



UCONN JOHN DEMPSEY
HOSPITAL

SECTION: CLINICAL CARE GUIDELINES

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SUBJECT: Severe Alcohol Withdrawal Guideline (Reserved for ICU Patients)

I. Eligible Patients:

Inclusion criteria:

- Adult (greater than 18 yrs) patient experiencing severe acute alcohol withdrawal syndrome (AWS) on the Critical Care Service.

II. Overview:

- Diagnosis of acute alcohol withdrawal should be confirmed by the admitting provider after obtaining history of alcohol dependence and recent abrupt cessation utilizing CIWA-Ar triage information performed by nursing staff.
- After AWS diagnosed, severity of symptoms should be assessed by the admitting provider taking into account comorbid illness and risk factors for progression to complicated AWS.
- After appropriate evaluation and triage, inpatient management, based on co-morbidities and risk stratification, should be implemented according to the AWS order set found in EPIC.
- Risk stratification into low, moderate, or high risk (for progression to complicated AWS) is undertaken on admission to John Dempsey Hospital.

III. Assessment:

1. Determine if patient is symptomatic or asymptomatic.
2. Rate initial severity of AWS using CIWA-Ar on presentation to the emergency department:
 - a. Severe = CIWA greater than or equal to 20
 - b. Moderate = CIWA 9 to 19
 - c. Mild = CIWA less than or equal to 8
3. Identify any risk factors associated with progression to complicated AWS:

Major Risk Factors:

History of AW – related seizure.



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Evidence of hyper-adrenergic state: Temp greater than or equal to 101 F (38.5 C), HR greater than or equal to 115, SBP greater than or equal to 170.

Major co-morbid illness.

Minor Risk Factors:

History of AWS requiring hospitalization.

Daily alcohol consumption.

Minor co-morbid illness.

4. If patient with severe AWS and with risk factors of progression to complicated AWS, recommend admission to ICU, discontinuation of benzodiazepine therapy, and implementation of phenobarbital guideline (Typically CIWA greater than or equal to 20 after initial treatment).

III. Baseline and Daily Laboratory Assessment:

· In all patients being treated for suspected AWS, the following assessments should be obtained:

- Baseline/Time of Admission:
 - o Serum alcohol level
 - o Toxicology screen (urine)
 - o BMP and hepatic function panel
 - o Baseline EKG for QTc assessment
 - o CBC
 - o PT (INR) / PTT
 - o Ionized calcium level
 - o Magnesium level



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- o Phosphorus level
- Daily monitoring:
 - o BMP
 - o Daily EKG for QTc assessment if patient receiving QTc-prolonging medications (i.e. haloperidol adjunctive therapy).

IV. ICU Management: AWS Severity and Symptom Stratification:

· At present, the ICU utilizes the Richmond Agitation Sedation Scale (RASS) for scoring and management of sedation in the mechanically ventilated patient. Therefore, the RASS scoring system will be implemented for assessment and management of patients with AWS in the ICU.

Richmond Agitation Sedation Scale

Score	Term	Description
(+) 4	Combative	Overtly combative, violent, danger to staff
(+) 3	Very agitated	Pulls or removes tubes or catheters; aggressive
(+) 2	Agitated	Frequent non-purposeful movement, fights ventilator
(+) 1	Restless	Anxious, but movements not aggressive or vigorous
0	Alert and calm	
(-) 1	Drowsy	Not fully alert, but has sustained awakening (eye opening/eye contact) to voice (greater than 10 sec)
(-) 2	Light sedation	Briefly awakens with eye contact to voice (less than 10 sec)
(-) 3	Moderate sedation	Movement or eye opening to voice (but no eye contact)
(-) 4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation
(-) 5	Unable to rouse	No response to voice or physical stimulus

V. Phenobarbital-Driven AWS Guideline (no benzodiazepines):

Rationale:

- Benzodiazepine-driven AWS guidelines are widespread, but there exist many potential adverse effects of benzodiazepines, including over-sedation, respiratory depression, prolonged mechanical ventilation, and delirium. Benzodiazepine-related delirium may cloud effective evaluation of level of AWS in the ICU patient.

- Phenobarbital-driven AWS guidelines have been demonstrated to have similar efficacy with increased ease of use in ICU level patients without the risk of adverse effects associated with benzodiazepines



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· Phenobarbital dosage should be reduced by 50% in geriatric patients and chronic liver disease.

