



Clinical Pharmacology & Toxicology Pearl of the Week

~ Alcohol Withdrawal ~

- ✓ Alcohol withdrawal (AW) is common and leads to increased morbidity and mortality.
- ✓ Chronic excessive alcohol intake causes central downregulation of *inhibitory* GABA receptors and upregulation of *excitatory* NMDA receptors to offset the depressant effects of alcohol.
- ✓ Abrupt cessation of alcohol leads to a state of imbalance between these inhibitory and excitatory neurotransmitters, which manifests clinically as the 4 stages of alcohol withdrawal (**Figure 1**).
- ✓ The [PAWSS](#), [LARS-10](#) and [AUDIT-PC](#) are used to predict a patient's likelihood of developing Severe Alcohol Withdrawal Syndrome (SAWS).

- ✓ The Clinical Institute Withdrawal Assessment for Alcohol scale ([CIWA-Ar](#)) is commonly used to diagnose and assess the severity of AW.

- ✓ The initial approach to treating AW includes:

- Assess and manage Airway, Breathing & Circulation
- Obtain early intravenous access
- Assess the cause for alcohol cessation (infection, pancreatitis, gastritis, hepatitis, cardiac ischemia, DKA)
- Symptom-guided administration of benzodiazepines (BDZ) as per the CIWA-Ar score:
 - ≤ 8 = absent/minimal → **no** BDZ indicated
 - 9-19 = mild to moderate → **low-dose** BDZ indicated
 - ≥ 20 = severe → **high-dose** BDZ & consideration of intensive care admission
- Administer of Thiamine 100mg IV daily
- Intravenous fluids for dehydration
- Monitor for metabolic abnormalities (lactic &/or keto-acidosis, hypoPO₄⁻, hypoK⁺ & hypoMg⁺)
- Monitor for severe hypertension, uncontrolled tachycardia or cardiac arrhythmias
- Check blood sugar to prevent hypoglycemia
- In more severe cases, monitor for hyperpyrexia and rhabdomyolysis
- Minimize the use of adjunct medications such as beta blockers, alpha-2 agonists, antipsychotics

- ✓ Following resolution of AW, all patients should be offered:

- Addictions counselling
- Information regarding rehabilitation options for alcohol misuse
- [Pharmacologic adjuncts](#) for the treatment of alcohol misuse disorder

- ✓ Access the **Alberta Health Services Emergency Department Alcohol Withdrawal Protocol** [HERE](#)

- ✓ Access the **Canadian Guidelines for Low-Risk Alcohol Consumption** [HERE](#)

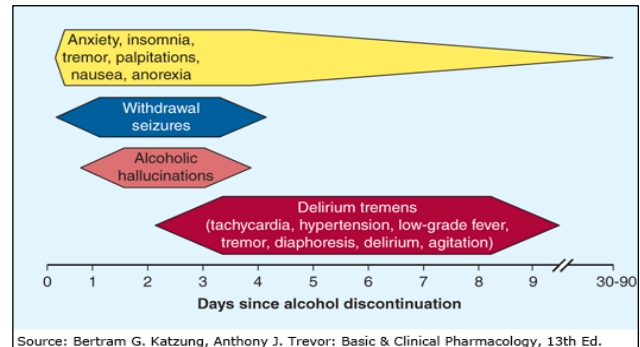


Figure 1: The 4 Stages of Alcohol Withdrawal



The Calgary Clinical Pharmacology physician consultation service is available Mon-Fri, 9am-5pm. The on-call physician is listed in ROCA. Click [HERE](#) for clinical issues the CP service can assist with.



The Poison and Drug Information Service ([PADIS](#)) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414, and select option 1.



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References can be found by scanning the QR code with a smartphone camera: