. standard drink and has an equivalent amount (0.6 fluid ounces) of "pure" ethanol.*

Each beverage portrayed above represents one standard drink (or one alcoholic drink equivalent), defined in the United States as any beverage containing 0.6 fl oz or 14 grams of pure alcohol. The percentage of pure alcohol, expressed here as alcohol by volume (alc/vol), varies within and across beverage types. Although the standard drink amounts are helpful for following health guidelines, they may not reflect customary serving sizes.

"Rethinking Drinking." NIAAA. Publication No. 21-AA-3770. Revised July 2022.


Screening

# Learning Objectives:

- Accurately and appropriately screen for alcohol use disorder (AUD)

# Single Item Screening Question

We ask all our adult patients about substance use and mood because these factors can affect your health. Please ask your doctor if you have any questions. Your answers on this form will remain confidential

**Alcohol**: One drink =


12 oz.
beer

5 oz.
wine

1.5 oz.
liquor
(one shot)

How many times in the past year have you had **4** or more drinks in a day? _____

# United States AUDIT

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1. | How often do you have a drink containing alcohol? | Never | Less than monthly | Monthly | Weekly | 2 -3 times a week | 4 - 6 times a week | Daily |
| 2. | How many drinks containing alcohol do you have on a typical day when you are drinking? | 1 drink | 2 drinks | 3 drinks | 4 drinks | 5-6 drinks | 7-8 drinks | 10 or more drinks |
| 3. | How often do you have X (5 for men; 4 for women & men over age 65) or more drinks on one occasion? | Never | Less than monthly | Monthly | Weekly | 2-3 times a week | 4-6 times a week | Daily |
| 4. | How often during the last year have you found that you were not able to stop drinking once you had started? | Never | Less than monthly | Monthly | Weekly | Daily or almost daily | | |
| 5. | How often during the last year have you failed to do what was normally expected of you because of drinking? | Never | Less than monthly | Monthly | Weekly | Daily or almost daily | | |
| 6. | How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? | Never | Less than monthly | Monthly | Weekly | Daily or almost daily | | |
| 7. | How often during the last year have you had a feeling of guilt or remorse after drinking? | Never | Less than monthly | Monthly | Weekly | Daily or almost daily | | |
| 8. | How often during the last year have you been unable to remember what happened the night before because of your drinking? | Never | Less than monthly | Monthly | Weekly | Daily or almost daily | | |
| 9. | Have you or someone else been injured because of your drinking? | No | | Yes, but not in the past year | | Yes, in the past year | | |
| 10. | Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down? | No | | Yes, but not in the past year | | Yes, in the past year | | |
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

**AUDIT:**
**I – Low risk**
0 - 6: Women; All ages >65
0 - 7: Men <65
**II – Risky**
7 - 15: Women; All ages >65
8 - 15: Men <65
**III – Harmful**
16 – 19: All adults
**IV – Severe**
≥20: All adults

# Brief Intervention and Referral to Treatment

| US AUDIT Score | Risk Zone | Recommended Intervention |
|---|---|---|
| 0 – 6: Women; All ages ≥65<br>0 – 7: Men <65 | Low | Positive reinforcement, alcohol education |
| 7 – 15: Women; All ages ≥65<br>8 – 15: Men <65 | Risky | Brief intervention, alcohol education, provide patient feedback on risks<br>Consider: DSM-V assessment for AUD |
| 16 – 19: All adults | Harmful | Brief intervention, continued monitoring and follow up<br>Consider: DSM-V assessment for AUD, referral to treatment, pharmacotherapy |
| ≥20: All adults | Severe | Brief intervention, continued monitoring and follow up, DSM-V assessment for AUD, referral to treatment, pharmacotherapy, consider medically managed withdrawal |

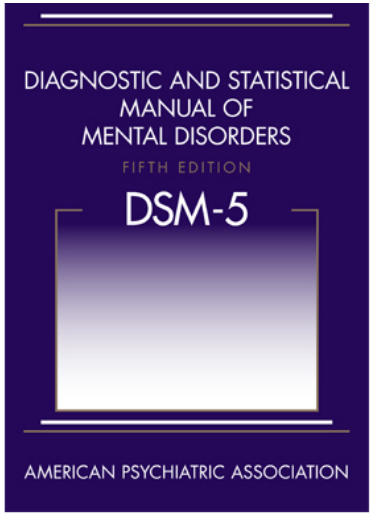
Johnson, Vinson and Seale. Alcohol Clin Exp Res, 2013.
Centers for Disease Control and Prevention, *Planning and Implementing Screening and Brief Intervention for Risky Alcohol Use: A Step-by-Step Guide for Primary Care Practices*. 2014.
https://auditscreen.org/about/audit-decision-tree/


