If using the score:
predict withdrawal

There are many severity scoring systems for severity of withdrawal, but the most studied and most used is CIWA. CIWA does NOT

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Assessing level of withdrawal / response to treatment
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If using the score:
0-9 is very mild withdrawal, usually does not warrant treatment in the ED
10-15 is mild withdrawal.
16-20 is moderate withdrawal
21-67 is severe withdrawal, usually requiring ICU admission
Managing withdrawal symptoms

Supportive care is a must including intravenous fluids, nutrition and avoiding stimulation (can be difficult depending on your operating environment).

Our usual “go to” nutrition supplement in alcoholic dependent patients is thiamine and folate (a good ole banana bag, not named after a “Dr. Banana,” but because the fluids appear yellow). Alcoholic patients can also have a concomitant hypoglycemia, and there is a theoretical (and board testable!) risk of worsening Wernicke encephalopathy if glucose is given prior to thiamine.10 This risk is likely untrue in real life, and honestly is likely being phased out of board exams. However, still be familiar with it. When giving glucose, intravenous is expensive. Unless the patient demonstrates inability to tolerate oral medications or is clearly in Wernicke encephalopathy, oral glucose (grab a snickers!) is preferred and its effects last longer.

The heart of the management of alcohol withdrawal is activating their GABA receptors and suppressing their NMDA receptors, most commonly with benzodiazepines, although there is increasing evidence for phenobarbital monotherapy. Antipsychotics should NEVER be used as they lower the seizure threshold, prolong the Qtc, and do not address GABA receptor depletion.11

Benzodiazepines

The most commonly used benzodiazepines used in acute withdrawal are lorazepam and diazepam.12 There has not been any studies showing any benzodiazepine superior in the treatment of alcohol withdrawal.13 Diazepam does have a faster onset, taking one to five minutes to take effect, while lorazepam is slightly slower at five to twenty minutes; however, diazepam has active metabolites that are metabolized by the liver. In liver failure, these metabolites can remain in circulation, increasing sedation by almost five times. Whichever choice of benzodiazepine you decide to use, the key to management is regular and frequent revaluation of the patient. You may need to escalate the dose, titrating to a goal RASS of -1 or CIWA <8, and heart rate <120.

- Diazepam every 5-10 minutes starting with 10mg IV, increasing by 10mg every other recheck (ie, 10-10-20-20-30-30-40-40)
- Lorazepam every 20-30 minutes starting with 2mg IV, increasing by 2mg every other recheck (ie, 2-2-4-4-6-6-8-8)

Refractory Alcohol Withdrawal

There is no clear definition of refractory alcohol withdrawal, but some suggest no response to lorazepam more than 10mg in one hour or diazepam more than 200mg in 3 hours.14,15 Phenobarbital is a drug gaining notoriety and popularity in the FOAMed/Pulmcrit world. When used as a rescue agent in conjunction with benzodiazepines, patients have had lower rates of ICU admission, as well as decreased ICU stays.16,17 There are many potential reasons why phenobarbital can be effective in alcohol withdrawal.

Benzodiazepines increase frequency of GABA channel opening, while barbiturates increase the duration of opening, making them act synergistically. Also, phenobarbital not only acts on the GABA receptor, but can also inhibit some of the other excitatory neuroreceptors.18 Additionally, treatment with large amounts of benzodiazepines can cause a paradoxical delirium which is not as common a reaction with barbiturates.19

While evidence mounts regarding phenobarbital’s efficacy in alcohol withdrawal, widespread use of the drug has been slow to be adopted. Perhaps people are just more comfortable giving benzodiazepines than barbiturates. There have been long term worries regarding respiratory depression and need for intubation. However, studies have found patients treated with phenobarbital were less likely to require intubation.20

Most resources we’ve seen recommend phenobarbital in refractory withdrawal, but others are more aggressive with it and if they see clear-obvious signs of withdrawal phenobarbital might be started earlier. This is where clinical preference plays a large role… and it’s at this intersection our review stops.

Most of the more successful studies using phenobarbital as monotherapy started with a loading dose of 10 mg/kg over 1 hour, but some other sources recommend using 130mg every 15 minutes, again titrating appropriate RASS/CIWA and vital improvement.21 Another alternative is ketamine, which can augment your benzodiazepines as ketamine is an NMDA antagonist. Lastly, propofol can also be used in the refractory alcohol withdrawal.12

Whichever agent you reach for next, you will likely need to intubate them at this point given the levels of sedative medications the patient is receiving, and that decision point may depend on the patient’s medical comorbidities as well as their ability to protect their airway.

Disposition

Many patients in alcohol withdrawal require ICU admission. There is no set criteria on ICU admission, however clinical gestalt is paramount. One must consider their initial presentation, their medical comorbidities, their response to therapy, if they have been refractory to treatment. We prefer ICU for all alcohol withdrawal patients, as they can frequently be reassessed and the potential for “sneaky” decline on the floor is too great a risk.