

Management of Alcohol Withdrawal in the Outpatient and Detoxification Unit Setting

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Disclosure Information

- ◆ JoAn Laes, MD, DFASAM, FACMT
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 - ◆ **No disclosures**

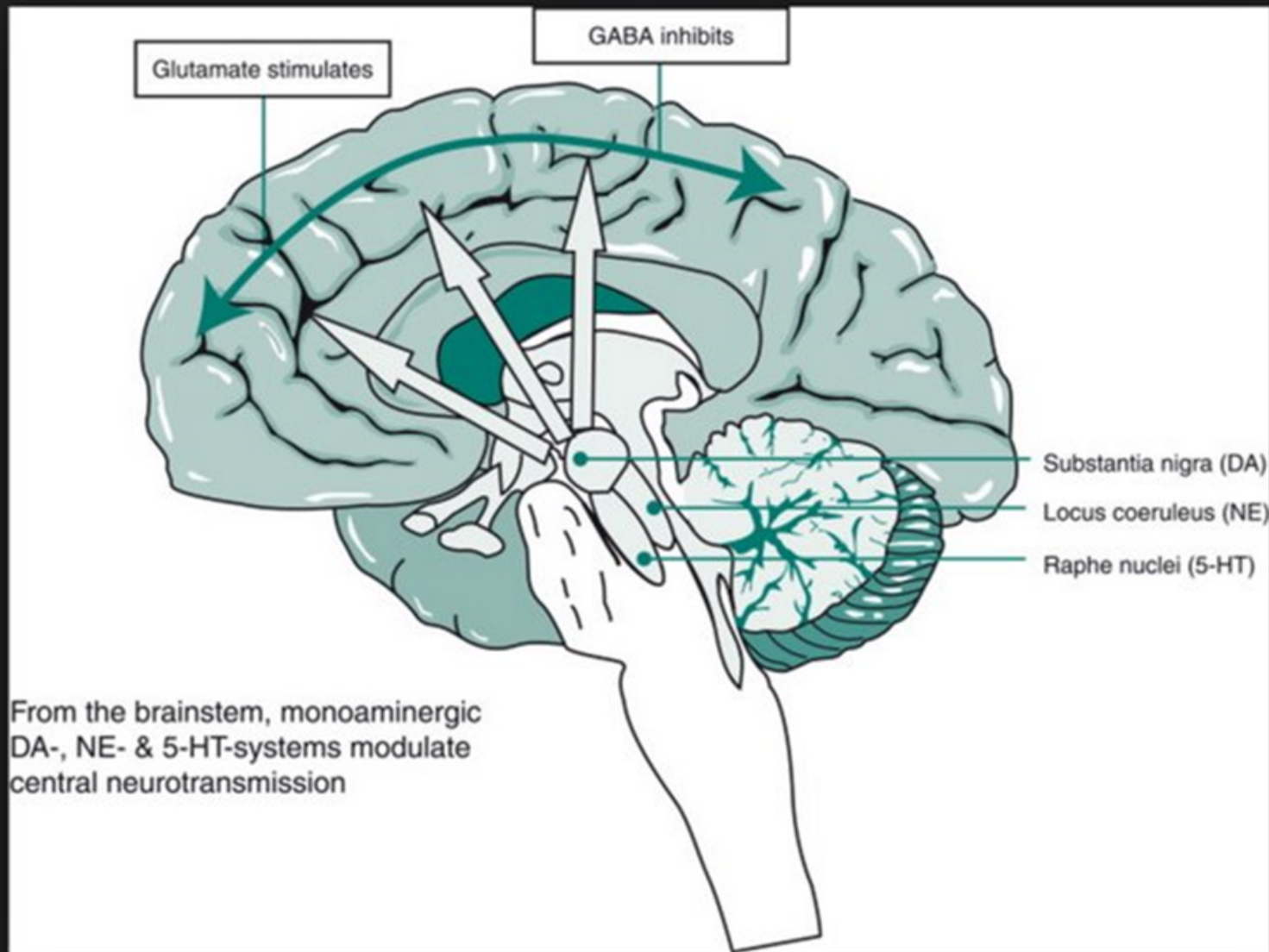
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Learning Objectives

- ◆ Compare the use of GABAergic and non-GABAergic agents for treating acute alcohol withdrawal in the detoxification unit and outpatient settings.
- ◆ Describe recent changes in the approach to managing acute alcohol withdrawal in the setting of changing resources after the COVID-19 pandemic.
- ◆ Use the ASAM Clinical Practice Guideline on Alcohol Withdrawal Management to identify safe protocols that can be adapted to outpatient and detoxification unit settings.

Minute Review of Alcohol Withdrawal



Receptor Mechanisms of Alcohol Tolerance

GABA receptor

- Reduced sensitivity
- Receptor activity downregulated

Glutamate

- Upregulation in receptor number



Case 1

52 yo man with DM2 and daily alcohol use presents to your outpatient Addiction Medicine Clinic.

He stopped drinking alcohol 24 hours prior and now has mild nausea and tremors.

Questions:

- ◆ How do you triage patients with acute alcohol withdrawal?

Prediction of Alcohol Withdrawal Severity Scale (PAWSS)

PART A: Threshold Criteria

1. Have you consumed **any amount of alcohol w/i last 30 days** OR have a **(+) BAL** on admission?
If Yes, proceed...

PART B: Based on patient interview

2. Have you ever experienced previous **alcohol withdrawal**?
3. Have you ever experienced alcohol **withdrawal seizures**?
4. Have you ever experienced **DTs**?
5. Have you ever undergone **alcohol rehabilitation** Rx?
6. Have you ever experienced **blackouts**?
7. Have you combined **alcohol with other “downers”** like benzos or barbs in last 90 days?
8. Have you combined alcohol **with any other substance of abuse** in the last 90 days?

PART C: Based on Clinical Evidence

9. Was the patient's BAL on presentation **> 200 mg/dL**?
10. Is there evidence of **↑ autonomic activity** (HR > 120, tremor, sweat, agitation, nausea)?

CIWA-Ar

- ◆ Nausea and vomiting
- ◆ Tremor
- ◆ Paroxysmal sweats
- ◆ Anxiety
- ◆ Agitation
- ◆ Tactile disturbances
- ◆ Auditory disturbances
- ◆ Visual disturbances
- ◆ Headache
- ◆ Orientation / Sensorium

Scoring:

- 10 Categories; each with possible score of 0-7, except orientation (0-4)
- **Maximum Score = 67**

Alcohol Withdrawal Severity

Mild < 15

Moderate 16 to 20

Severe > 20



[Assessment of alcohol withdrawal: the revised Clinical Institute Withdrawal Assessment for Alcohol Scale \(CIWA-Ar\).](#)

British Journal of Addiction 1989, 84 (11): 1353-7

Short Alcohol Withdrawal Scale

Item	None (0)	Mild (1)	Moderate (2)	Severe (3)
Anxious				
Feeling confused				
Restless				
Miserable				
Problems with memory				
Tremor (shakes)				
Nausea				
Heart pounding				
Sleep disturbance				
Sweating				

The patients fill in the SAWS by ticking the appropriate boxes showing how they have been feeling for each of the 10 symptoms in the previous 24 h. Each item is scored on a 4-point scale: 0 = no symptoms, 1 = mild symptoms, 2 = moderate symptoms and 3 = severe symptoms. The scores are summed up to give a total score.



Gossop M, Keaney F, Stewart D, Marshall EJ, Strang J. A Short Alcohol Withdrawal Scale (SAWS): development and psychometric properties. *Addict Biol.* 2002 Jan;7(1):37-43. doi: 10.1080/135562101200100571. PMID: 11900621.

