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Outline

- Addiction 101
- Alcohol Use Disorder (AUD)
- Alcohol Withdrawal
- Detox
- Heartview Foundation

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Objectives

- Diagnose AUD using DSM 5 criteria
- Distinguish between FDA approved medications for AUD
- Recognize the importance of diagnosing AUD in the primary care setting
- Describe the symptoms of alcohol withdrawal
- Identify medication options for alcohol withdrawal
- Explain why management of alcohol withdrawal is important for Family Practitioners

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Statistics

- Alcohol is the most prevalent substance of abuse in the US
- AUD is severely undertreated
  - <5% of individuals in the US with an AUD receive any treatment
- The WHO estimates that alcohol consumption is responsible for 5.9% of all deaths (7.6% in men, 4.0% in women) and 5.1% of global disease burden
- It is estimated that 40% of individuals in the US experience an alcohol-related adverse event at some time in their lives

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2015 National Survey on Drug Use and Health

- 11.8% of survey respondents met the criteria for AUD
  - 67.4% had mild AUD
  - 18.8% had moderate AUD
  - 13.8% had severe AUD

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Substance Use Disorder (SUD)

- DSM 5 redefined substance use disorders as a spectrum of pathology and impairment
  - Previously termed Abuse and Dependence
- Problematic pattern of substance use leading to clinically significant impairment or distress
- Biological, Psychological and Social Criteria

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Substance Use Disorder (SUD)

- Must meet 2 of the 11 criteria in the last 12 months
  - Mild SUD 2-3 criteria
  - Moderate SUD 4-5 criteria
  - Severe SUD 6 or more criteria

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Biological criteria

- Using substances even when it is physically unsafe
- Tolerance for the substance
- Withdrawal symptoms when the substance is not taken

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Tolerance

- Need for markedly increased amounts of the substance to achieve intoxication or desired effect
- Markedly diminished effect with continued use of the same amount of the substance

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Withdrawal

- The substance is taken to relieve or avoid withdrawal symptoms – each substance varies
- The withdrawal effects from any substance are the opposite of the intoxicating effects
- Withdrawal may require hospitalization for detoxification
- Not all detoxes are created equal
  - Medical
  - Social

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Psychological criteria

- Wanting or trying to control substance use without success
- Knowing that substance use is causing a physical or psychological problem, but continuing to take the drug anyway
- Taking more than intended
- Craving the substance

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Social criteria

- Spending a lot of time obtaining, taking or recovering from the effects of drugs
- Failing to carry out important roles at home, work or school because of substance use
- Continuing to use the substance, despite use of the drug causing relationship or social problems
- Giving up or reducing other activities because of substance use

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Heavy drinking

- ***Women >4 drinks on any one day or >8 drinks per week***
- ***Men >5 drinks on any one day of >15 drinks per week***

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Screening Tools

- **U.S. Preventive Services Task Force recommends that clinicians screen adults for alcohol misuse and provide persons engaged in risky or hazardous drinking behaviors with brief behavioral counseling to reduce alcohol misuse**
- **The following are validated tools**
  - **The 10-Question AUDIT (Alcohol Use Disorder Identification Test)**
  - **The 3-Question AUDIT (AUDIT-C)**
  - **Single-Question Screening Test**
- **CAGE is also widely used**

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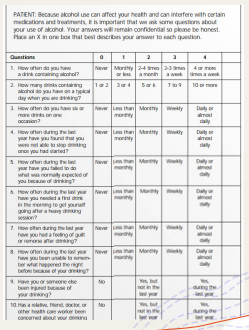
AUDIT (alcohol use disorders identification test)



PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest. Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost 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 last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking	No		Yes, but not in the last year		Yes, during the last year

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Scoring the AUDIT

Low risk	Risk	High risk
Score 0–7	**Score 8–12**	**Score 13+**
1–4 indicates low risk	**Indicates risk of short- and long-term harm to health**	**Indicates dependence**
5–7 indicates periods of intoxication		
Provide advice on alcohol and its effects, and on harm reduction to prevent intoxication	10+ assess for tolerance/ risk of withdrawal Assess for other health and psychosocial problems Provide advice on alcohol and effects and harm reduction to prevent intoxication Include family as appropriate	Undertake comorbidity assessment, including physical and mental health Assess risk of withdrawal Assess for thiamine deficiency Assess for impaired cognition Assess for psychosocial problems Include family as appropriate

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AUDIT-C

AUDIT-C

Please circle the answer that is correct for you.

