Let's CIWAt We Know About Withdrawal: Alcohol Withdrawal Management Updates

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Abbreviations

- AUD – alcohol use disorder
- CIWA-Ar – Clinical Institute Withdrawal Assessment for Alcohol, revised
- CrCl – creatinine clearance
- GABA – gamma-aminobutyric acid
- PAWSS – Prediction of Alcohol Severity Scale

Learning Objectives

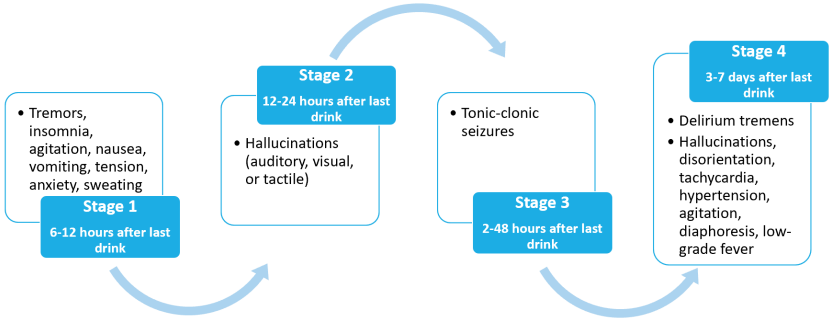
Pharmacist

- Differentiate between the four stages of acute alcohol withdrawal
- Interpret CIWA and PAWSS scores for a patient with acute alcohol withdrawal
- Explain the mechanism of action for the medications used to treat alcohol withdrawal and AUD
- Design an appropriate drug regimen for the treatment of alcohol withdrawal and AUD based on patient specific factors

Technician

- Apply appropriate storage and handling of common medications used for the treatment of alcohol withdrawal
- Identify medications used for alcohol withdrawal on a patient's medication list
- Recognize common dosing instructions for medications used for the treatment of alcohol withdrawal

Alcohol Withdrawal Symptoms



Acute Alcohol Withdrawal Diagnosis

≥2 must be present within a few hours to days after alcohol reduction/cessation
Autonomic hyperactivity (eg. Sweating, tachycardia)
Increased hand tremor
Insomnia
Nausea or vomiting
Transient hallucinations or illusions
Psychomotor agitation
Anxiety
Generalized tonic-clonic seizures

Acute Withdrawal Assessment Tools

Prediction of Alcohol Withdrawal Severity Scale (PAWSS)

Assessment Questions	Point Value
Have you been recently intoxicated within the last 30 days?	1
Have you ever experienced previous episodes of alcohol withdrawal?	1
Have you ever experienced alcohol withdrawal seizures?	1
Have you ever experienced delirium tremens?	1
Have you ever undergone AUD rehabilitation treatment or treatment for alcoholism?	1
Have you ever experienced blackouts?	1
Have you combined alcohol with other downers (eg benzodiazepine, barbiturates) in the last 90 days?	1
Have you combined alcohol with any other substance of abuse during the last 90 days?	1
Clinical Findings	**Point Value**
Blood alcohol ≥ 200 on presentation?	1
Evidence of increased autonomic activity?	1

Low Risk: <4 | High risk: ≥ 4

Clinical Instituted Withdrawal Assessment for Alcohol, Revised (CIWA-Ar)

Clinical Dimension	Point Value
Nausea and vomiting	0-7
Tremor	0-7
Paroxysmal sweats	0-7
Anxiety	0-7
Agitation	0-7
Tactile disturbances	0-7
Auditory disturbances	0-7
Visual disturbances	0-7
Headache	0-7
Orientation	0-4

Mild: <10 | Moderate: 10-18 | Severe: ≥19
Complicated: ≥19 + delirium or hallucinations