Diagnosis

# Learning Objectives:

- Accurately and appropriately diagnose alcohol use disorder (AUD)

# DSM-5






11 Criteria

5 Main Categories:

- **C**raving
- Loss of **C**ontrol
- **C**onsequences
- **C**ompulsion
- *Pharmacologic*

} The 4 C's

9 Substances*

# DSM-5 Criteria for Alcohol Use Disorder

**Loss of Control/Craving**

1. Using in larger amounts or for longer than intended
2. Repeated unsuccessful efforts to cut back or control use
3. Great deal of time spent using, obtaining, recovering from use
4. Craving or strong desire to use

**Pharmacological**

**10. Tolerance***

**11. Withdrawal***

**Consequences/Compulsive Use**

5. Recurrent use in physically hazardous situations
6. Recurrent/persistent physical or psychological difficulties from use
7. Continued use despite social problems/interpersonal issues due to use
8. Failure to fulfill major obligations at work/school/home due to recurrent use
9. Important things given up or reduced due to continued use

*Diagnostic and Statistical Manual of Mental Disorders 5*, APA, 2013.

# AUD Severity


Mild Disorder | Moderate Disorder | Severe Disorder

# AUD Remission Status

- Early remission: >3 months but <12 months
- Sustained remission: ≥12 months


Treatment

# Learning Objectives:

- List the standard-of-care, FDA-approved medication treatments for alcohol use disorder
- List behavioral interventions for alcohol use disorder
- Implement harm reduction for patients who are not currently interested in discontinuing substance use

# Determine Patients' Treatment Goals

- Determination of Initial Treatment Goals
  - Initial goals of treatment of alcohol use disorder
    - abstinence from alcohol use
    - reduction or moderation of alcohol use
    - other elements of harm reduction

# Starting the Conversation

- Approach it with non-stigmatizing attitude and language
  - Normalize screening
- Ask permission
- Highlight why it is important to discuss
  - 4th leading cause of preventable death
  - Goal is patient health – reduce morbidity and mortality
  - Effective treatments

# AUD Treatment - Behavioral Interventions

- Offer one or more of the following interventions considering patient preference and provider training/competence:
  - For brief interventions:
    - Motivational Interviewing
  - For comprehensive interventions:
    - Talk Therapy
    - Mutual Aid (SMART Recovery, 12-Step approach)
    - Contingency Management

# FRAMES Model for Brief Intervention

- **Feedback** - *"you scored in the "risky" category regarding alcohol use, this may put you at higher risk for alcohol-related harms including … "*
- **Responsibility** (placed on patient)- *"Do you want to make changes to the amount you drink?"*
- **Advice** - *"Based on your age, it's recommended to have no more than x drinks per week"*
- **Menu** - *"Here are the treatment options available…"*
- **Empathy** – Approach the patient in a nonjudgemental way
- **Self-Efficacy** – Empower them to make change

# Psychosocial interventions for AUD

Talk Therapy
- Cognitive Behavioral Therapy (CBT)
- Dialectical Behavioral Therapy (DBT)
- Acceptance and Commitment Therapy (ACT)

Self-help/Peer Recovery

Peer Recovery Specialists

Contingency Management



UpToDate. Accessed 1/2021.

# Self-help/Peer Recovery

- Alcoholics Anonymous - https://www.aa.org/
- LifeRing - https://lifering.org/
- Refuge Recovery - https://www.refugerecovery.org/
- Recovery Dharma - https://recoverydharma.org/
- SMART Recovery - https://www.smartrecovery.org/
- Women for Sobriety - https://womenforsobriety.org/

# Treatment Levels for AUD

- Medically Managed Withdrawal (Detox)
  - Manage acute withdrawal syndromes
  - 3-7 day stays
  - 24/7 nursing
- Residential Treatment
  - Sleep at facility; must be able to complete ADLs independently; minimal medical staff
  - Programing 6-8 hours daily
  - 30-90 days
  - Cannot be in withdrawal or actively intoxicated
- Intensive Outpatient Treatment
  - In-Person and Virtual Options
  - Few days a week, few hours each day
  - Cannot be in withdrawal or actively intoxicated
- 1:1 Counseling/Therapy
  - CBT
  - ACT
  - DBT

