Treatment of Severe Alcohol Withdrawal Syndrome

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prior episodes of severe AWS
evidence of AWS with +blood alcohol level
CIWA-Ar ≥16-20, mMINDS ≥20 or BAWS ≥8
PAWSS ≥4 (predictive tool for hospitalized patients)

Lorazepam Titration

IV Lorazepam dose doubled
every **20** minutes
until AWS symptoms abate
at any time may switch to PB titration or PB load

00:00 **2** mg
↓
00:20 **4** mg
↓
00:40 **8** mg
↓
Consider ICU level of care
00:60 **16** mg
↓
01:20 **32** mg

Diazepam Titration

Diazepam preferred over lorazepam for faster onset, more rapid titration, and longer duration of action

IV Diazepam dose doubled
every **10** minutes
until AWS symptoms abate
at any time may switch to PB titration or PB load

00:00 **10** mg
↓
00:10 **20** mg
↓
00:20 **40** mg
↓
Consider ICU level of care
00:30 **80** mg
↓
00:40 **160** mg

AWS symptoms controlled?

yes → Serial symptom reassessment q1-4h

no → **Phenobarbital Titration** or **Phenobarbital Load**

Phenobarbital Titration

Phenobarbital 130 mg IV every 15 minutes until AWS symptoms abate

Low Dose Phenobarbital Load

if patient has low risk features or has already been treated heavily with benzodiazepines
Consider ICU level of care
Phenobarbital 10 mg/kg (IBW)
IV over 30 minutes

AWS symptoms controlled?

yes

no → Phenobarbital 130-260 mg IVPB

may repeat every 10-20 minutes for uncontrolled AWS until total PB dose is 30 mg/kg IBW

AWS symptoms controlled?

yes

no

IBW = ideal body weight
not actual body weight
use calculator based on sex and height

High Dose Phenobarbital Load

well tolerated by most patients
Phenobarbital 15 mg/kg (IBW)
IV over 30 minutes

AWS symptoms controlled?

yes

no → Phenobarbital 130-260 mg IVPB

may repeat every 10-20 minutes for uncontrolled AWS until total PB dose is 30 mg/kg IBW

AWS symptoms controlled?

no

yes

AWS symptoms not controlled after PB 30 mg/kg

Consider alternative or additional diagnoses
e.g. hypoglycemia, DKA, thyrotoxicosis, sepsis/CNS infection, intracranial hemorrhage or stroke, serotonin syndrome, α2 agonist withdrawal, serotonin syndrome, stimulant or anticholinergic toxicity

ICU level of care

- **Dexmedetomidine** 0.2-1.4 μg/kg/hr
- **Ketamine** 0.15-0.3 mg/kg/hr
- **Antipsychotics**

These agents address symptoms and not underlying withdrawal
Adjunctive therapy, not appropriate for monotherapy

Consider **endotracheal Intubation** with propofol/BZD induction and sedation
AWS/sedation monitoring with RASS or MINDS scores

Maintenance Dosing
Starting on Hospital Day #2
Phenobarbital 1 mg/kg IBW PO BID
x 2 days

Serial symptom reassessment q1-4h

Maintenance Dosing
Starting on Hospital Day #2
Phenobarbital 1-2 mg/kg IBW PO BID
x 2-3 days

For All Patients

Thiamine 500 mg IV TID x 3 days
Replace **Mg, PO4**
IV fluids dehydration common
MVI with folate PO QD

Screen for other substance dependencies esp. nicotine and opioids

Brief Alcohol Withdrawal Scale (BAWS) for serial symptom assessment

	0 None	1 Mild	2 Moderate	3 Severe
Tremor	No tremor	Not visible, but can be felt	Moderate, with arms extended	At rest, without arms extended
Diaphoresis/ Sweats	No sweats	Mild, barely visible	Beads of sweat	Drenching sweats
Agitation **Richmond Agitation-Sedation Scale**	RASS =0 Alert and calm	RASS = +1 Restless, anxious, apprehensive, movements not aggressive	RASS = +2 Agitated, frequent non-purposeful movement	RASS = +3 or +4 Very agitated or combative, violent
Confusion/ Orientation	Orientation to person, place, time	Disoriented to time (e.g., by more than 2 days or wrong month or wrong year) or to place (e.g., name of building, city, state), but not both	Disorientation to time and place	Disorientation to person
Hallucinations (visual, auditory, tactile)	None	Mild (vague report, reality testing intact)	Moderate (more defined hallucinations)	Severe (obviously responding to internal stimuli, poor reality testing)

Symptom-triggered Treatment Based on BAWS

BAWS	Intervention	Alternatives	Reassess
0-2	None		q4h x 24 hours, then q6h x 24 hours, then discontinue protocol
3-5	CDZ 50 mg PO	Diazepam 10 mg IV Lorazepam 2 mg IV	q4h
6-8	CDZ 100 mg PO	Diazepam 20 mg IV Lorazepam 4 mg IV	q1h If BAWS not <6 in 1 hour, MICU consult
9 or higher	Diazepam 20 mg IV+ CDZ 100 mg PO RRT activation		

CDZ: chlordiazepoxide
Lorazepam traditionally favored in liver failure, however comparative safety of different benzodiazepines in patients with liver disease has not been studied; the symptom-triggered protocol above can be used with any benzodiazepine