Educational Objectives:
At the conclusion of this session, the participant will:
1. be familiar with the regulations governing controlled substance prescribing in Missouri by advanced practice registered nurses.
2. distinguish between addiction, physical dependence, tolerance, and pseudoaddiction.
3. be familiar with a free, web-based tool for executing opioid medication conversions.

1. Be familiar with the regulations governing controlled substance prescribing in Missouri by advanced practice registered nurses.

  - On-line Registration System
  - Print/Verify a Registration
  - Publications
  - Laws and Regulations
  - Frequently Asked Questions
  - Applications and Forms

  - Topical Index of Citations
  - Laws → Chapter 195 – Drug Regulation
  - Regulations → 19C SR 30-1
  - Federal Regulations → Federal Controlled Substances Act and Code of Federal Regulations

  - See statute, 335.019, RSMo
  - See rule, 20 CSR 2200-4.100 APRN
  - See rule, 20 CSR 2200-4.200 Collaborative Practice
  - Instructions for Controlled Substance Prescriptive Authority
  - Bureau of Narcotics and Dangerous Drugs (BNDD)
  - Drug Enforcement Administration (DEA)

Missouri Department of Health and Senior Services
Bureau of Narcotics and Dangerous Drugs
3418 Knipp Drive
PO Box 570
Jefferson City, MO 65102
(573) 751-6321    (573) 751-2569 fax

Drug Enforcement Administration
317 South 16th Street
St. Louis, MO 63103
Phone: (314) 538-4600
Toll Free #: (888) 803-1179
Fax: (314) 538-4622
Steps in Registering to Prescribe Controlled Substances

1. Submit evidence of completion of an advanced pharmacology course with preceptorial experience:
   - Official final transcript from an advanced program
   - Letter from an advanced program describing how preceptorial experience was integrated into the curriculum
   - Evidence of completion of 3 credit hours post-baccalaureate advanced pharmacology course from an accredited college/university within the last 5 years.
   - Evidence of completion of 45 continuing education units (CEUs) in pharmacology in the last 5 years.

2. Submit a completed “Statement of Preceptorial Experience” form, provided by the Board, for evidence of 300 clock hours of preceptorial experience in the prescription of drugs, medicines, and therapeutic devices with a qualified preceptor.

3. Submit a completed “Statement of Practice in APRN category” form for evidence of 1000 hours of clinical experience in the advanced practice nursing category.

4. Submit a completed “Statement of Controlled Substance Delegation” form

2. Distinguish between addiction, physical dependence, tolerance, and pseudoaddiction.

- **Tolerance:** Diminution of drug effect over time as consequence of exposure to the drug

- **Physical dependence:** The occurrence of an “abstinence syndrome” following administration of an antagonist drug or abrupt dose reduction or discontinuation
  - “Abstinence syndrome” is equivalent to the term “withdrawal syndrome”
  - Tapering: to avoid withdrawal (AKA abstinence) symptoms in opioid-dependent patients, decrease opioid dose slowly; by no more than 20-25% per day

- **Addiction:** a behavioral pattern characterized as loss of control over drug use, compulsive drug use, and continued use of a drug despite harm
  - Drug seeking behaviors
    - Using multiple providers and pharmacies to receive narcotic prescriptions
    - Escalating the dose or frequency of narcotic use without provider input
    - Calling or visiting the clinic early for additional narcotic prescriptions
    - Visiting the ER for prescriptions
    - Claiming to have lost prescriptions or medications
    - Discussing opioids to the exclusion of all else during visits; not keeping visits other than to receive opioids; not following through on therapy other than opioids

