



## Sample Substance Use Disorders APPE Student Rotation

### ***Rotation Description***

The substance use disorders rotation will assist students become familiar with key concepts in the treatment of addiction. The rotation is designed to expose students to key concepts related to the treatment of a variety of commonly abused substances.

### ***Goals and Objectives***

The preceptor and student should agree on which goals and objectives are appropriate for the rotation based on rotation site, rotation objectives delineated by school/college of pharmacy, rotation length, and student interests. The following are a list of potential goals and objectives:

1. Describe addiction as a disease
2. Describe risk factors, abuse potential, and abuse patterns for commonly abused related substances
3. Describe the major pharmacological properties of commonly abused substances
4. Describe the major treatment modalities of addiction
5. Describe the mechanisms of action, dosing, common side effects, and monitor parameters for commonly used pharmacological agents for addiction treatment
6. Counsel individuals who are being treated for addiction

### ***Key Learning Points***

- Risk of death following withdrawal from benzodiazepines and alcohol could be fatal due to the risk of seizures
- Risk of death following withdrawal from opioids is rarely fatal; however, proper tapering and responsible opioid withdrawal is important
- Psychotherapy is a huge part of addictions treatment. Medications play a role, but patients have better outcomes when combined with psychotherapy.
- Substance use disorders are often co-occurring with a mental health illness
- Urine drug screens need to be interpreted in clinical context
- Stigma of addiction has the potential to negatively affect an individual's access to and support for treatment

### ***Activities***

During the course of the rotation, the student should participate in some of the following activities as assigned by the preceptor:

1. Review pharmacy profiles and pertinent lab data daily for assigned patients for appropriateness of therapeutic regimens and endpoint monitoring
2. Present and discuss assigned patients with preceptor
3. Answer drug information questions upon request in a timely manner, utilizing appropriate resources. Provide written, referenced responses to drug information questions as directed by preceptor.
4. Complete and discuss all assigned readings on time as assigned by preceptor
5. Prepare and lead at least one topic discussion on a relevant substance abuse topic
6. Participate in question and answer session with patients on commonly abused substances and treatment options



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7. Observe a psychotherapy session
8. Attend open Alcoholics Anonymous meetings

### ***Suggested Topics and Related Key Concepts***

As time permits, preceptors should schedule time when they can discuss various topics with the student. Background readings should be provided when available (see below resources). The student should be expected to lead at least one topic discussion towards the end of the rotation.

#### 1. Alcohol

- Screening tools (i.e. CAGE, MAST, or AUDIT questionnaires)
- Mechanism of alcohol withdrawal
- Timeline of withdrawal symptoms
- Risk of withdrawal seizures and delirium tremens
- CIWA protocol
  - When certain benzodiazepines are preferred over others
- Anti-craving medications (e.g. naltrexone, acamprosate, topiramate, gabapentin, disulfiram, baclofen)
  - Mechanism of action
  - Side effects
  - When to initiate
  - Safety in liver disease/cirrhosis
- Long-term complications of abuse
  - Cirrhosis

#### 2. Benzodiazepines

- Mechanism of withdrawal
- Timeline of withdrawal symptoms
- Risk of withdrawal
- Benzodiazepine taper
  - Conversion between benzodiazepines
  - Conversion to longer acting agents
  - Inpatient vs. outpatient taper
- Use of adjunctive treatment (e.g. gabapentin, pregabalin)

#### 3. Cannabis

- Cannabinoid hyperemesis syndrome and treatment
- Withdrawal and management
- Role of psychotherapy
  - Types that are most effective
- Potential role for pharmacotherapy (e.g. synthetic cannabinoids)

#### 4. Gamma-Hydroxybutyrate (GHB)

- Clinical uses (e.g. narcolepsy) vs. recreational uses (e.g. party drug, date rape drug, athletic performance)



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- Mechanism of withdrawal
  - Timeline of withdrawal
  - Risk of withdrawal
  - Treatment of withdrawal using pharmacotherapy (e.g. pharmaceutical GHB, benzodiazepines, phenobarbital)
  - Role of baclofen in relapse prevention
5. Nicotine
- Risks associated with tobacco and smoking
  - Role of pharmacotherapy (e.g. nicotine replacement therapy, varenicline, bupropion) and considerations for each
  - Benefits and risks associated with e-cigarette use
6. Opioids
- Opioid crisis
  - Role of pharmacists in educating patients, families, and other health care providers on prevention and non-pharmacological management of pain
  - Role of opioids in pain management (acute vs. chronic; nociceptive vs. neuropathic)
  - Alternative pain treatment options (e.g. acetaminophen, ibuprofen, GABA derivatives, tricyclic antidepressants, SNRIs, synthetic cannabinoids)
  - Opioid dose conversions
  - Opioid rotation
    - Benefits of an opioid rotation
    - How to initiate an opioid rotation
  - Opioid withdrawal
    - Medical management vs. non-medical management
    - Importance of tapering
    - Non-opioid treatment options for symptoms
  - Opioid maintenance treatment (methadone, buprenorphine-naloxone, diacetylmorphine, injectable hydromorphone, naltrexone)
    - Efficacy, safety, and potential role of each
    - Monitoring parameters with methadone use
    - Buprenorphine-naloxone induction using COWS score
  - Harm Reduction
    - Safe supplies (needles, distilled water, cookers, crack pipes)
    - Tips to relay to patients (don't use alone, use test dose when getting new supply/from a new dealer, avoid mixing multiple sedating drugs/substances, loss of tolerance can increase risk of overdose)
    - Naloxone education and availability
7. Psychotherapy
- Overview of main forms of psychotherapy (e.g. cognitive, behavioral, integrative)
8. Stimulants (cocaine, methamphetamines/amphetamines)

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- Relative risk of overdose/withdrawal and management
- Importance of psychotherapy, limited evidence for pharmacotherapy

9. Urine drug screens

- Interpretation
  - Institution, lab-specific
  - False positives, false negatives

**Evaluation**

- The preceptor will evaluate the student on achievement of the predefined goals and objectives for the rotation. Students will also be asked for any specific personal goals for the rotation.
- Students will also be evaluated on their interactions with pharmacists, pharmacy technicians, physicians, nurses, and other staff within the organization, as well as daily discussions with the preceptor concerning patient care and discussion topics.
- The evaluation will include an oral mid-point evaluation to assess progress. The preceptor and student will complete a final written evaluation at the conclusion of the rotation according to school of pharmacy criteria.