MINDS

Alcohol Withdrawal Assessment (MINDS SCORE)

<u>Symptom</u>	<u>Score</u>
Pulse (beats/min)	
< 90	0
90–110	1
> 110	2
Diastolic blood pressure	
< 90	0
90–110	1
> 110	2
Tremor	
Absent	0
Visible	2
Moderate	4
Severe	6
Sweat	
Absent	0
Barely; moist palms	2
Beads visible	4
Drenching	6

Hallucinations

Absent	0
Mild	1
Moderate, intermittent	2
Severe, continuous	3

Agitation

Normal activity	0
Somewhat > normal	3
Moderately fidgety, restless	6
Pacing, thrashing	9

Orientation

Oriented x 3	0
Oriented x 2 (person, place)	2
Oriented x 1 (person)	4
Total disorientation	6
Intubated	0

Delusions

Absent	0
Present	6

Seizures

Absent	0
Present	6

Patel L, Beddow D, Kirven J, Smith CS, Hanovich S, Holaday K, Agboto V, St Hill CA. Outcomes of Minnesota Detoxification Scale (MINDS) Assessment With High-Dose Front Loading Diazepam Treatment for Alcohol Withdrawal in Hospitalized Patients. Am J Med Sci. 2022 Jan;363(1):42-47. doi: 10.1016/j.amjms.2021.10.003. Epub 2021 Oct 16. PMID: 34666063.

ASAM Risk Criteria

AT A GLANCE: THE SIX DIMENSIONS OF MULTIDIMENSIONAL ASSESSMENT

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



DIMENSION 1

Acute Intoxication and/or Withdrawal Potential

Exploring an individual's past and current experiences of substance use and withdrawal



DIMENSION 2

Biomedical Conditions and Complications

Exploring an individual's health history and current physical health needs



DIMENSION 3

Emotional, Behavioral, or Cognitive Conditions and Complications

Exploring an individual's mental health history and current cognitive and mental health needs



DIMENSION 4

Readiness to Change

Exploring an individual's readiness for and interest in changing



DIMENSION 5

Relapse, Continued Use or Continued Problem Potential

Exploring an individual's unique needs that influence their risk for relapse or continued use



DIMENSION 6

Recovering/Living Environment

Exploring an individual's recovery or living situation, and the people and places that can support or hinder their recovery

ASAM Clinical Practice Guidelines

TABLE 2. Ambulatory (Level 1-WM and Level 2-WM) and Inpatient Placement Considerations

	Level 1-WM			Level 2-WM		
	Appropriate	Neutral/Uncertain	Inappropriate	Appropriate	Neutral/Uncertain	Inappropriate
Withdrawal severity	Mild (e.g., CIWA-Ar <10).	Moderate (e.g., CIWA-Ar 10–18).	Severe or complicated (e.g., CIWA-Ar ≥ 19).	Mild or moderate (e.g., CIWA-Ar <18).	Severe but not complicated (e.g., CIWA-Ar ≥ 19).	Complicated (e.g., CIWA-Ar ≥ 19).
Concurrent withdrawal or physiological dependence		Withdrawing from other substance(s). Physiological dependence on opioids or OUD.	Physiological dependence on BZDs or BZD use disorder.	Physiological dependence on opioids or OUD.	Withdrawing from other substance(s). Physiological dependence on BZDs or BZD use disorder.	
Recent alcohol consumption		Consumes > 8 standard drinks per day.			Consumes > 8 standard drinks per day.	
Alcohol withdrawal history		Previous severe withdrawal episode. Complicated withdrawal > 1 year ago.	Recent complicated withdrawal episode.	Severe withdrawal > 1 year ago.	Previous complicated withdrawal episode. Recent severe withdrawal episode.	
Treatment history		Previous failure to benefit from ambulatory-WM.			Previous failure to benefit from ambulatory-WM.	
Other inpatient need			Medical or psychiatric condition that needs inpatient treatment.			Medical or psychiatric condition that needs inpatient treatment.
Biomedical conditions and complications		Older age. History of epilepsy. History of non-alcohol related seizure. Clinically significant abnormal lab results.	Moderate, active, and potentially destabilizing medical problem. Moderate to severe active and potentially destabilizing medical problem, including unstable chronic condition. Suspected head injury. Unable to take oral medications.	Older age. History of epilepsy.	Moderate, active, and potentially destabilizing medical problem. History of non-alcohol related seizure. Clinically significant abnormal lab results. Suspected head injury.	Moderate to severe active and potentially destabilizing medical problem including unstable chronic condition. Unable to take oral medications.
Emotional, behavioral, or cognitive conditions and complications	Mild/stable psychiatric symptoms.	Active psychiatric symptoms. Mild cognitive impairment.	Moderate or severe psychiatric symptoms. Moderate or severe cognitive impairment.	Mild/stable psychiatric symptoms.	Active or moderate psychiatric symptoms. Mild or moderate cognitive impairment.	Severe psychiatric symptoms. Severe cognitive impairment.
Symptom monitoring		Absence of reliable caregiver. Communication barrier (e.g., language, hearing, speech).			Absence of reliable caregiver. Communication barrier (e.g., language, hearing, speech).	
Recovery/ living environment		Absence of reliable support network. Unable to come to treatment setting daily.	Unable to obtain transportation or housing. Family/friends not supportive of WM process.		Absence of reliable support network. Unable to come to treatment setting daily. Family/friends not supportive of WM process.	Unable to obtain transportation or housing.
Risk of harm			Commitment not high, cooperation and reliability questionable. Imminent risk of harm – not cooperative or reliable. Significant risk of imminent relapse.		Commitment not high, cooperation and reliability questionable. Significant risk of imminent relapse.	Imminent risk of harm – not cooperative or reliable.