					SCORE
1. How often do you have a drink containing alcohol?					
Never (0)	Monthly or less (1)	Two to four times a month (2)	Two to three times per week (3)	Four or more times a week (4)	____
2. How many drinks containing alcohol do you have on a typical day when you are drinking?					
1 or 2 (0)	3 or 4 (1)	5 or 6 (2)	7 to 9 (3)	10 or more (4)	____
3. How often do you have six or more drinks on one occasion?					
Never (0)	Less than Monthly (1)	Monthly (2)	Two to three times per week (3)	Four or more times a week (4)	____
TOTAL SCORE Add the number for each question to get your total score.					____

Maximum score is 12. A score of ≥ 4 identifies 86% of men who report drinking above recommended levels or meets criteria for alcohol use disorders. A score of > 2 identifies 84% of women who report hazardous drinking or alcohol use disorders.

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Single Question Screen

Annual Screen: Alcohol

Alcohol: One drink = 12 oz. beer; 5 oz. wine; 1.5 oz. liquor (one shot)

	None	1 or more
MEN: How many times in the past year have you had 5 or more drinks in a day?	○	○
WOMEN: How many times in the past year have you had 4 or more drinks in a day?	○	○

- Single question recommended by NIAAA
- Sensitivity 82% and specificity 79% for risky drinking

(Smith et al. 2

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CAGE Questions

TABLE 329-2 CAGE Questions[a]

ACRONYM	QUESTION
C	Have you ever felt you ought to cut down on your drinking?
A	Have people annoyed you by criticizing your drinking?
G	Have you ever felt guilty or bad about your drinking?
E	Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)?

[a]One "yes" response should raise suspicion of an alcohol use problem, and more than one is a strong indication of abuse or dependence.

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Risks for AUD

- 50-60% of risk is genetic
- Parental SUD while growing up
- ACEs
- Trauma
- Stress
- Mental illness (anxiety, depression and PTSD)
- Never having been married
- Male gender
- Smoking
- Age of onset of first drink

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Age of First Drink

Individuals who started drinking at ages younger than 15 did remain at increased risk of the incidence of alcohol dependence after controlling for all significant risk factors (OR = 1.38, p=.047). (Dawson et al)

Individuals who started drinking before age 15 were almost twice as likely as those who started drinking at 18 or older to have continued drinking despite alcohol-related interpersonal problems

First drink between the ages of 15 and 17 was associated with an increased risk of AUD for women only (as well as a greater risk of hazardous drinking among women)

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Lab results

- Reductions in hgb, hct, WBC, platelets
- Elevated prothrombin time
- Elevated activated partial thromboplastin time
- MCV >100 fl
- Reduced albumin
- Elevated bilirubin
- Elevated LFTs (AST>ALT)

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Signs/Symptoms

- Chronic alcoholism - gynecomastia, spider angiomata, Dupuytren contractures, testicular atrophy, enlarged or shrunken liver, enlarged spleen, asterixis, confusion, rhinophyma
  - Wernicke encephalopathy - ataxia, ophthalmoplegia and confusion
  - Korsakoff syndrome - anterograde and retrograde amnesia, often with confabulation and preceded by Wernicke encephalopathy

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Consequences of untreated AUD

- Cancers including head and neck, esophageal, liver, colorectal and breast
- Peripheral neuropathy
- Gastritis/GERD/PUD
- Pancreatitis
- Fatty liver/hepatitis/cirrhosis/liver failure
- Cardiomyopathy/heart failure
- Sexual dysfunction
- Depression

- Alcohol accounts for up to 55% of fatal driving events
- 232 million missed work days annually in the US
- Nearly 500 U.S. deaths daily are related to excessive drinking
- 178,000 people died in the US in 2020 and 2021 due to excessive alcohol use - 29% increase from 5 years earlier

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AUD and Suicide Risk

- Nearly 1/3 of suicide deaths have been linked to alcohol consumption
- People with an AUD are up to 120 times more likely to take their own life than those without AUD
- 29% of suicide victims in America were found with alcohol in their system
- AUD is the second-most common mental health disorder in people who have died by suicide
- People experiencing suicidal ideation are seven times as likely to attempt suicide when drinking heavily

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Medical Providers and Suicide

- 300-400 physicians die annually in the US to suicide
- Physicians are at a higher risk of suicide and suicidal ideation than the general population
- Suicidal ideation has been associated with high workload volume and medical errors
- Physicians are less likely to seek help for suicidal ideation than the general population

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Treatment for AUD

Only 16% of individuals in treatment for AUD achieve abstinence

<5% of adults with AUD in the US receive pharmacotherapy and/or psychotherapy treatment

Non-abstinent recovery, including reductions in drinking and heavy drinking in particular (e.g., controlled drinking / harm reduction), has been recognized to have health and societal value

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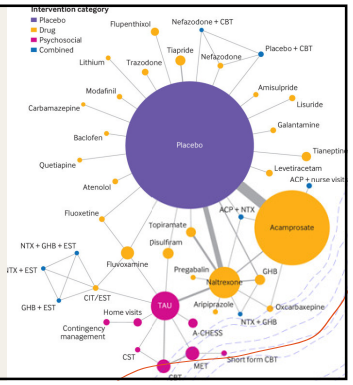
Treatment for AUD



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Brief Interventions

- Brief interventions are typically 5 to 15 minutes and are reinforced over future visits, usually in one to five sessions

1. Ask permission
2. Give feedback/advice
3. Check in
4. Build motivation
5. Offer support
6. Identify next steps
7. Follow up

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Brief Interventions

- A recent meta-analysis found that brief interventions reduced unhealthy alcohol use with a decrease of 1.6 drinks per week, as compared with those in control groups

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Medications for Addiction Treatment (MAT)

- Defined as the use of medications, in combination with counseling and behavioral therapies, to provide the whole-patient approach to the treatment of substance use disorders

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MAT

- Has been shown to :
  - Improve survival
  - Increase retention in treatment
  - Decrease illicit substance use
  - Decrease hepatitis and HIV seroconversion
  - Decrease criminal activities
  - Increase employment
  - Improve birth outcomes with pregnancy

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MAT for Alcohol

- FDA Approved Medications
  - Naltrexone po (Revia)
  - Naltrexone IM (Vivitrol)
  - Acamprosate po (Campral)
  - Disulfiram po (Antabuse)

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Naltrexone

- Mu opioid antagonist
- PO and IM options
- Modulate the rewarding effects of alcohol mediated by dopamine
- If opiates are in the patient's system will produce withdrawal.
- Decreased number of drinking days, alcohol cravings and relapse rates compared to placebo.

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Naltrexone

- Goal is not necessarily abstinence - Sinclair method
- Generally well tolerated
- Mixed results in multiple trials
- Naltrexone reduces the rewarding effects of alcohol, alcohol craving, drinks per drinking day and relapse rates
- Possible hepatic injury when given in high doses
- IM injection improves compliance

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Acamprosate

- Modulates glutamatergic activity - NMDA receptor partial co-agonist
  - Taken 3 times daily - either 333 mg or 666 mg
  - Not helpful if patient is still drinking or has not completed detox
  - Reduced risk of relapse, increased cumulative abstinence duration
  - Negative studies show no benefit over placebo
  - May have neuroprotective effects
  - Goal is abstinence
  - Compliance is an issue

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Disulfiram

- Aldehyde Dehydrogenase Inhibitor
- FDA approved in 1951
- Abstinence is the goal
- Outcomes improved with supervised administration
- Studies generally show superiority to placebo
- Chronic alcohol consumption induces disulfiram tolerance
- Prolonged half life
- Consumption of alcohol (including cough syrups, mouth wash, BBQ sauce, etc) while taking disulfiram causes flushing, fast heartbeats, nausea/vomiting, headache, thirst, chest pain, vertigo and low blood pressure. ***Interaction may be potentially fatal!!***

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What else might be helpful?

