ALCOHOL WITHDRAWAL SYNDROME

Symptoms suggestive of

- Tachycardia • Hypertension • low grade fever
- Psychomotor agitation • cardiac arrhythmias • N/V
- Tremor (especially of eyelids and tongue) • Diaphoresis
- HA • Insomnia • hallucinations/delusions
- Seizures • Sensory disturbances

Evaluation

- Tox screen and ethanol level
- CMP with Mag, Phos, and ionized Ca
- Glucose and serum CO2

History

- Prior hx delirium tremens or w/d seizures
- Time and amount of last drink
- Comorbidities

Assessment of W/D symptoms

- Symptom triggered dosing of medications most supported, better outcomes
  - CIWA
  - RAS
  - SAS

Pharmacologic treatment of alcohol W/D

- Benzodiazepines
  - Diazepam, rapid onset, longer acting
  - Lorazepam, rapid onset, long acting
  - Chlordiazepoxide, slower onset
    - use longer acting if worried about seizures
    - use short acting if sedation is a problem
    - Slow onset of action = less abuse potential
    - multiple studies show no difference in outcome between lorazepam and diazepam use for this indication

- Benzodiazepine resistant W/D
  - Requiring > 40 mg of diazepam in one hour or equivalent
  - Escalation Procedure
    - Diazepam: Start with 10 mg. Escalate dose by 10 mg every 15 minutes until light sedation. Max dose 100 mg.
    - Lorazepam: Start with 2 mg. Escalate dose by 2 mg every 20-30 minutes until light sedation achieved. Max dose 16 mg.
    - These patients are LESS likely to require intubation and mechanical ventilation

- Adjuncts
  - Phenobarbital: 10 mg/kg in 100 ml, for benzo-refractory, increases sensitivity to benzodiazepines
  - Clonidine: Decrease tachycardia and HTN. Doesn't prevent delirium or seizures
  - Beta blockers: Decrease tachycardia and HTN. Doesn't prevent delirium or seizures
  - Haldol: Decreases delirium but LOWERS the seizure threshold and prolongs QTc, INCREASING the risk for cardiac arrhythmias and seizure
  - Baclofen: CIWA >11, 10 mg tid, decreased need for escalating dose benzodiazepines
  - Dexmetatomidine: IV infusion in the ICU
  - Propofol: IV infusion for intubated patients in the ICU
  - Baclofen as adjunct in CIWA scores > 11

Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)

Patient:________________________ **Date:** _______________ **Time:** _______________ (24 hour clock, midnight = 00:00)

Pulse or heart rate, taken for one minute:_______________________ **Blood pressure:**______

NAUSEA AND VOMITING -- Ask "Do you feel sick to your stomach? Have you vomited?" Observation.
0 no nausea and no vomiting
1 mild nausea with no vomiting
2
3
4 intermittent nausea with dry heaves
5
6
7 constant nausea, frequent dry heaves and vomiting

TACTILE DISTURBANCES -- Ask "Have you any itching, pins and needles sensations, any burning, any numbness, or do you feel bugs crawling on or under your skin?" Observation.
0 none
1 very mild itching, pins and needles, burning or numbness
2 mild itching, pins and needles, burning or numbness
3 moderate itching, pins and needles, burning or numbness
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

TREMOR -- Arms extended and fingers spread apart. Observation.
0 no tremor
1 not visible, but can be felt fingertip to fingertip
2
3
4 moderate, with patient's arms extended
5
6
7 severe, even with arms not extended

AUDITORY DISTURBANCES -- Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.
0 not present
1 very mild harshness or ability to frighten
2 mild harshness or ability to frighten
3 moderate harshness or ability to frighten
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

PAROXYSMAL SWEATS -- Observation.
0 no sweat visible
1 barely perceptible sweating, palms moist
2
3
4 beads of sweat obvious on forehead
5
6
7 drenching sweats

VISUAL DISTURBANCES -- Ask "Does the light appear to be too bright? Is its color different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" Observation.
0 not present
1 very mild sensitivity
2 mild sensitivity
3 moderate sensitivity
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

ANXIETY -- Ask "Do you feel nervous?" Observation.
0 no anxiety, at ease
1 mild anxious
2
3
4 moderately anxious, or guarded, so anxiety is inferred
5
6
7 equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

HEADACHE, FULLNESS IN HEAD -- Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.
0 not present
1 very mild
2 mild
3 moderate
4 moderately severe
5 severe
6 very severe
7 extremely severe

AGITATION -- Observation.
0 normal activity
1 somewhat more than normal activity
2
3
4 moderately fidgety and restless
5
6
7 paces back and forth during most of the interview, or constantly thrashes about

ORIENTATION AND CLOUDING OF SENSORIUM -- Ask "What day is this? Where are you? Who am I?"
0 oriented and can do serial additions
1 cannot do serial additions or is uncertain about date
2 disoriented for date by no more than 2 calendar days
3 disoriented for date by more than 2 calendar days
4 disoriented for place/or person

Total **CIWA-Ar** Score ______
Rater's Initials ______
Maximum Possible Score 67

The ***CIWA-Ar*** *is not* copyrighted and may be reproduced freely. This assessment for monitoring withdrawal symptoms requires approximately 5 minutes to administer. The maximum score is 67 (see instrument). Patients scoring less than 10 do not usually need additional medication for withdrawal.

Sullivan, J.T.; Sykora, K.; Schneiderman, J.; Naranjo, C.A.; and Sellers, E.M. Assessment of alcohol withdrawal: The revised Clinical Institute Withdrawal Assessment for Alcohol scale (**CIWA-Ar**). *British Journal of Addiction* 84:1353–1357, 1989.

Table 3—*Richmond Agitation-Sedation Scale**

Point	Patient Response to Verbal and Physical Stimuli
+4	Combative: combative, violent, immediate danger to staff
+3	Very agitated: pulls or removes tubes or catheters; aggressive
+2	Agitated: frequent nonpurposeful movement, fights ventilator
+1	Restless: anxious and apprehensive, but movements not aggressive or vigorous
0	Alert and calm
-1	Drowsy: not fully alert, but has sustained (>10 s) awakening (eye opening/contact) to voice
-2	Light sedation: drowsy, briefly (<10 s) awakens to voice or physical stimuli
-3	Moderate sedation: movement or eye opening (but not eye contact) to voice
-4	Deep sedation: no response to voice, but movement or eye opening to physical stimulation
-5	Unarousable: no response to voice or physical stimulation

*Adapted from Sessler CN, Gosnell MS, Grap MJ, et al.[9]

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Table 1. Sedation-Agitation Scale

7	Dangerous agitation	Pulling at endotracheal tube, trying to remove catheters, climbing over bedrail, striking at staff, thrashing side to side
6	Very agitated	Does not calm despite frequent verbal reminders of limits, requires physical restraints, bites endotracheal tube
5	Agitated	Anxious or mildly agitated, attempts to sit up, calms down with verbal instructions
4	Calm and cooperative	Calm, awakens easily, follows commands
3	Sedated	Difficult to arouse, awakens to verbal stimuli or gentle shaking but drifts off again, follows simple commands
2	Very sedated	Arouses to physical stimuli but does not communicate or follow commands, may move spontaneously
1	Unarousable	Minimal or no response to noxious stimuli, does not communicate or follow commands