**Resources**

<b>Alcohol</b>
Fuster, D et al. Alcohol Use in Patients with Chronic Liver Disease. NEJM.2018; 379(13): 1251-1261.
National Collaborating Centre for Mental Health (UK). Alcohol-Use Disorders: Diagnosis, Assessment and Management of Harmful Drinking and Alcohol Dependence. Leicester (UK): British Psychological Society; 2011. (NICE Clinical Guidelines, No. 115.) Available from: <a href="https://www.ncbi.nlm.nih.gov/books/NBK65487/">https://www.ncbi.nlm.nih.gov/books/NBK65487/</a>
Substance Abuse and Mental Health Services Administration. National Institute on Alcohol Abuse and Alcoholism. Medication for the treatment of alcohol use disorder: a brief guide. 2015. Available from: <a href="http://store.samhsa.gov/shin/content/SMA15-4907/SMA15-4907.pdf">http://store.samhsa.gov/shin/content/SMA15-4907/SMA15-4907.pdf</a> .
<b>Benzodiazepines</b>
Ashton, H. (2002). <i>Benzodiazepines: How They Work &amp; How to Withdraw, The Ashton Manual</i> . Benzo.org.uk. Available at: <a href="http://www.benzo.org.uk/manual/bzcha01.htm">http://www.benzo.org.uk/manual/bzcha01.htm</a>
Gold, J and Ward, K. Pharmacist Toolkit: Benzodiazepine Taper. 2018. College of Psychiatric and Neurologic Pharmacists (CPNP). Available at: <a href="https://cpnp.org/guideline/benzo">https://cpnp.org/guideline/benzo</a>
Welsh JW et al. Review: Adjunctive pharmacologic approaches for benzodiazepine tapers. Drug and Alcohol Dependence. 2018; 189: 96-107.
<b>GHB</b>
McDonough M et al. Clinical features and management of gamma-hydroxybutyrate (GHB) withdrawal: a review. Drug and Alcohol Dependence. 2004; 75(1):3-9.
<b>Opioids</b>
CAMH, 2012: Buprenorphine/naloxone for Opioid Dependence: Clinical Practice Guideline ( <a href="http://knowledgex.camh.net/primary_care/guidelines_materials/Documents/buprenorphine_naloxone_gdlns2012.pdf">http://knowledgex.camh.net/primary_care/guidelines_materials/Documents/buprenorphine_naloxone_gdlns2012.pdf</a> )



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CAMH, 2015: Opioid Agonist Maintenance Treatment: A Pharmacist’s Guide to Methadone and Buprenorphine for Opioid Use Disorders
College of Physicians and Surgeons of Ontario 2011 Methadone Maintenance Treatment: Program Standards and Clinical Guidelines ( <a href="https://www.cpso.on.ca/uploadedFiles/members/MMT-Guidelines.pdf">https://www.cpso.on.ca/uploadedFiles/members/MMT-Guidelines.pdf</a> )
Mattick RP, Breen C, Kimber J and Davoli M. (2014). Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. Cochrane Database Systematic Review.
Substance Abuse and Mental Health Services Administration. TIP 63: Medications for Opioid Use Disorder. Available from: <a href="http://store.samhsa.gov/shin/content/SMA15-4907/SMA15-4907.pdf">http://store.samhsa.gov/shin/content/SMA15-4907/SMA15-4907.pdf</a> .
<b>Pain</b>
Busse JW et al. Guideline for opioid therapy and chronic non cancer pain. CMAJ. 2017; 189(18): E659–E666.
Dowell D et al. CDC Guideline for Prescribing Opioids for Chronic Pain- United States, 2016. JAMA. 2016; 315(15):1624-1645.
Finnerup N et al. Pharmacotherapy for neuropathic pain in adults. A systematic review and meta-analysis. Lancet Neurol. 2015 Feb; 14(2): 162-73
Gilron, I et al. Neuropathic Pain: Principles of Diagnosis and Treatment. Mayo Clinic Proceedings. 2015; 90(4): 532-545.
Krebs, E et al. Effect of Opioid vs Non-opioid Medications on Pain-related Function in Patients with Chronic Back Pain or Hip or Knee Osteoarthritis Pain. The SPACE Randomized Clinic Trial. JAMA. 2018; 320(5):508–509.
Murphy, L et al. Guidance on opioid tapering in the context of chronic pain: Evidence, practical advice and frequently asked questions. Canadian Pharmacists Journal. 2018; 151(2): 114-120.
<b>Stimulants</b>
Halie, C et al. Pharmacotherapy for Stimulant-Related Disorders. Curr Psychiatry Rep. 2013; 15(11).
<b>Urine Drug Screens</b>
Moeller KE et al. Urine Drug Screening: Practical Guide for Clinicians. Mayo Clin Proc. 2008;83(1)66-76.