**NYSMPEP Chronic Non-Cancer Pain (CNCP) Module**

**Key Message 3:**
- For patients on SAO < 90 days, the prescriber should determine the appropriateness and necessity of switching opioid therapy to an equivalent dose of LAO.
  - SAO trials should NOT exceed 90 days
  - Patients with CNCP should NEVER be on more than 1 LAO at a time

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**Advantages of LAO vs. SAO Therapy**

- Ability to achieve more consistent control of pain with fewer daily doses
- Improved adherence
- Lower risk of addiction/abuse

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**Morphine-Equivalent Dose (MED)**

- MED represents doses at which equivalent analgesic effects may be observed for morphine and other opioids. MED is used to determine the appropriate dose when switching from 1 opioid to another, or converting from an SAO to a LAO.
- **Caution should be used when the patient’s daily MED exceeds 90 mg/day to 100 mg/day**
  - Patients should be reassessed for treatment efficacy, adherence and aberrant behaviors
  - Patients receiving ≥100 mg/day of morphine equivalent had a 9-fold increase risk of overdose. Most overdoses were medically serious and 12% were fatal.

**Steps to Calculate MED:**

1. Determine the total 24-hour dose of the current opioid.
2. Convert the previous opioid dose to the oral morphine equivalent (see table 1). For each opioid, multiply the current 24-hour dose by the RATIO of the equivalent dose of PO morphine to the existing opioid.
3. Convert the daily dose of morphine to the opioid of choice by multiplying PO morphine total by the RATIO of the new opioid to PO morphine.
4. Take the 24-hour starting dose of the new opioid and divide by the frequency of administration to give the new dose.
5. **Adjust for incomplete cross-tolerance by decreasing the new drug dosage by 25-50%.**
6. Monitor for adverse events and effectiveness.
7. **Reassess the analgesic effect every 2-3 days.**

### Table 1: MORPHINE EQUIVALENT FACTORS

<table>
<thead>
<tr>
<th>Major Group</th>
<th>Type of Opioid</th>
<th>Morphine equivalent conversion factor per oral mg of opioid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-acting</strong></td>
<td>Codeine+ (acetaminophen, ibuprofen, or aspirin)</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Less potent</strong></td>
<td>Hydrocodone + (acetaminophen, ibuprofen, or aspirin)</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Hydrocodone and homatropine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tramadol with or without aspirin</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Butalbital and codeine (with or without aspirin/ibuprofen/acetaminophen)</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>Dihydrocodeine (with or without aspirin/ibuprofen/acetaminophen)</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>Pentazocine (with or without aspirin/ibuprofen/acetaminophen)</td>
<td>0.37</td>
</tr>
<tr>
<td><strong>Short-acting, More Potent</strong></td>
<td>Morphone sulfate</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Codeine sulfate</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>Oxycodone (with or without aspirin/ibuprofen/acetaminophen)</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Hydromorphone</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Meperidine hydrochloride</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Fentanyl citrate transmucosal*</td>
<td>0.125</td>
</tr>
<tr>
<td></td>
<td>Oxymorphone</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Long-acting</strong></td>
<td>Morphone sulfate sustained release</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Fentanyl transdermal</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Levorphanol tartrate</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>Oxycodone HCL controlled release</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Methadone+</td>
<td>3.0</td>
</tr>
</tbody>
</table>

* Fentanyl transmucosal: mcg dose must be converted to mg - rough estimate of conversion factor provided above
+ Methadone: Equianalgesic dosing ratios between methadone and other opioids are complex, typically a mg to mg conversion is not adequate due to the complex and variable pharmacokinetics and pharmacodynamics of methadone. Should only be prescribed by clinicians who are familiar with its use and risks.

### Discontinuation of Opioid Therapy

Discontinuation of opioid therapy may be recommended for any of the following reasons:

- Severe, unmanageable adverse effects
- Serious non-adherence to the treatment plan or unsafe behaviors
- Misuse that is suggestive of addiction
- Lack of effectiveness of therapy to meet treatment goal or if there is a desire from the patient to discontinue therapy

### Protocol for Tapering Opioid Therapy:

1. Patients dose by 20-50% per week; slow tapering will help to minimize adverse/withdrawal effects
2. Tapering schedules should be individualized for each patient – some literature suggests that the longer the person has been on opioids the slower the taper should be
3. Monitor the patient frequently during tapering (e.g., at each dose change)
4. Consider use of adjuvant agents such as antidepressants to manage irritability, sleep disturbance or antiepileptics for neuropathic pain
5. Referral for counseling or other support during this period is recommended

Symptoms of mild opioid withdrawal may persist for 6 months after opioids have been discontinued. DO NOT treat withdrawal symptoms with opioids or benzodiazepines after discontinuing opioids.
**MED Calculation Example:**

**What is the MED for a patient taking hydrocodone/APAP 5-325mg by mouth Q4H?**

1) Hydrocodone 5 mg x 6 (pills per day) = 30mg per day
2) Hydrocodone morphine equivalent conversion factor = 1
3) 30 mg x 1 = 30 mg/day MED

**If you wanted to switch the patient from hydrocodone/APAP 5-325mg to oxycodone CR:**

1) Hydrocodone daily MED 30 mg x 1.5 (oxycodone CR morphine equivalent conversion factor)= 45 mg/day MED oxycodone CR
2) To take into account opioid cross-tolerance 45 mg/day MED oxycodone CR by 25-50%.
   45 mg/day MED oxycodone CR by 50% = 22.5 mg/day MED oxycodone CR
3) Appropriate dose of oxycodone CR would be 10 mg by mouth Q12h

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**SUMMARY:**

- All patients started on opioid therapy for CNCP should be required to sign a patient-prescriber opioid agreement
- Initiation of SAOs should be at low doses and written for the shortest time possible; 7-day trial per New York State Public Health Law Section 3331, 5. (b), (c)
- Patients on opioid therapy require frequent monitoring, e.g., every 1-2 weeks, especially when changes to therapy are being made
- Trials of SAO should not exceed 90 days
- LAOs should never be considered a first-line opioid option for CNCP, especially in opioid-naive patients
- Know and calculate your patients MED. **Use caution as MED reaches or exceeds 90 mg/day to 100 mg/day.**

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