

In alcohol withdrawal patients, is adding phenobarbital to the CIWA protocol more effective than the current practice of using lorazepam to treat alcohol withdrawal syndrome?

## Purpose

The purpose of this project was to find out if Phenobarbital, a barbituate drug used to prevent and/or treat seizures, is more effective in the treatment of alcohol withdrawal syndrome than the current practice of using lorazepam.



## Literature Review

- A single dose of Phenobarbital combined with a symptom-guided lorazepam-based alcohol withdrawal protocol resulted in decreased ICU admission and did not cause increased adverse outcomes (Alter et al., 2013)
- The use of a Phenobarbital for alcohol withdraw symptoms was associated with a significant reduction in ICU Length of stay (Canonic et al., 2018)
- More patients were discharged within three days if they received a single parenteral dose of Phenobarbital on hospital day one, in addition to symptom-triggered lorazepam for the acute management of AWS (Ibarra, 2019)
- The use of lorazepam and Phenobarbital together may lead to a decreased ICU length of stay, decreased time spent on mechanical ventilation, and decreased lorazepam requirements; more research is needed (Berry et al., 2014).
- Phenobarbital and lorazepam were similarly effective in the treatment of mild/moderate alcohol withdrawal in the ED and at 48 hours (Barnes et al., 2011).

Patient: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
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

**Tremor.** Ask patient to extend arms and spread fingers apart.  
Observation:  
0—No tremor  
1—Tremor not visible but can be felt, fingertip to fingertip  
2—  
3—  
4—Moderate tremor with arms extended  
5—  
6—  
7—Severe tremor, even with arms not extended

**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

**Anxiety.** Ask "Do you feel nervous?"  
Observation:  
0—No anxiety (at ease)  
1—Mildly anxious  
2—  
3—  
4—Moderately anxious or guarded, so anxiety is inferred  
5—  
6—  
7—Equivalent to acute panic states as occur in severe delirium or acute schizophrenic reactions

**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

**Tactile disturbances.** Ask "Do you have any itching, pins-and-needles sensations, burning, or numbness, or do you feel like bugs are crawling on or under your skin?"  
Observation:  
0—None  
1—Very mild itching, pins-and-needles sensation, burning, or numbness  
2—Mid itching, pins-and-needles sensation, burning, or numbness  
3—Moderate itching, pins-and-needles sensation, burning, or numbness  
4—Moderately severe hallucinations  
5—Severe hallucinations  
6—Extremely severe hallucinations  
7—Continuous hallucinations

**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—Mid 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

**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—Mid sensitivity  
3—Moderate sensitivity  
4—Moderately severe hallucinations  
5—Severe hallucinations  
6—Extremely severe hallucinations  
7—Continuous hallucinations

**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 lightheadness; otherwise, rate severity.  
0—Not present  
1—Very mild  
2—Mid  
3—Moderate  
4—Moderately severe  
5—Severe  
6—Very severe  
7—Extremely severe

**Orientation and clouding of sensorium.** Ask "What day is this? Where are you? Who am I?"  
Observation:  
0—Orientated and can do serial additions  
1—Cannot do serial additions or is uncertain about date  
2—Date disorientation by no more than two calendar days  
3—Date disorientation by more than two calendar days  
4—Disorientated for place and/or person

Total score: \_\_\_\_\_ (maximum = 67) Rater's initials: \_\_\_\_\_

## Recommendations

In most of our research there was not enough information about the use of Phenobarbital alone, however the studies reviewed did have positive outcomes in regard to including Phenobarbital to the alcohol withdrawal treatment regimen. In future research there should be a focus on how effective Phenobarbital is on it's own. Most common recommendation for future studies is that we expand the research. The research was often limited to small sample sizes and limited variety of patients, thus future research should include larger sample sizes and increased variety of patients. Variety of patients should include different genders and ages and severity of symptoms. Research should also be of higher quality and level. More research also needs to be done to show the optimal amount of Phenobarbital that should be used for different severities of alcohol withdrawal or patient weights in order to standardize the research as well.

## Background/Significance of the Problem

- 7.4% of Americans self-report dependence on alcohol while 18-25% of patients admitted to the hospital with alcohol use disorders develop alcohol withdrawal syndrome, or AWS (Berry et al., 2014).
- Although there is no formal guideline published for the treatment of AWS, benzodiazepines, such as lorazepam, are widely used in its treatment based on scoring with the Clinical Institute Withdrawal Assessment for Alcohol, or CIWA. (Bacon et al., 2016).

