**Patient Care Goals:**
1. Compassionately manage all patients with pain.

**Patient Presentation:**

**Inclusion Criteria**

All patients with pain may benefit from non-pharmacological intervention.

All patients with acute traumatic pain, cancer related pain, or sickle cell crisis with moderate or severe pain should be screened for analgesia administration.

Paramedic clinical judgment for other conditions or situations.

**Exclusion Criteria**

None

* Fentanyl Treatment:
  0.5 to 1 mcg/kg to a maximum initial single dose of 100 mcg.
  Repeat dosing up to a maximum subsequent dose of 100 mcg can be given every 10 minutes.
  Maximum cumulative dose of 300 mcg over duration of transport if needed.
  Provider judgement and patient response should guide dosing strategy; caution with hypotension.

§ Ketamine Treatment:
  0.1 mg/kg for IV/IO (dilute 100mg in 100mL; max dose 10mg)
  0.5 mg/kg for IM (do not dilute; max dose 50mg)
  Dosing chart next page below for ease of dosing.
  May repeat q 10mins for a total of 3 doses.
  Ideal for painful EMS procedure, patients with hypotension or at risk for hypoventilation; PRN alternative to opioids.

**Minor Pain or Adjunctive Treatment:**

**Acetaminophen**

10 to 15 mg/kg max of 1,000 mg PO (can use tablets for larger patients)

**Ketorolac**

Adult dose: 15 mg IV/IO slow push
  1 mg/kg IM, max dose 60 mg

Pediatric dose: 0.5 mg/kg IV/IO slow push, max of 15 mg
  1 mg/kg IM, max dose 60 mg

**Quality Improvement:**

Key Documentation Elements
1. Initial and re-occurring pain score (numeric, FACES or FLACC)
2. Pulse Oximetry
3. ETCO2 as directed
4. Subsequent need for BVM or naloxone

**Patient Safety Considerations:**

Non-invasive capnography to assess for hypoventilation as needed or directed; use escalation of stimulation, NPA/OPA airway adjunct, BVM and/or naloxone if hypoventilation occurs/continues.
# General Medicine: PAIN MANAGEMENT

## Medical Protocol

- **Initiated:** 02/13/2008
- **Reviewed/Revised:** 09/18/2018
- **Revision:** 8
- **Approved:** M. Riccardo Colella, DO, MPH, FACEP
- **WI DHS EMS Approval:** 03/01/2018

## KETAMINE

<table>
<thead>
<tr>
<th>KETAMINE</th>
<th>ADULT DOSE</th>
<th>PEDIATRIC DOSE</th>
<th>ADMINISTRATION GUIDELINE</th>
<th>INDICATIONS</th>
<th>CONTRAINDICATIONS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Dose (mg)</td>
<td>1.5</td>
<td>3</td>
<td>4.5</td>
<td>6</td>
<td>7.5</td>
<td>9</td>
</tr>
</tbody>
</table>

- **Post Airway Sedation (0.3mg/kg):**
  - 1.5 mL
  - 3 mL
  - 4.5 mL
  - 6 mL
  - 7.5 mL
  - 9 mL
  - 10.5 mL
  - 12 mL
  - 15 mL
  - 18 mL
  - 21 mL
  - 24 mL
  - 27 mL
  - 30 mL

### Analgesia IM

- **0.5 mg/kg**
  - Max Dose 50 mg
  - Concentration: 500 mg in 5 mL
  - Do not dilute
  - Pain Control

### Analgesia IV/IO SLOW PUSH

- **0.1 mg/kg**
  - Max Dose 10 mg
  - Concentration: Dilute 100 mg in 100 mL
  - Dilute 100 mg into 100 mL bag
  - Pain Control

### Weight (kg) |
<table>
<thead>
<tr>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Dose (mg)</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>3.5</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Analgesia (0.5mg/kg)</td>
<td>0 mL</td>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>0.2 mL</td>
<td>0.2 mL</td>
<td>0.3 mL</td>
<td>0.3 mL</td>
<td>0.4 mL</td>
<td>0.4 mL</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

- **Analgesia (0.1mg/kg):**
  - 0.5 mL
  - 1 mL
  - 1.5 mL
  - 2 mL
  - 2.5 mL
  - 3 mL
  - 3.5 mL
  - 4 mL
  - 5 mL
  - 6 mL
  - 7 mL
  - 8 mL
  - 9 mL
  - 10 mL
## FLACC Pain Scale

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score = 0</th>
<th>Score = 1</th>
<th>Score = 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>No particular expression or smile</td>
<td>Occasional grimace or frown, withdrawn, uninterested</td>
<td>Frequent to constant quivering chin, clenched jaw</td>
</tr>
<tr>
<td>Legs</td>
<td>Normal position or relaxed</td>
<td>Uneasy, restless, tense</td>
<td>Kicking, or legs drawn up</td>
</tr>
<tr>
<td>Activity</td>
<td>Lying quietly, normal position, moves easily</td>
<td>Squirming, shifting, back and forth, tense</td>
<td>Arched, rigid or jerking</td>
</tr>
<tr>
<td>Cry</td>
<td>No cry (awake or asleep)</td>
<td>Moans or whimpers, occasional complaint</td>
<td>Crying steadily, screams or sobs, frequent complaints</td>
</tr>
<tr>
<td>Consolability</td>
<td>Content, relaxed</td>
<td>Reassured by occasional touching, hugging, or being talked to, distractible</td>
<td>Difficult to console or comfort</td>
</tr>
</tbody>
</table>

## Numeric Pain Scale

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
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