# Alcohol Withdrawal

- **Patients may experience alcohol withdrawal syndrome with sudden discontinuation of drinking.**
- **Severe forms of alcohol withdrawal include seizures, hallucinations, delirium, and rarely death.**
- Risk factors for severe withdrawal include:
  - >8 drinks per day
  - History of severe withdrawal in the past year
  - Co-occurring unstable medical and psychiatric conditions (i.e., epilepsy, uncontrolled diabetes)
  - Physiologic dependence on other substances

Tiglao, *Am Fam Physician*. 2021

# Alcohol Withdrawal

- Patients should be counseled on the risk for alcohol withdrawal if they plan to stop drinking.
- Patients at high risk for alcohol withdrawal syndrome should be referred to inpatient withdrawal management (detox/inpatient) or to the emergency room/hospital.
  - CIWA triggered symptom management
  - Don’t forget to start MAUD!

# General Approach to AUD Treatment – Pharmacotherapy

- Tier 1
  - naltrexone or
  - acamprosate
- Tier 2
  - disulfiram
  - Other off-label medications:
    - gabapentin

# Medication Overview

| | **Naltrexone**  | **Acamprosate**  | **Disulfiram**  |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Medication Overview

| | **Naltrexone**  | **Acamprosate**  | **Disulfiram** |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase  |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Naltrexone

| | Naltrexone |
|---|---|
| Mechanism of Action | Blocks opioid receptors |
| Dose | 50 mg PO daily<br>380 mg IM monthly |
| Contraindications | Concurrent opioids, decompensated liver failure |
| Side Effects | Flu-like symptoms |


Jonas DE et al., Pharmacotherapy for adults with alcohol use disorders in outpatient settings: a systematic review and meta-analysis. JAMA. 2014 May 14;311(18):1889-900.

Bahji A, Bach P, Danilewitz M, Crockford D, Devoe DJ, El-Guebaly N, Saitz R. Pharmacotherapies for Adults With Alcohol Use Disorders: A Systematic Review and Network Meta-analysis. J Addict Med. 2022 Nov-Dec 01;16(6):630-638.


Adapted with permission from Kristin Prewitt, MD, MPH

**FDA approved since**:

1994 (oral)
2005 (IM)

**Evidence for use:**

Systematic Review and Meta-Analysis (*Jonas et al., 2014*)

- 53 studies on naltrexone (n= 9140), 44 RCTs

Return to any drinking, NNT = 20
(95% CI 11 to 500)

Return to heavy drinking, NNT= 12
(95% CI 8 to 26)

Systematic Review and Network Meta-Analysis (*Bahji et al., 2022)*

- 54 RCTs on oral naltrexone

Improved total abstinence, RR = 1.15
(95% CI 1.01-1.32)

Reduced heavy drinking, RR = 0.81
(95% CI 0.73-0.90)

# Naltrexone

| | **Naltrexone** |
|---|---|
| Mechanism of Action | Blocks opioid receptors |
| Dose | 50 mg PO daily<br>380 mg IM monthly |
| Contraindications | Concurrent opioids, decompensated liver failure |
| Side Effects | Flu-like symptoms |

**Mechanism of Action**:

Blocks opioid receptors resulting in reduced dopamine release at the nucleus accumbens

**Dose:**

50mg PO daily
380mg IM monthly


Adapted with permission from Kristin Prewitt, MD, MPH

# Naltrexone

| | **Naltrexone** |
|---|---|
| Mechanism of Action | Blocks opioid receptors |
| Dose | 50 mg PO daily<br>380 mg IM monthly |
| Contraindications | Concurrent opioids, decompensated liver failure |
| Side Effects | Flu-like symptoms |

**Starting**:
- Moderate to severe alcohol use disorder
- LFTs < 5x ULN and no decompensated liver failure
- 7 days since last short-acting opioid or 10 days since last long-acting opioid

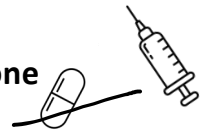
**Monitoring:**
- LFTs
- Stop if LFT > 5x ULN