The ASAM Clinical Practice Guideline on Alcohol Withdrawal Management. J Addict Med. 2020 May/Jun;14(3S Suppl 1):1-72. doi: 10.1097/ADM.0000000000000668. Erratum in: J Addict Med. 2020 Sep/Oct;14(5):e280. PMID: 32511109.



Case 1, continued...

On evaluation the patient has mild alcohol withdrawal and a lower risk of severe withdrawal.

Questions:

- ◆ Does severity/risk of withdrawal dictate a certain setting or resources?
- ◆ What follow-up methods can you use for monitoring effects?
- ◆ What are medication options for this patient?

Factors for Outpatient Management

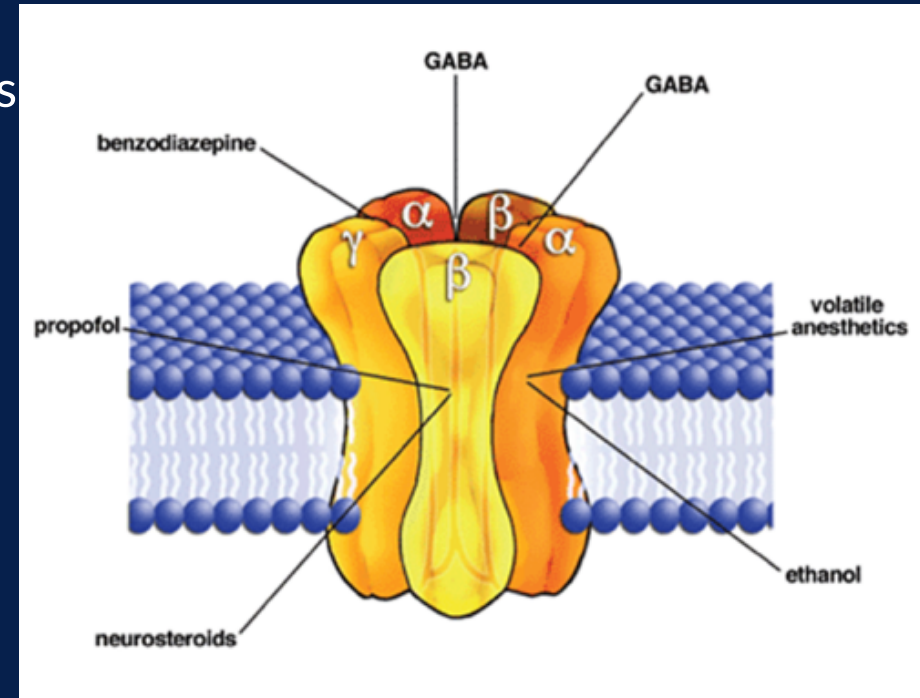
- ◆ Abnormal laboratory
- ◆ Support Network
- ◆ Acute illness
- ◆ High risk of delirium/severe withdrawal
- ◆ History of seizure
- ◆ Long term intake of large quantities alcohol
- ◆ Poorly controlled chronic medical conditions
- ◆ Severe withdrawal symptoms