- **Pseudoaddiction:** Pattern of medication-seeking behavior of patients receiving inadequate pain management that can be mistaken for addiction
Cases:
(1) Mrs. A, a 50-year-old woman with chronic leg pain related to old osteomyelitis requests opioid pain medication. Medical records from her previous care provider show that the patient was fired for “drug-seeking behavior” and for taking excessive amounts of her prescribed medication, which consisted of 120 tablets of hydrocodone 5 mg/acetaminophen 325mg per month. Mrs. A tells you that 4 tablets per day did not begin to relieve her around-the-clock pain (pain level 8/10) and that she had experimented and found that 10 per day were required for her to be able to function (pain level 3-4/10). Naturally, she ran out very early and asked for early refills. The other provider was unwilling to increase the dose, and after several early refills, he discharged Mrs. A. The patient’s old records did not indicate any other “red flags” for addictive disorders. The provider obtains liver function tests and prescribes a sustained-release opioid, 25 mcg/hour fentanyl patch, 1 every 3 days. The patient returns a week later, and says that her pain on the new medication is 1-2/10. Six months later, on the same dose, the pain is still well controlled.

Lessons:

(2) Mr. B, a 37-year-old auto-mechanic, twisted his back in a work injury and complained of severe pain (8/10). After a history (including questioning about addiction history, which he denied) and physical examination, he was diagnosed with “lumbar strain” and was given a prescription for hydrocodone 5 mg/acetaminophen 325 mg, 4 per day. On his return visit 2 weeks later, he said he was no better, so his dose was doubled. After 2 more weeks, he returned complaining that his pain level was unchanged at 8/10. At this point, his physician changed his medication regimen to sustained-release oxycodone 40 mg twice a day. Another 2 weeks later, the patient still stated that his pain level was 7-8/10. The physician now ordered an MRI of the back—the results were normal. The physician doubled the dose of sustained-release oxycodone, to 80 mg twice a day. When this did not provide additional relief the physician finally obtained records from Mr. B’s previous doctors and learned that Mr. B had a long history of escalating opioid use for various injuries as well as multiple ED visits to obtain pain medications for various problems. In fact, he had a long history of abuse of prescription drugs.

Lessons:
3. Be familiar with a free, web-based tool for executing opioid medication conversions.

- “Advanced Opioid Converter” using [www.globalrph.com](http://www.globalrph.com)

“The authors make no claims of the accuracy of the information contained herein; and these suggested doses and/or guidelines are not a substitute for clinical judgment. Neither GlobalRPh Inc. nor any other party involved in the preparation of this document shall be liable for any special, consequential, or exemplary damages resulting in whole or part from any user’s use of or reliance upon this material.”

- [http://www.globalrph.com/opioidconverter2.htm](http://www.globalrph.com/opioidconverter2.htm)

- Converting Opioid Narcotics
  1. Calculate the 24 hour doses of each opioid given (include all narcotics)
  2. Convert to Morphine Equivalent Daily Dose (MEDD) (the 24 hour equivalent dose of morphine)

<table>
<thead>
<tr>
<th>Analgesic</th>
<th>Parenteral (mg)</th>
<th>Oral (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fentanyl</td>
<td>0.1</td>
<td>----</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>----</td>
<td>30</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>----</td>
<td>20</td>
</tr>
</tbody>
</table>

Set up a ratio and solve for $X$

$$Opioid\ A = \frac{mg\ of\ Opioid\ A\ compared\ to\ morphine}{mg\ of\ morphine\ compared\ to\ Opioid\ A}$$

3. Convert MEs to desired opioid while taking into account incomplete cross-tolerance

- Patient Case

(3) Mr. C is a patient with chronic pain who has been receiving oxycodone/APAP 5/325 q 6 hours plus long-acting morphine 15 mg once daily by mouth which is well controlled (2-3 out of 10). He needs to be converted to hydrocodone/APAP for insurance reasons.

1. Calculate the 24 hour doses of each opioid given (include both morphine and oxycodone)
2. Convert to Morphine Equivalent Daily Dose (MEDD)
3. Convert MEs to hydrocodone
   - Factor in 50%, 33%, 25% and 0 for incomplete cross-tolerance.