**Side effects:**
- Nausea, vomiting, headache, and dizziness

Adapted with permission from Kristin Prewitt, MD, MPH

# Naltrexone

| | Naltrexone |
|---|---|
| Mechanism of Action | Blocks opioid receptors |
| Dose | 50 mg PO daily<br>380 mg IM monthly |
| Contraindications | Concurrent opioids, decompensated liver failure |
| Side Effects | Flu-like symptoms |



**<u>Starting INJECTABLE</u>**:

- Trouble with adherence to PO
- No anticipated surgery or severe pain
- Opioid free for 7-10 days (10-14 days off buprenorphine, methadone)
  - If comorbid OUD, consider oral naltrexone challenge
- Injection in the upper outer quadrant of gluteal muscle q4weeks

Adapted with permission from Kristin Prewitt, MD, MPH

# Medication Overview

| | **Naltrexone**  | **Acamprosate**  | **Disulfiram**  |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Medication Overview

| | Naltrexone  | **Acamprosate**  | Disulfiram  |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Acamprosate


Jonas DE et al. Pharmacotherapy for adults with alcohol use disorders in outpatient settings: a systematic review and meta-analysis. JAMA. 2014 May 14;311(18):1889-900.

Bahji A, Bach P, Danilewitz M, Crockford D, Devoe DJ, El-Guebaly N, Saitz R. Pharmacotherapies for Adults With Alcohol Use Disorders: A Systematic Review and Network Meta-analysis. J Addict Med. 2022 Nov-Dec 01;16(6):630-638.

Adapted with permission from Kristin Prewitt, MD, MPH

**FDA approved** for AUD in 2004

**Evidence for use:**

Systematic Review and Meta-Analysis (*Jones et al., 2014*)

27 studies on acamprosate (n= 7519), 22 RCTs

Return to any drinking, NNT = 12
(CI 8 to 26)

Return to heavy drinking, no improvement

Systematic Review and Network Meta Analysis (*Bahji et al., 2022)*

35 RCTs on acamprosate

Improved total abstinence RR = 1.33
(95% CI 1.15-1.54)

Reduced heavy drinking RR = 0.78
(95% CI 0.70-0.86)

Better results for maintenance of abstinence rather than reduction in drinking by non-abstinent patients

# Acamprosate

| | Acamprosate |
|---|---|
| Mechanism of Action | NMDA receptor modulator |
| Dose | 666 mg PO TID |
| Contraindications | CrCl <30 |
| Side Effects | GI upset, diarrhea |

Jeffery Wilkins. Neurobiology and Pharmacotherapy for Alcohol Dependence.

**Mechanism of Action:**

- Amino acid derivative
- NMDA receptor modulator that acts by changing balance between GABA and glutamate
- Drug elimination renal

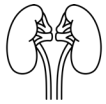
**Dose:**

- 666 mg PO TID
- 333 mg PO TID if moderate renal impairment (CrCl 30-50)

Adapted with permission from Kristin Prewitt, MD, MPH

# Acamprosate

| | Acamprosate |
|---|---|
| Mechanism of Action | NMDA receptor modulator |
| Dose | 666 mg PO TID |
| Contraindications | CrCl <30 |
| Side Effects | GI upset, diarrhea |



**Starting:**

-Not a candidate for naltrexone (liver failure, opioids)

- Already on TID medications
- May be more effective after patient has begun abstinence

**Monitoring:**

- Contraindicated in CrCl<30
- Monitor Cr/CrCl periodically

**Side Effects:**

diarrhea, GI upset

Adapted with permission from Kristin Prewitt, MD, MPH

# Naltrexone vs Acamprosate

No statistically significant difference in outcomes for return to any drinking or return to heavy drinking in individuals receiving behavioral interventions and acamprosate or behavioral interventions and naltrexone

Table 2. Summary of Findings and Strength of Evidence From Double-Blind Randomized Clinical Trials Directly Comparing Acamprosate and Naltrexone[a]

| Outcome | No. of Studies | No. of Participants[b] | Results Effect Size (95% CI)[c] | Strength of Evidence |
|---|---|---|---|---|
| Return to any drinking | 3 | 800 | RD: 0.02 (−0.03 to 0.08) | Moderate |
| Return to heavy drinking | 4 | 1141 | RD: 0.01 (−0.05 to 0.06) | Moderate |

Jonas DE et al. Pharmacotherapy for adults with alcohol use disorders in outpatient settings: a systematic review and meta-analysis. JAMA. 2014 May 14;311(18):1889-900.

