Rotating Opioids to Manage Chronic Pain

Why Opioid Rotations Work

Opioid rotation is the switching of one opioid to another, with the goal of improving therapy who is having inadequate benefits (including loss of previous benefits). This strategy can be especially important in patients who are taking high doses of opioids or are at high risk of adverse effects, the clinician may choose a different opioid for the patient. Opioid rotation can be used in the following situations:

- The patient is not benefiting from their current opioid therapy
- The patient is taking high doses of opioids or is at high risk of adverse effects
- The patient is experiencing side effects that are intolerable
- The patient is experiencing opioid-induced hyperalgesia (paradoxical increased pain due to opioid treatment)

Steps Example

1. **Determine the current total daily dose of each opioid taken by the patient.**
2. **Identify the new opioid to be tried.**
3. **Assess the amount of the IR opioid.**
4. **Reduce the target daily dose of hydromorphone.**
5. **Increase the dose of the ER hydromorphone.**
6. **Check for interactions with other medications.**
7. **Observe and monitor the patient for signs of overdose.**

Signs of Overdose:

- Dusky lips and nailbeds
- Dilated pupils
- Stomach cramping
- Drowsiness
- Sedation, “nodding off” during conversation or activity
- Slurred or drawling speech
- Ataxia
- Restlessness
- Sedation occurs before significant respiratory depression and overdose, so it is an important sign to monitor.

What to Consider When Determining the Opioid Dose

The specific details of any opioid rotation depend on the specific patient scenario. Below we outline the 7 steps typically involved in a rotation, along with a clinical example and sample calculations.*

* These calculations can be performed using online calculators, such as https://globalrph.com/medcalcs/

**Determine the current total daily dose of each opioid taken by the patient.**

**Example:**

- IR oxycodone 2.5 mg five times daily = 12.5 mg daily
- ER oxycodone 10 mg every 8 hours = 30 mg daily
- The patient is transitioning from immediate-release (IR) oxycodone to extended-release (ER) hydromorphone.

**Step 4**

**Reduce the target daily dose of hydromorphone.**

**Example:**

- ER hydromorphone 8 mg once daily
- Convert the IR oxycodone 2.5 mg five times daily

**Conversion factor for hydromorphone:**

1 mg = 4 MME

**Example:**

- IR oxycodone 5 mg five times daily or 25 mg daily
- ER hydromorphone 8 mg once daily

15.9 mg – (0.25 × 15.9) = 12 mg

**Step 5**

**Increase the dose of the ER hydromorphone.**

**Example:**

- Reduce the target daily dose of hydromorphone by 2.5 mg
- Increase the dose of the ER hydromorphone by 2.5 mg

12 mg + 2.5 mg = 14.5 mg

**Step 7**

**Observe and monitor the patient for signs of overdose.**

**Example:**

- The patient reports increased pain
- Increase the dose of the ER hydromorphone to 15 mg

Remember

- Opioid rotations require a trial period to determine the effectiveness and tolerability of the new opioid
- The patient should be monitored closely for signs of overdose
- The patient should be prepared for opioid withdrawal symptoms

**Medical and psychiatric comorbidities**

- The patient has a history of depression and anxiety
- The patient has a history of substance use disorder

**Potential drug interactions based on concurrent medication use**

- The patient is taking benzodiazepines
- The patient is taking other opioids

**Interactions with other medications**

- The patient is taking non-opioid medications
- The patient is taking other sedatives

**Metabolic enzyme and pathway activity**

- The patient has a history of liver disease
- The patient has a history of kidney disease

**Why Opioid Rotations Don’t Work**

- The patient is not compliant with their treatment plan
- The patient is not following their pain management plan
- The patient is not receiving adequate pain relief

**What to Consider When Opioid Rotations Fail**

- The patient is experiencing increased pain
- The patient is experiencing decreased pain relief
- The patient is experiencing side effects

Remember:

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**References**

- Massachute Medical Society. All rights reserved.
- Manage 2009 Sep; 38:418.
- 4 MME
- 1 mg
- 3 MME
- 45 MME
- 3.5 MME
- 15.9 mg
- 2 mg