A. On arrival to the ICU, discontinue use of benzodiazepines and initiate Phenobarbital-Driven Guideline for AWS:

B. STEP 1/Determine appropriate dosing pathway:

1. Assess patient age, liver disease status.

a) If no risk determined, use Standard Dosing Pathway.

b) If patient meets requirements, use Geriatric/Chronic Liver Disease Pathway.

(1) Note: all phenobarbital doses are lowered by 50% in this pathway.

C. STEP 2/Initial ICU Assessment:

1. Assess RASS every 30 min (until RASS goal of 0 to +1).

a) If RASS 0 to +1 with normal vital signs, repeat STEP 2.

b) If RASS +1 with SBP greater than 160, DBP greater than 100, HR greater than 120 (i.e. vital signs concerning for progression to complicated withdrawal), administer phenobarbital loading dose of 10 mg/kg IVPB over 30 mins.

c) If RASS greater than or equal to +2, administer phenobarbital loading dose of 10 mg/kg IVPB over 30 minutes.

D. STEP 3/Stabilization of AWS:

Assess RASS 30 mins after completion of phenobarbital loading dose and every 1hr thereafter (begin STEP 4/Maintenance 8hrs after initiation of loading dose):

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1. RASS 0 to -2: Continue to re-assess RASS every 1hr; if no further worsening of RASS after total 8hr, may transition to STEP 4.

2. RASS greater than or equal to +1: Initiate rescue doses of phenobarbital and/or adjunctive therapy (see below):
 - a) RASS +1 (at time assessment 2 to 5 hours after loading dose administration): administer phenobarbital low rescue dose of 2.5 mg/kg IVPB:
 - (1) Re-assess RASS; if RASS greater than or equal to +1, begin/titrate adjuncts (see below).
 - (2) Return to STEP 3 and re-assess RASS every 1hr; titrate adjuncts as indicated for total 8 hours after initial loading dose.
 - b) RASS greater than or equal to +2 (at time assessment 2 to 5 hours after loading dose administration): administer phenobarbital high rescue dose of 5 mg/kg IVPB:
 - (1) Re-assess RASS; if RASS greater than or equal to +1, begin/titrate adjuncts.
 - (2) Return to STEP 3 and re-assess RASS every 1hr; titrate adjuncts as indicated for total 8 hours after initial loading dose.
 - c) At time assessment less than 2 hours or greater than 5 hours after loading dose administration: begin/titrate adjuncts and return to STEP 3 to re-assess RASS for total 8 hours after initial loading dose.

3. ADJUNCT THERAPIES: To be initiated at time assessment less than 2 hours if clinically indicated or once indicated at time assessment greater than 2 hours per above guideline:
 - a) FIRST LINE: dexmedetomidine infusion to maintain RASS 0 to -2, infusion 0.2 to 1.2 mcg/kg/hr, starting dose 0.6 mcg/kg/hr.



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b) SECOND LINE: haloperidol 2.5 mg every 3hr PRN RASS +1, haloperidol 5 mg IV every 3hr PRN RASS greater than or equal to +2. Discontinue haloperidol and notify provider for QTc greater than 500 ms or 60 ms increase from baseline.

E. STEP 4/Maintenance and Hourly Assessment for Adjunct Taper: Initiate 8hrs after loading dose:

1. If RASS less than or equal to 0, begin tapering dexmedetomidine every 30 mins.
2. If RASS greater than or equal to +1, titrate dexmedetomidine and administer haloperidol accordingly.

F. MAINTENANCE PHENOBARBITAL: Maintenance dosing can be continued on transfer to hospital floors or intermediate unit. If patient with modified diet, NPO, or with NG/OG tube, doses may be given crushed or parenterally:

1. 30 mg PO/IV every 12hr x4 doses
2. 15 mg PO/IV every 12hr x4 doses
3. 15 mg PO/IV every 24hr x2 doses

V. Supplemental Treatments:

- Thiamine 100 mg IV/PO daily (Higher dosing for suspected Wernicke's).
- Folic Acid 1 mg IV/PO daily.
- Multivitamin PO daily.
- Ondansetron 4 mg IV every 8 hours prn nausea/vomiting.
- Nicotine patch for smokers.
- Treatment for co-existing drug intoxication.
- Substance abuse counseling and social work consultation prior to discharge.



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· Consider Psychiatry consultation.

VI. References:

Bosch NA, Crable EL, Ackerbauer KA, et al. Implementation of a Phenobarbital-based Pathway for Severe Alcohol Withdrawal: A Mixed-Method Study. *Ann Am Thorac Soc.* 2021;18(10):1708-1716. doi:10.1513/AnnalsATS.202102-121OC.



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