Pharmacologic management

1. Cross tolerant medication (GABA-A)
 - ◆ Benzodiazepines, barbiturates, propofol, alcohol

1. -Alteration of other neuro-pharmacological processes

- ◆ **Gabapentin**
 - ◆ alpha-2-delta voltage gated calcium channels
 - ◆ Indirectly potentiate GABA
- ◆ **Anticonvulsants (VPA, CBZ)**
 - ◆ GABA modulation
 - ◆ Sodium channel effects
 - ◆ Glutamate (NMDA antagonism)
- ◆ **Baclofen**
 - ◆ GABA-B
- ◆ **Antipsychotics**
 - ◆ Neurotransmitters (DA, 5HT)
 - ◆ Anti-adrenergic
 - ◆ Inhibit norepinephrine release
- ◆ **Vitamins**
 - ◆ Thiamine
 - ◆ Folate
 - ◆ Multivitamin



Gabapentin

- ◆ ↓ Glutaminergic tone
 - ◆ VG Ca⁺⁺ channel blockade → ↓ cortical glutamate (GLU)
 - ◆ Decreases Na⁺-dependent action potentials
- ◆ ↑ GABA-ergic tone
 - ◆ Amplify GABA synthesis
- ◆ Sympatholytic (neuroinhibition)
 - ◆ Activates spinal α-2 receptors

Carbamazepine

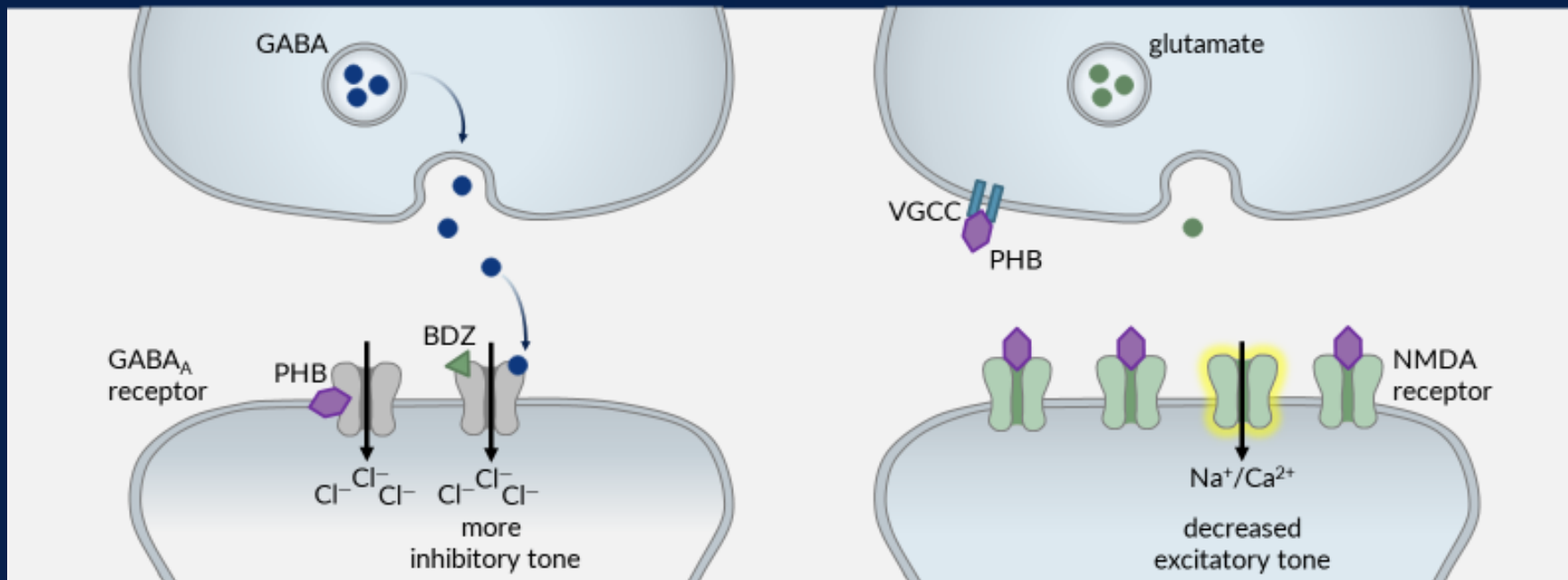
- ◆ Interacts with many receptors and multiple neurotransmitter receptor systems
 - ◆ Inhibits VG Na⁺ channels, VG Ca⁺ channels, K⁺ channels
- ◆ ↓ Glutaminergic tone
 - ◆ Stabilizes neuronal membranes, ↓ firing frequency
 - ◆ ↓ cortical glutamate release
- ◆ ↑ GABA-ergic tone
 - ◆ Potentiates GABA