Inpatient Pharmacologic Management of Acute Alcohol Withdrawal

Drug (route)	Dose	Onset	Half-life (active metabolite)	Metabolism
Lorazepam (IV/PO)	2-4 mg PRN OR 6-8 mg/d + 4 d taper	IV: ~10 min PO: 2 hr	12-14 hr (N/A)	Hepatic
Diazepam (IV/PO)	5-20 mg PRN OR 10 mg q6h x 1 d, then 5 mg q6h x 2 d	IV: ~10 min PO: 1 hr	33-48 hr (desmethyldiazepam: 87-100 hr)	Hepatic
Chlordiazepoxide (PO)	25-100 mg PRN OR 50 mg q6h x 1 d, then 25 mg q6h x 2 d	30 min-2 hr	24-48 hr (Demoxepam: 14-95 hr)	Hepatic
Phenobarbital (IV/PO)	IV: 260 mg x 1, then 130 mg PRN PO: 60 mg q6h x 1 d, then 3 d taper	IV: 5-15 min PO: 30 min	79 hr (N/A)	Hepatic
Gabapentin (PO)	300 mg TID x 3 d, then 300 mg BID x 1 d	2-4 hr	5-7 hr (N/A)	N/A

Benzodiazepine dosing regimens:

Symptom-Triggered	Fixed Dosing	Front Loading
• Monitored through the use of an assessment scale (e.g. CIWA-Ar) • Medication given if symptoms cross a threshold of severity	• Medication given at fixed intervals • Doses usually taper gradually over several days • Can provide additional doses for break through symptoms	• Use of long-acting benzodiazepine given frequently at the onset of treatment • Can be driven by symptom assessment or fixed dosing schedule

Special Populations:

• Short acting benzodiazepine (e.g. lorazepam) or phenobarbital preferred

• Short acting benzodiazepine (e.g. lorazepam) or dose reduced benzodiazepine preferred

• Benzodiazepine or reduced gabapentin dose preferred

Pearls:

- Lorazepam IV solution should be stored at 2° C and 8° C (36° and 46° F)
- Phenobarbital can be used in place of benzodiazepines or as adjunct with benzodiazepines with close observation
- Gabapentin may be used for patients with low risk of severe withdrawal and can provide an effective bridge therapy for long term AUD treatment

Alcohol Use Disorder (AUD) Diagnosis

Drinking in excess:
- Drinking more or longer than intended
- Wanting to cut down or stop drinking and tried, but unsuccessful
- Spending a lot of time drinking or being sick or getting over the after-effects
- Noticing a need for increased amounts of alcohol to achieve intoxication or desired effect, or a diminished effect with continued use of the same amount of alcohol
- Noticing withdrawal symptoms while alcohol effects are wearing off
- Wanting a drink so badly it precluded all other thoughts

Impact on physical safety:
- More than once drinking in situations in which it is physically hazardous
- Continuing to drink despite knowledge of having persistent or recurrent physical or psychological problems exacerbated by alcohol use

Impact on social interactions:
- Often having drinking interfere with major responsibilities or obligations
- Continuing to drink despite it causing trouble with family or friends
- Giving up or cutting back on important/interesting/pleasurable activities in order to drink

Mild: 2-3 criteria | Moderate: 4-5 criteria | Severe: ≥6 criteria

Chronic AUD Management

Drug (route)	Dose	Onset	Half-life (active metabolite)	Metabolism
Naltrexone (PO/IM)	PO: 50 mg daily May titrate up to max 100 mg/d IM: 380 mg q4weeks	PO: 60 min IM: 2 hr	PO: 4 hr (6-beta-naltrexol: 13 hr) IM: 5-10 d	Hepatic
Acamprosate (PO)	666 mg TID	PO: 3-8 hr	20-33 hr (N/A)	N/A
Disulfiram (PO)	125 mg daily, may titrate up to 500 mg daily every 1-2 weeks	PO: 2 hr	12 hr (Diethyldithiocarbamate: 15 hr)	Hepatic
Topiramate (PO)	25 mg daily, may titrate up to max 300 mg every week	PO: 2 hr	19-23 hr (N/A)	Hepatic (minor)
Gabapentin (PO)	300 mg daily, may titrate up to max 1800 mg/d every 2 days	2-4 hr	5-7 hr (N/A)	N/A

Special Populations:

- Avoid pharmacologic treatment

- Avoid naltrexone

- Avoid acamprosate
- Dose reduce gabapentin

Pearls:

- Naltrexone could be beneficial in patients with concomitant opioid use disorder
- Naltrexone IM injection requires enrollment in REMS for injection site reactions
- Avoid disulfiram if patient cannot commit to complete alcohol cessation
- Disulfiram is on ASHP Drug Shortage list (updated 10/1/2020)
- Topiramate could be considered in patient with concomitant obesity or have contraindication to naltrexone and acamprosate
- Can consider gabapentin in patients with contraindication to naltrexone and acamprosate

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