## NEI’s Master Psychopharmacology Program
### Study Guide: Substance Use and Impulsive-Compulsive Disorders

<table>
<thead>
<tr>
<th>Subtopic</th>
<th>Benchmarks (You Should Be Able To)</th>
<th>Recommended Resources</th>
</tr>
</thead>
</table>
| **Symptom Presentation and Assessment**       | Define key terms related to abuse and reward  
Identify screening and diagnostic tools for evaluating presence of a substance use disorder  
Identify common presentations of acute intoxication with different drugs  
Identify potential consequences of long-term abuse of substances  
Evaluate potential conditions/behaviors that may be considered impulsive-compulsive disorders | **Additional Resources**
A Real World Look at Synthetic Drugs of Abuse (CME video) |
| **Neurobiology of Reward**                    | Link naturally occurring brain substances to corresponding drugs of abuse  
Identify the final common pathway of reward  
Describe the hypothesized brain regions, circuits, and neurotransmitters implicated in the reward system  
Describe the hypothetical neurobiology of impulsivity and compulsivity  
Explain the relevance of tonic versus phasic neurotransmission to risk of addiction | **Learning Activities**
How Does Normal Reward Seeking Behavior Become Pathological (CME animation)  
**Additional Resources**

*You may choose any 24 non-expired Learning Activities to complete the requirements of the Master Psychopharmacology Program. For the full list of Master Psychopharmacology Program requirements, please visit nei.global/mpp.*  
**These resources do not count toward the requirements of the Master Psychopharmacology Program and are merely listed here as useful resources for additional study.*
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<td><strong>Drugs of Abuse</strong></td>
<td>Explain how each drug of abuse exerts its effects on the brain</td>
<td>Learning Activities*</td>
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<td>Explain the differential effects of mode of delivery on abuse potential</td>
<td><strong>Cannabis and the Developing Brain, Part 1: The Endocannabinoid System (CME animation)</strong></td>
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<td>Differentiate the mechanisms of action of methylphenidate, amphetamine, cocaine, and methamphetamine</td>
<td><strong>Cannabis and the Developing Brain, Part 2: Consequences of Heavy Use (CME animation)</strong></td>
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<td>**Mechanisms of Treatments for SUD</td>
<td>Differentiate the molecular actions of agonists, partial agonists, and antagonists at nicotinic receptors</td>
<td>Additional Resources**</td>
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<tr>
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<td>Identify and differentiate mechanisms to increase abstinence and/or reduce craving and withdrawal for alcohol</td>
<td>Stahl SM, Grady MM. Stahl’s illustrated substance use and impulsive disorders. New York, NY; Cambridge University Press; 2012.</td>
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<tr>
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<td>Identify and differentiate mechanisms to reduce craving and withdrawal for opiates</td>
<td>Marijuana Use and its Impact on Mental Health (CME video)</td>
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<td>When Good Drugs Go Bad: Abuse and Misuse of Stimulants (CME video)</td>
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| Treatments for SUD and Impulsive-Compulsive Disorders | Differentiate the clinical profiles of agents used to treat nicotine dependence  
Differentiate the clinical profiles of agents used to treat alcohol abuse/dependence  
Differentiate the clinical profiles of agents used to treat opioid dependence  
Explain the concept of reduced-risk drinking  
Prioritize treatment order when substance abuse/dependence presents with comorbid psychiatric disorders  
Identify novel mechanisms and strategies being investigated for potential application to treatment of substance use disorders | Learning Activities*  
Saving Pinkman: Immunotherapy for Stimulant Abuse (CME article)  
Additional Resources**  
NEI Prescribe  
SUD medication prescribing information/package inserts.  
32-Year-Old Teacher With Opioid Use Disorder (CME case)  
Alcohol Use Disorder: Treatment in the Context of Mental Illness (CME video)  
Opioid Use Disorder: The Role of the Psychopharmacologist (CME video)  
Achieving Recovery in Opioid Use Disorder: A Guide to Prescribing Medication-Assisted Treatment (CME video)  
This Month in Psychopharmacology, Addiction/Reward articles | |
| Special Considerations       | Explain recommendations for SUD treatment selection/maintenance in women who are pregnant or breastfeeding  
Identify SUD treatments for which recommendations are different for individuals with comorbid/medical complications | Additional Resources**  
NEI Prescribe  
SUD medication prescribing information/package inserts. |

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