Step 3. Opioids for Moderate to Severe Pain
Hydromorphone (preferred), morphine, oxycodone

<table>
<thead>
<tr>
<th>OPIOID</th>
<th>Single Dose Opioid Equivalence to Morphine 10 mg PO or 5 mg IV/SC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral (mg)</td>
</tr>
<tr>
<td>*HYDROMorphone</td>
<td>2</td>
</tr>
<tr>
<td>*Oxycodone</td>
<td>5</td>
</tr>
<tr>
<td>*Morphine</td>
<td>10</td>
</tr>
<tr>
<td>*Codeine</td>
<td>100</td>
</tr>
</tbody>
</table>

**Fentanyl patch**- See chart in CPS for conversion from the oral morphine maintenance dose

Opioid dosing considerations:
- Use (immediate release) opioid tablet q4h with access to PRN doses q1h. (or liquid formulation)
- The sc dose is ⅓ of the oral dose.
- Monitor response every 24 hours, if in pain or using more than 3 breakthrough doses/24hrs and no toxicity, increase regular dose and PRN by 25-30% daily until pain control achieved.
- Recommended PRN dose is 10% of the total 24hr dose, and can be given q1h.
- If pain is under control using an immediate release opioid product, consider switching to an oral controlled release opioid product (CR/ER/SR/PR).
- Caution when converting from fentanyl patch due to uncertain absorption through the skin.

### HYDROMorphone
Injection: 2 mg/ml, 10 mg/ml and others
- Tablet: 1, 2, 4, 8 mg
- CR po cap: 3, 4.5, 6, 9, 12, 18, 24, 30 mg Hydromorphp Contin® (bid dosing)
- PR po tab: 4, 8, 16, 32 mg Jurnista® (daily dosing)
- Liquid: 1 mg/ml

### Morphine
Injection: 1, 2, 5, 10 and 15 mg/ml
- Tablet: 5, 10, 20, 25, 30, 40, 50, 60 mg
- SR po tab: 10, 15, 20, 30, 40, 50, 60 mg MS Contin® (bid dosing)
- ER po cap: 10, 20, 50, 100 mg M-Esol® (bid dosing)
- SR po cap: 10, 20, 50, 100 mg Kadian (daily dosing)
- Liquid: 1mg/ml

### Oxycodone
Injection: 1, 2, 10 and 20 mg
- Tablet: 5, 10, 20, 30, 40, 60, 80 mg OxyNEO® (bid dosing: needs special approval)

### Fentanyl
Transdermal Patch: 12, 25, 50, 75, 100 mcg/hr Duragesic® - Change patch q 72 hrs.

### Codeine
Tablet: 15, 30 mg
- CR po tab: 50, 100, 150, 200 mg
- Codeine Contin® (bid dosing)
- Liquid: 5 mg/ml

Note: Opioid Product Availability

Legend: long-acting oral opioid formulations:
- CR= controlled-release;
- ER= extended-release;
- SR= sustained-release;
- PR= prolonged-release

Medications and Doses

### Step 1: Non-Opioids
Acetaminophen: up to 4 g daily
NSAIDs: avoid in heart failure and renal failure. If used, consider gastric protection.

### Step 2. Opioids for mild to moderate pain
Codeine ("weak opioid"), codeine/acetaminophen, tramadol, tramadol/acetaminophen

Note: Opioid toxicity can increase with renal or liver impairment

1. Pain Principles
   - Assess for multiple pain sources
   - Treat potential reversible causes
   - WHO ladder for prescribing analgesics
   - Consider adding co-analgesics:
     - Bone pain, Non-infective pleuritic pain, Liver capsule pain, Neuropathic pain
   - Review analgesic requirements every 24h
   - Treat by mouth (preferred)
     - by the clock
     - by the WHO ladder
     - by the patient
     - always provide PRN analgesia for ‘breakthrough pain’
2. Common Opioid Side Effects

Constipation, nausea, vomiting, dry mouth, drowsiness, confusion, urinary retention, itchiness

Opioid toxicity

Consider if patient is:
- More drowsy
- Restless, confused or delirious**, or has:
- Visual hallucinations
- Severe myoclonic jerks
- Respiratory depression
- Signs of hyperalgesia

If toxicity occurs:
- Review analgesia and co-analgesia use
- Assess for cause, e.g. infection
- Check kidney & liver function and serum calcium
- Reduce the opioid maintenance dose
- **Naloxone only for severe respiratory depression; use a low dose

Example dosing

<table>
<thead>
<tr>
<th>Opioid naive patient</th>
<th><strong>Note:</strong> Dose range is provided for reference.</th>
<th>Opioid treated patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydromorphone 0.5 – 1 mg po or 0.2 – 0.5 mg sc</td>
<td>Prescribe a specific dose (not a range)</td>
<td>If pain uncontrolled, increased fixed schedule dose by 25-30%. If renal impairment, reduce dose by 25% or consider using hydromorphone. If side effects occur with increased dose, reduce the opioid and add a co-analgesic drug (eg, gabapentin, dexamethasone, acetaminophen, IV bisphosphonate, antidepressant).</td>
</tr>
<tr>
<td>Repeat q1h PRN until pain relieved. PRN dose can be equal to or half of the q4h dose. See opioid dose equivalency table.</td>
<td>Prescribe a specific frequency (not a range)</td>
<td></td>
</tr>
</tbody>
</table>
Dyspnea

- Treat underlying medical conditions
- Avoid overhydration
- Simple measures - fan, well-ventilated space, avoid crowding around the bed, repositioning, energy conservation, breath control, reassurance, relaxation techniques
- Psychological & spiritual support
- Supplemental oxygen if hypoxic

Pharmacological treatment

- Opioids are the mainstay of treatment. Use regular and PRN dosing (as for pain)
- Bronchodilator, for treatment of reversible bronchoconstriction.
- For the anxiety component, consider any of: benzodiazepine/antidepressant/neuroleptic.
- Anti-inflammatory therapy can be an effective adjunct (dexamethasone).

Opioid naive

Hydromorphone 0.5 – 1 mg po or 0.2 – 0.5 mg sc q1h PRN until SOB relieved.

Opioid treated patient

Increase scheduled dose by 25 – 30% as needed
If still breathless, add:
- Benzodiazepine PRN:
  - Midazolam 0.5 – 2.5 mg sc q1h PRN (use 5 mg/ml) or via CADD pump (2 mg/ml)
  - Lorazepam 0.5 – 2 mg SL/sc q2-4h PRN (4 mg/ml)
  - Clonazepam 0.5 mg po od- bid PRN (max 8 mg/d)
- Dexamethasone 4 – 24 mg po/sc daily
- Bronchodilator:
  - Salbutamol 2 puffs q4h PRN via spacer (preferred) or Salbutamol 2.5 mg by nebulizer q4h prn

Acknowledgment

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