# Medication Overview

| | **Naltrexone**  | **Acamprosate**  | **Disulfiram**  |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Medication Overview

| | Naltrexone | Acamprosate | **Disulfiram** |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Disulfiram

| | Disulfiram ⊖⊘ |
|---|---|
| Mechanism of Action | Inhibitor of aldehyde dehydrogenase |
| Dose | 250 mg PO |
| Contraindications | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Second line

**FDA approved** for alcohol dependence since 1949

**Evidence for Use:**

Heterogenous efficacy - may be best for patients in supervised settings

- Recent Systematic Review & Meta-analysis (Bahji et al., 2022),13 studies

*Total Abstinence*
RR 1.71, CI 1.39-2.10

*Reduced Heavy Drinking*
RR 0.19, CI 0.1-0.25

Bahji A, Bach P, Danilewitz M, Crockford D, Devoe DJ, El-Guebaly N, Saitz R. Pharmacotherapies for Adults With Alcohol Use Disorders: A Systematic Review and Network Meta-analysis. J Addict Med. 2022 Nov-Dec 01;16(6):630-638.

Adapted with permission from Kristin Prewitt, MD, MPH

# Disulfiram

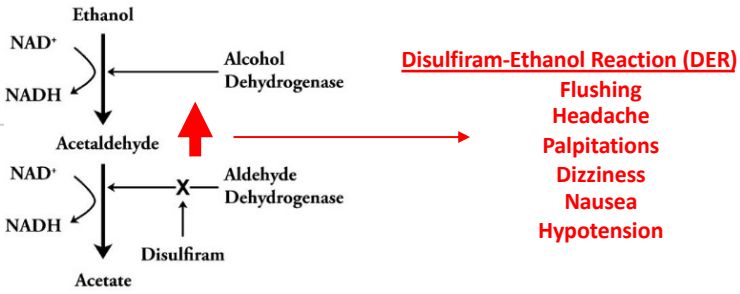
| | Disulfiram |
|---|---|
| Mechanism of Action | Inhibitor of aldehyde dehydrogenase |
| Dose | 250 mg PO |
| Contraindications | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

**Mechanism of Action**:

- Irreversibly binds to aldehyde dehydrogenase, elevating blood acetaldehyde concentration resulting in disulfiram-ethanol reaction (DER)

**Dose:**

- US daily dose limited to 250-500 mg per day due to risk of severe DER




Adapted with permission from Kristin Prewitt, MD, MPH

# Disulfiram

| | **Disulfiram** |
|---|---|
| Mechanism of Action | Inhibitor of aldehyde dehydrogenase |
| Dose | 250 mg PO |
| Contraindications | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

**Starting:**

- Abstinence at least 12 hours and/or breath or blood alcohol level is zero
- No severe CAD, advanced liver disease, pregnancy/nursing, psychosis
- Informed consent (severity of reaction, 2 week tail effect)
- Many medication interactions
  - chlordiazepoxide, diazepam, warfarin, TCAs, metronidazole, phenytoin, theophylline, isoniazid, rifampin, among others

**Monitoring:**

Baseline LFTs, monitor periodically

**Side Effects:**

Drowsiness is most common; all others are rare but serious, including hepatotoxicity (1:25,000), psychosis

Adapted with permission from Kristin Prewitt, MD, MPH

# Medication Overview

| | **Naltrexone**  | **Acamprosate**  | **Disulfiram**  |
|---|---|---|---|
| Mechanism of Action | Blocks opioid receptors | NMDA receptor modulator | Inhibitor of aldehyde dehydrogenase |
| Dose | 50 mg PO daily<br>380 mg IM monthly | 666 mg PO TID | 250 mg PO |
| Contraindications | Concurrent opioids, decompensated liver failure | CrCl <30 | Med interactions, recent drink, severe CAD, psychosis, liver dysfunction |
| Side Effects | Flu-like symptoms | GI upset, diarrhea | Drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity |

Adapted with permission from Kristin Prewitt, MD, MPH

# Off-Label Medications

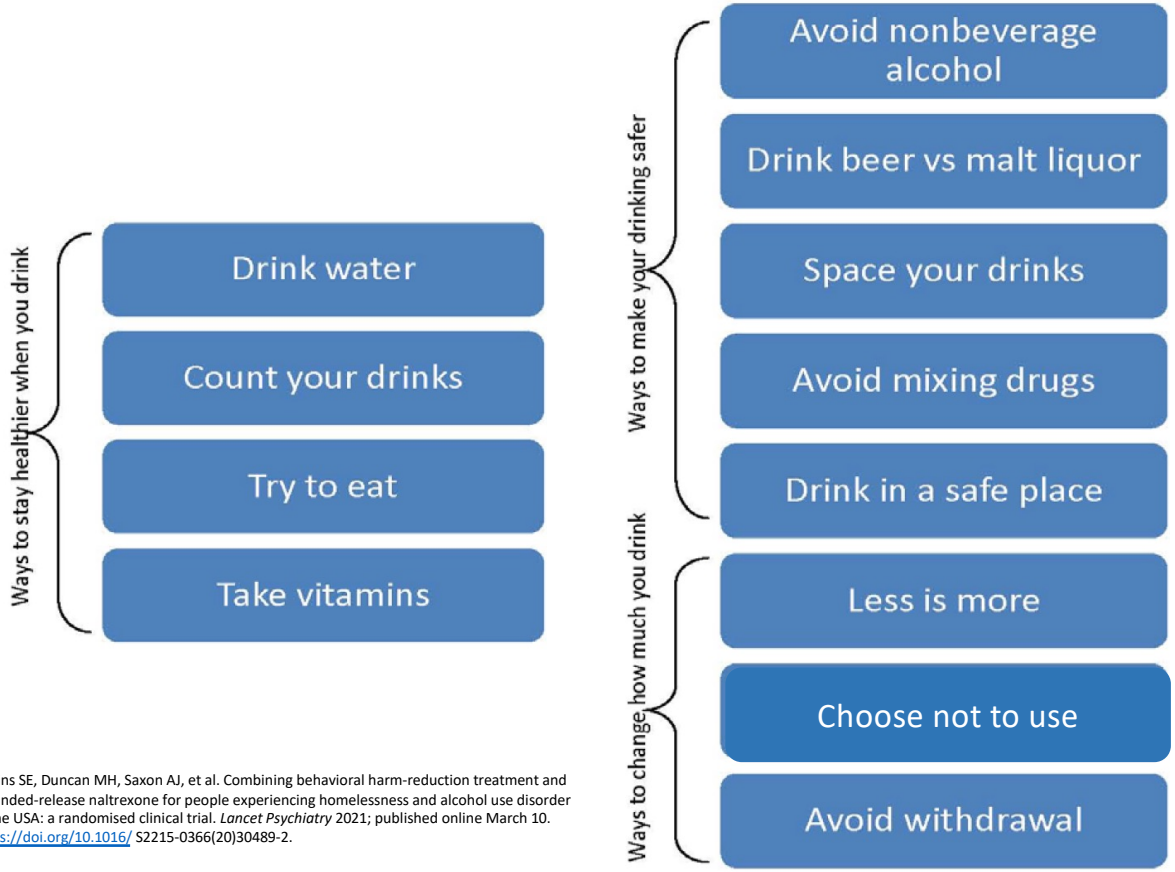
- Gabapentin
  - Mechanism of action: GABA analog reducing glutamate and increasing GABA
  - Dose: 600mg TID
  - Contraindications: myasthenia gravis, myoclonus, CrCl <30mL/min
  - Side Effects: dizziness, drowsiness, respiratory depression (when used with other CNS depressants, e.g. opioids, alcohol, benzodiazepines), nausea, xerostomia, nystagmus
  - Efficacy: decreased drinking days, may be best for patients with withdrawal symptoms

Total Abstinence, RR = 1.66
(95% CI, 1.04-2.67)

Bahji A, Bach P, Danilewitz M, Crockford D, Devoe DJ, El-Guebaly N, Saitz R. Pharmacotherapies for Adults With Alcohol Use Disorders: A Systematic Review and Network Meta-analysis. J Addict Med. 2022 Nov-Dec 01;16(6):630-638.

Adapted with permission from Kristin Prewitt, MD, MPH

# Harm Minimization/Safer Drinking




Collins SE, Duncan MH, Saxon AJ, et al. Combining behavioral harm-reduction treatment and extended-release naltrexone for people experiencing homelessness and alcohol use disorder in the USA: a randomised clinical trial. *Lancet Psychiatry* 2021; published online March 10. https://doi.org/10.1016/ S2215-0366(20)30489-2.


# Questions?

buchheit@ohsu.edu