Valproic Acid

- ◆ ↓ Glutaminergic tone
 - ◆ Stabilizes inactivated state of Na⁺ channels
 - ◆ ↓ cortical glutamate release (similar to CBZ)
 - ◆ Blocks NMDA receptor-mediated excitation (glutamate)
 - ◆ ↓ VG Ca²⁺ currents in thalamus
- ◆ ↑ GABA-ergic tone
 - ◆ ↑ GABA
 - ◆ ↑GABA synthetic enzyme: glutamic acid decarboxylase
 - ◆ Inhibit GABA degradative enzymes: GABA transaminase
- ◆ ↓ GHB release

Barbiturates

Pathophysiology & Rationale for PHB



¹Murphy JA, et al. (*Ann Pharmacother* 2021); ²Wolf C, et al. (*Open Access Emerg Med* 2020)

#ASAMAnnual2022



Slide Courtesy of ASAM ASM 2022: Focus on Phenobarbital:
Applications for Alcohol and Sedative-Hypnotic Withdrawal

Medication	Regimen	Description, Examples
Benzodiazepines (doses in <i>Chlordiazepoxide</i>)	Typical single dose	Mild withdrawal (CIWA-Ar < 10): 25–50 mg PO Moderate withdrawal (CIWA-Ar 10–18): 50–100 mg PO Severe withdrawal (CIWA-Ar ≥19): 75–100 mg PO
	Symptom-triggered Fixed-dose	25–100 mg PO q4–6h when CIWA-Ar ≥10. Additional doses PRN. Taper daily total dose by 25–50% per day over 3–5 days by reducing the dose amount and/or dose frequency. Additional doses PRN. Day 1: 25–100 mg PO q4–6h Day 2: 25–100 mg PO q6–8h Day 3: 25–100 mg PO q8–12h Day 4: 25–100 mg PO at bedtime (Optional) Day 5: 25 to 100 mg PO at bedtime
	Front loading	<i>Symptom-triggered:</i> 50–100 mg PO q1–2h until CIWA-Ar < 10. <i>Fixed-dose:</i> 50–100 mg PO q1-2h for 3 doses.
Phenobarbital	Typical single dose Monotherapy	10 mg/kg IV infused over 30 minutes or 60-260 mg PO/IM. <i>Symptom-triggered in the ICU:</i> 130 mg IV q30m to target a RASS score of 0 to -1. <i>Fixed dose in the ED:</i> Loading dose 260 mg IV, then 130 mg IV q30m at physician's discretion. <i>Fixed dose in ambulatory management:</i> Loading dose 60–120 mg PO. Then 60 mg PO q4h until patient is stabilized. Then 30–60 mg PO q6h tapered over 3–7 days. Additional doses PRN.
	Adjunct therapy	<i>Single dose in the ED:</i> 10 mg/kg IV infused over 30 minutes. <i>Escalating dose in the ICU:</i> After maximum diazepam dose (120 mg), if RASS ≥1, escalating dose of 60 mg → 120 mg → 240 mg IV q30m to target RASS score of 0 to -2.
Carbamazepine (Tegretol)	Monotherapy	600–800 mg total per day tapered to 200–400 mg/d over 4–9 days.
	Adjunct therapy	200 mg q8h or 400 mg q12h.
Gabapentin (Neurontin)	Monotherapy	Loading dose 1200 mg, then 600 mg q6h on Day 1 or 1200 mg/d for 1–3 days, tapered to 300–600 mg/d up to 4–7 days. Additional doses PRN.
	Adjunct therapy	400 mg q6–8h.
Valproic acid (Depakene)	Monotherapy	1200 mg/d tapered to 600 mg/d over 4–7 days or 20 mg/kg/d.
	Adjunct therapy	300–500 mg q6–8h.