- Nelmefene
- Baclofen
- Sodium Oxybate
- Topiramate
- Gabapentin
- Ondansetron
- Varenicline
- Aripiprazole
- Mifepristone
- Ibidulast
- Suvorexant
- Prazosin and Doxazosin
- N-acetylcysteine
- Cannabidiol
- GLP1s

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Baclofen

- Approved in France for treatment of AUD
- GABA agonist
- Greater alcohol use at baseline was correlated with a greater treatment effect
- Did increase depression and adverse effects including sedation and vertigo (other effects include sedation, drowsiness, HA, confusion, perspiration, muscle stiffness, slurred speech, abnormal movements and numbness)
- Tolerance may develop with chronic administration
- Cessation or reduction in dose can precipitate potentially life-threatening withdrawal syndrome
- May promote abstinence but shows mixed results in non-abstinent goals

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Topiramate

- Off-label use for AUD
- US Department of Veterans Affairs recommends Topiramate for AUD
- American Psychiatric Association suggests Topiramate for the pharmacological treatment of AUD
- Specific mechanism of action is under investigation
- Decreases alcohol cravings and withdrawal symptoms
- Can be initiated while still drinking - harm reduction
- Significantly increased number of days abstinent and decreased heavy-drinking days compared to placebo
- Significant side effects - pruritis, paresthesia, anorexia, dizziness, nervousness, cognitive impairment, difficulty with concentration and attention

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Gabapentin

- Off-label use for AUD
- Suggested by the APA for AUD
- Goal of reducing alcohol consumption or abstinence
- Modulate GABA activity by indirectly interacting with voltage-gated calcium channels
- Reduced heavy-drinking days and drinks per drinking day in comparison to placebo
- May be especially helpful for withdrawal
- Adverse events include somnolence, dizziness, peripheral edema, ataxia and gait disorder
- Abuse potential- particularly in individuals with OUD

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Varenicline

- Off label use for AUD
- Cost is a consideration
- Nicotinic acetylcholine receptor agonist
- Relevant to heavy-drinking smokers
  - 20-25% of current smokers are also heavy drinkers
- May be more effective in men
- Well tolerated

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Aripiprazole

- Off label use for AUD
- Antipsychotic medication- partial agonist at D2 and 5-HT1A and an antagonist at 5-HT2A
- May be more effective at lower doses and in more impulsive individuals
- May be more effective when combined with Topiramate
- Long-term use of antipsychotics may be associated with more severe adverse effects such as tardive dyskinesia
  - Risk factors include older age and female sex

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Ondansetron

- Off label use for AUD
- 5HT3 antagonist used to treat nausea and vomiting
- May address serotonergic dysfunction common in early-onset AUD
- May be more effective when combined with naltrexone
- Reduced drinks per day and increased days abstinent in patients with early-onset AUD
- Well tolerated with mild side effects including diarrhea, constipation and headache

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Prazosin and Doxazosin

- Off label use for AUD
- Alpha-1 adrenergic receptor antagonists - block noradrenergic excitation of the mesolimbic dopaminergic system
- Used for the treatment of hypertension and benign prostatic hyperplasia
- Individuals with AUD experience more emotional dysregulation, stress and cravings - alpha-1 blockers may help to normalize these stress system changes
- May be particularly beneficial as a harm-reduction approach and for individuals with significant alcohol withdrawal symptoms or comorbid PTSD

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Cannabidiol (CBD)

- Nonintoxicating
- Diverse pharmacological effects throughout the CNS
- Preclinical studies - reduces alcohol administration, decreases motivation for alcohol, reduces relapse-like behavior and improves withdrawal
- Well tolerated
- No abuse potential
- May show promise with opioids and cannabis as well

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GLP-1

- Glucagon-like peptide 1 (GLP-1) is released in the small intestine, promotes blood glucose homeostasis, slows gastric emptying and reduces appetite
- The potential effects of GLP-1 receptor agonists in reducing alcohol intake in humans were first reported in 2011
- Also being investigated for cocaine, amphetamines, nicotine, opioids
- Not currently approved for AUD

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We are not here yet!

