Treatment of Respiratory Depression

1. Establish a patent airway, apply oxygen, and ventilate patient if necessary. Comprehensive assessment is the first step to choosing appropriate interventions.

2. FOR RESPIRATORY RATE <7/MIN: Dilate one ampule naloxone 0.4 mg in 9 ml NS for injection (for a total of 10 ml of dilution). Inject 2 ml of diluted naloxone q 2 minutes until respiratory rate improves (RR >7/min) and/or drowsiness abates. Call physician. IF PATIENT IS APNEIC: Give naloxone 0.4 mg q 2 minutes until respiratory rate improves (RR >7/min) and call Rapid Response Team.

Sedation precedes respiratory depression. Physical stimulation may be sufficient to prevent hypventilation since patients do not succumb to respiratory depression while awake. Careful titration of naloxone is necessary. Comprehensive assessment is the first step to choosing appropriate interventions.

Management of Opioid Side Effects

In addition to the treatments listed, consider adding co-analgesics. Side Effect Treatment Considerations

Constipation

Begin bowel regimen when opioid therapy initiated. (laxatives, cathartics, or osmotic agents)

Tolerance usually develops in 3-5 days. (codeine, opium, orpiment)

Avoid concurrent use of sedatives/analgesics. (tetracycline, methotrexate, penicillin)

Consider non-opioid analgesics (ibuprofen, ketorolac, acetaminophen)

Consideration is opioid rotation or dose reduction. Cross-tolerance may be beneficial.

WILDA PAIN ASSESSMENT

Words to Describe Pain

Aching

Burning

Dull

Stabbing

Sharp

Throbbing

Pressure

Pain Intensity Scale

10

9

8

7

6

5

4

3

2

1

No Pain

Worst Pain Possible

Unable to do any activities because of pain.

Very Severe Pain

Unable to do most activities because of pain.

Severe Pain

Unable to do some activities because of pain.

Moderate Pain

Able to do most activities with rest periods.

Mild Pain

Pain is present but does not limit activity.

Location of Pain

Dysfunction of Pain

Does it hurt all the time or does it come and go?

Aggravating and/or Alleviating factors+

What makes the pain better?

What makes the pain worse?

Non-Pharmacologic Interventions

Heating pad

Ice/Cold packs

Compression wraps

Massage

Relaxation

Elevation

Repositioning

Massage

Spining

Imagery

Music

Humor

Distraction

Aromatherapy

Activity

Environmental Rest

Spirirtual care

Therapeutic

Pain Management

Aggravating and/or Alleviating factors+

What makes the pain better?

What makes the pain worse?

Management of Opioid Side Effects

In addition to the treatments listed, consider adding co-analgesics. Side Effect Treatment Considerations

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Pain Management Pocket Guide

Developed by KUMC Pain Management Resource Team

Principles of Pain Management

1. Accept patient’s report of pain.

2. Comprehensive assessment is the first step to choosing appropriate interventions.

3. Pain management regimen must be individualized.

4. Discuss goals and plans with patient/family.

5. Use a multimodal approach by combining non-pharmacologic treatments, non-opioids, adjuvants, and opioids.

6. Aggressively manage the side effects of opioids. There is no tolerance to the constipating effect of opioids (see chart).

7. Assess the need for pain treatment such as nerve blocks, epidurals, joint blocks, etc. Contact Anesthesia/Pain Management for a consult.

8. The use of opioids should be initiated as a trial. Long-term use may prove to be poorly tolerated or ineffective.

9. Persistent pain usually requires both scheduled (long-acting) and PRN dosing of medications. Frequent use of PRN medication may indicate a need for increased doses of scheduled medications.

10. AVOID IM injections—they are painful and are erratically absorbed.

11. Use the most least invasive route whenever possible (PO, transdermal).

12. It is recommended that methadone be used only by clinicians familiar with its use and risks.

13. If frequent IV doses are required, then consider use of patient-controlled analgesia (PCA).


15. Ideally, patients should be on an oral regimen for 24 hours prior to discharge to make sure they can replicate at home.

The material was developed by KUMC Pain Management Resource Team and adapted by the Great Plains Quality Innovation Network, the Medicare Quality Improvement Organization for Kansas, Nebraska, North Dakota, and South Dakota, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 11SOW-14P-63-0010.
**Muscle Relaxants**

- **Baclofen** (Lioresal)
- **Tizanidine** (Zanaflex)
- **Gabapentin** (Neurontin)
- **Nortriptyline** (Pamelor)/ Amitriptyline (Elavil)/

**Non Steroidal Anti-Inflammatories (NSAID)**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Uses</th>
<th>Starting Dose</th>
<th>Maximum Dose in 24h</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspirin</strong></td>
<td>(Tylenol)</td>
<td>500-1000 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acetaminophen</strong></td>
<td></td>
<td>4000 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Naproxen</strong></td>
<td>(Naproxyn, Aleve)</td>
<td>250 mg</td>
<td>1200 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Ketorolac</strong></td>
<td>(Toradol)</td>
<td>30 mg IV initial, 4-6 h</td>
<td>30 mg subsequent, 6-8 h</td>
<td></td>
</tr>
</tbody>
</table>

**Adjuvant Analgesic Drugs**

- **Hydromorphone**
- **Methadone**
- **Fentanyl**

**Acute Pain Dosing and Tapering Opioids**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Equianalgesic Dose</th>
<th>Dosage Interval</th>
<th>Maximum Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydromorphone</strong></td>
<td>PO: 30 mg**</td>
<td>30-60 min</td>
<td>1200 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Methadone</strong></td>
<td>PO: 8 mg**</td>
<td>2-4 hrs</td>
<td>60 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Fentanyl</strong></td>
<td>IV: 1.5 mg (x20)</td>
<td>30-60 min</td>
<td>30 mg</td>
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</tr>
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**Opioid Equianalgesia Table**

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**Dosing Guidelines for breakthrough PRN medications**

- **Hydromorphone (Butorphanol)**
- **Tuctopain (Buprenorphine)**
- **Vixodin (Buprenorphine, Fevru)**

**Acute Pain Dosing and Tapering Opioids**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosing Guidelines</th>
<th>Range Orders</th>
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<tr>
<td><strong>Hydromorphone</strong></td>
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**Opioid Equianalgesia Table (DOS = sum of all opioids available in US)**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose Interval</th>
<th>Various Non-Parenteral Forms Available</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydromorphone</strong></td>
<td></td>
<td>Tylenol, Tylenol ER, Exidor (300 mg),</td>
<td></td>
</tr>
<tr>
<td><strong>Methadone</strong></td>
<td></td>
<td>methadone, Detraject, Methadone, Methad</td>
<td></td>
</tr>
<tr>
<td><strong>Fentanyl</strong></td>
<td></td>
<td>ion, Fentora, Fentora SR, Fentanyl, Fent</td>
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**Range Orders**

- **Patients who require opioid mediations around-the-clock, may be candidates for a long-acting opioid agent.**
- **If not controlled - reduce the new opioid dose by 25%**
- **If pain is not controlled - give 50% of the new opioid dose**
- **For all opioids, the PRN dose may be given 2-3 times daily in the absence of pain**
- **Starting dose of 10 mg every 4-6 hours, does not occur, or is decreased.**

**Acute Pain Dosing and Tapering Opioids**

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