CIWA-Ar, Clinical Institute Withdrawal Assessment for Alcohol, Revised; ED, Emergency Department; h, hour(s); ICU, Intensive Care Unit; IM, intramuscularly; IV, intravenously; m, minute(s); mg, milligrams; PO, by mouth; PRN, as needed; q, every; RASS, Richmond Agitation Sedation Scale.



Case 1, continued...

52 yo man with DM2 and daily alcohol use evaluated in an ambulatory setting, found to have mild alcohol withdrawal and lower risk of severe withdrawal.

He is started on gabapentin, however, withdrawal symptoms worsening on a phone call follow-up.

Questions

- ◆ What would be your next step in changing the level of support (setting and/or medications)?

ASAM Placement Criteria

Table 1 Summary of the ASAM¹ Criteria Dimensions of Assessment

Criteria Dimension	Level I: Outpatient Treatment	Level II: Intensive Outpatient or Partial Hospitalization Treatment	Level III: Medically Monitored Inpatient (Residential) Treatment	Level IV: Medically Managed Inpatient Treatment
Acute Intoxication/Withdrawal Potential	Minimal to no risk of severe withdrawal; will enter detoxification if needed.	Minimal risk of severe withdrawal; will enter detoxification if needed and responds to social support when combined with treatment.	Risk of severe but manageable withdrawal, or has failed detoxification at lower levels of care.	Risk of severe withdrawal; detoxification requires frequent monitoring.
Biomedical Conditions	None or noninterfering with treatment.	May interfere with treatment but patient does not require inpatient care.	Continued use means imminent danger, or complications or other illness requires medical monitoring.	Complications (e.g., recurrent seizures or disulfiram reactions) that require medical management.
Emotional/Behavioral Conditions	Some anxiety, guilt, or depression related to abuse, but no risk of harm to self or others. Mental status permits treatment comprehension and participation.	Inability to maintain behavioral stability, abuse/neglect of family, or mild risk of harm to self or others.	Symptoms require structured environment, moderate risk of harm to self or others, or history of violence during intoxication.	Uncontrolled behavior, confusion/disorientation, extreme depression, thought disorder, or alcohol hallucinosis/psychosis.
Treatment Acceptance/Resistance	Willing to cooperate and attend treatment; admits problem.	Attributes problems externally; not severely resistant.	Does not accept severity of problems despite serious consequences.	Any difficulties noted in levels I, II, or III.
Relapse Potential	Able to achieve goals with support and therapeutic contact.	Deteriorating during level I treatment, or will drink without close monitoring and support.	Deteriorating and in crisis during outpatient care, or attempts to control drinking without success.	Any difficulties noted in levels I, II, or III.
Recovery Environment	Supportive social environment or motivated to obtain social support.	Current job environment disruptive, family/support system nonsupportive, or lack of social contacts.	Environment disruptive to treatment, logistic impediments to outpatient care, or occupation places public at risk if patient continues to drink.	Any difficulties noted in levels I, II, or III.

¹ASAM = American Society of Addiction Medicine.



Case 1, continued...

The patient continues to have breakthrough withdrawal symptoms...