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Alcohol Withdrawal

- The withdrawal from any substance is the opposite of the intoxicating effects
- Alcohol withdrawal – nausea/vomiting, diaphoresis, agitation/anxiety, headache, tremor, seizures, visual and auditory hallucinations
- Delirium tremens – tachycardia, hypertension, elevated temperature, delirium

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Delirium Tremens

- Severest form of alcohol withdrawal
- Occurs 5-24% of the time
- Mortality as high as 35% (this is decreasing)
- Age, comorbidities, duration of alcohol consumption, duration of treatment, serum potassium level, and history of epileptic seizures were identified as the most significant predictors of mortality

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CIWA

- Clinical Institute Withdrawal Assessment of Alcohol Scale
- Measures severity of withdrawal based on symptoms
- Objective
- Well documented, reliable, reproducible and valid
- High scores are associated with seizures and DTs
- Can help with assessing need for medications
- Assess appropriate detox site
- Assess treatment

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CIWA

CIWA-Ar

- 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

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Alcohol Withdrawal Treatment

- Benzos are the gold standard – Ativan, Librium, Valium
- Anti-epileptics deserve consideration – Gabapentin, Keppra, Carbamazepine, Valproic Acid
- Phenobarbital is an option

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Benzodiazepines

- Ideally are dosed prn and not scheduled (may not be an option if utilizing community social setting detox)
- Ativan- metabolized by the liver through direct glucuronide conjugation, without requiring oxidative metabolism pathways that are affected by liver disease
- Librium- prolonged half life

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Anti-epileptics

- Good safety profile
- Ideal for outpatient, social-setting detox in low-risk patient
- Gabapentin – no taper required
- Carbamazepine
- Valproic Acid

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Phenobarbital

- Parenteral phenobarbital loading doses with an oral phenobarbital taper
- Decreased risk of respiratory complications when compared with benzodiazepines
- Shorter ICU length of stay with phenobarbital
- Shorter hospital stay with phenobarbital

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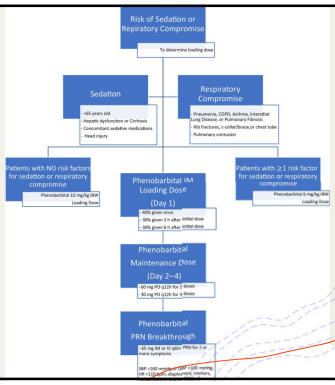

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Heartview Foundation

- 600 active patients currently
- Residential beds
  - 29 in Bismarck (2 facilities)
  - 16 in Cando
  - 16 in Dickinson
- Opioid Treatment Program in Bismarck – almost 300 patients on MTD
- Buprenorphine offered at all facilities

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Heartview Foundation

- Bismarck and Dickinson offer walk-in evaluations
- Social setting detox (levels of care 3.5, 3.1, 2.5, 2.1, 1)
- Cando does not take patients at high risk for alcohol withdrawal complications
- Medical providers in house at Dickinson and Bismarck
- Cando utilizes TCMC for medical providers

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Take home points

- AUD screening should be part of every primary care practice
- Untreated AUD is potentially lethal
- AUD is undertreated
- There are medications that are FDA approved for the treatment of AUD and many more that deserve consideration

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Take Home Points

- **Medical providers suffer with AUD at the same rates as the general population**
- **Alcohol withdrawal can be safely managed by primary care**
- **Not all detoxes are created equal – high risk withdrawal may require hospitalization**
- **The Heartview Foundation has a statewide presence and offers services at multiple levels of care**

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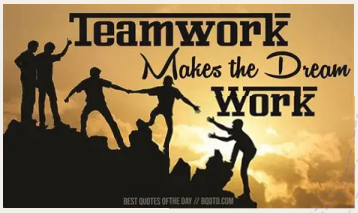
Questions??



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