You plan to start him on an outpatient diazepam, chlordiazepoxide, or phenobarbital regimen

Questions:

- ◆ What are the caveats to this plan?
- ◆ What resources do you need?
- ◆ How do you follow up?

The ASAM Clinical Practice Guideline on Alcohol Withdrawal

- ◆ Phenobarbital can be used as an alternative in Level 2-WM settings
 - ◆ Level 2-WM
 - ◆ Ambulatory Withdrawal Management with Extended Onsite Monitoring
 - ◆ Particularly with contraindication for benzodiazepine
 - ◆ **Narrow therapeutic window** and extended half-life, **recommend experienced clinicians**

Dr. Wiegand's Outpatient Management

- ◆ VPA 500 mg BID – 2-4 weeks
- ◆ Gabapentin 800 mg TID + PRN bedtime – 5 days
 - ◆ optional continuation for craving – 2-4 weeks
- ◆ Clonidine 0.1 mg PO q6 hr PRN for breakthrough symptoms – 5 days
- ◆ Naltrexone 50 mg PO daily

Case 2

35 yo female presents with moderate alcohol withdrawal; she has a CIWA-Ar score of 16.

She is started on Dr. Wiegand's anticonvulsant based medication regimen:

- Gabapentin, VPA, clonidine, and naltrexone

In follow up, the patient reports drowsiness.

Question

- ◆ Which medication(s) do you remove?

Case 3

55 yo female presents with severe alcohol withdrawal; she has a CIWA-Ar score of 22 and refuses to go to an inpatient detox/medically managed setting.

Question:

- ◆ How do you manage severe withdrawal symptoms in a lower level of care?

The ASAM Clinical Practice Guideline on Alcohol Withdrawal

- ◆ Patients at risk of severe or complicated alcohol withdrawal or complications of alcohol withdrawal may be treated in ambulatory settings *at the discretion of providers with extensive experience in management of alcohol withdrawal.*
- ◆ Such patients should be provided with preventative pharmacotherapy
 - ◆ History of severe or complicated withdrawal
 - ◆ Risk for complications of significant medical, surgical, or psychiatric illness (particularly cardiovascular disease including coronary artery disease)
 - ◆ Displaying signs or symptoms of withdrawal concurrent with a positive blood alcohol content

Final Takeaways/Summary

- ◆ Risk assessment scales and alcohol withdrawal severity scales can be helpful in triaging patients to setting and medications for management of alcohol withdrawal
- ◆ Medications for management of alcohol withdrawal in the outpatient setting include gabapentinoid, anticonvulsant and anti-adrenergic agents
- ◆ Benzodiazepines and barbiturates could be considered in specific outpatient clinical settings

References

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CME questions

which of the below is considered to be an assessment scale for the risk of developing alcohol withdrawal? **Prediction of Alcohol Withdrawal Severity Scale (PAWSS)**; Clinical Opioid Withdrawal Scale (COWS); CAGE screening tool; Drug Abuse Screening Test (DAST)

The pawss can help predict risk of alcohol withdrawal developing

Which of the following is NOT considered to be a pharmacologic mechanism of valproic acid? Prolongs the recovery of voltage-activated Na⁺ channels from inactivation; **serotonin reuptake inhibition**; Blockade NMDA receptor-mediated excitation (glutamate); Reductions of T-type Ca²⁺ currents in thalamus

Valproic acid does prolong na⁺ channel recovery; block glutamate release, and reduce calcium channel currents.

Which factors should you consider when determining whether outpatient management is appropriate? High risk of delirium/severe withdrawal; History of seizure; chronic medical conditions; **all of the above**

These are all factors that can help determine the best level of management

Which of the following is a pharmacologic mechanism of gabapentin?

norepinephrine release; muscle contraction; **calcium channel blockade**; serotonin agonism

Gabapentin blocks calcium channel leading to decreased release of cortical glutamate, an excitatory neurotransmitter

Which of the following is not a component of the CIWA- aR scale? Tactile disturbances; Auditory disturbances; Visual disturbances; **Blood pressure**

CIWA -AR does not use objective vital sign findings in the scale.