PICU/CTICU OPIOID WITHDRAWAL PREVENTION GUIDELINES

GOAL: Shorten patients’ duration of opiate utilization while minimizing symptoms of withdrawal and over-sedation.

PATIENT READY FOR WEANING OF OPIOIDS?:

YES

INITIATE:
- WAT Scores every 6 hours (as baseline)
- Initiate and Post Bedside WORKSHEET

RISK STRATIFY FOR WITHDRAWAL:
Based upon # of days on continuous opioid infusions

LOW RISK
Continuous Opioids < 5 days.

MODERATE RISK:
Continuous Opioids 5-7 days.

HIGH RISK:
Continuous Opioids 8-30 days.

VERY HIGH RISK:
Continuous Opioids > 30 days.

CONVERSION:
Using DOSING GUIDELINE TABLE for scheduled & PRN doses.

Scheduled opioids not necessary.

Start IV Hydromorphone and D/C drip.
(See Dosing Guideline Table)

OR
Start IV Hydromorphone & D/C drip if PO/NG not an option.
(See Dosing Guideline Table)

Start PO Methadone
- After 2nd dose ↓ drip by 50%
- After 3rd dose ↓ drip by 50%
- After 4th dose D/C drip

OR
Start IV Hydromorphone & D/C drip if PO/NG not an option.
(See Dosing Guideline Table)

Start PO Methadone
- After 3rd dose ↓ drip by 50%
- After 6th dose ↓ drip by 50%
- After 8th dose D/C drip

OR
Start IV Hydromorphone & D/C drip if PO/NG not an option.
(See Dosing Guideline Table)

ASSESS FOR WITHDRAWAL:

CONCERNED ABOUT WITHDRAWAL?:
(Unlike if no wean of medications in previous 48 hours)

YES

Current WAT ≥ 4 & >2 above baseline?

NO

NO, WEAN

WEAN:
Decrease dose each day by 20% of original daily dose.
Duration of wean: 5 days

Decrease dose every other day by 20% of original daily dose.
Duration of wean: 10 days

Decrease dose every other day by 10% of original daily dose.
Duration of wean: >10 days

YES

HOLD WEAN:
- If 3 or MORE PRN’s in Last 24hrs – Hold Wean.
- If 5 or MORE PRN’s Last 24hrs – Consider returning to previous scheduled dose.

CONCERN FOR WITHDRAWAL:

NOTE: As with all guidelines, individual patients may require deviation from this guideline and clinical judgment is advised.
PICU/CTICU BENZODIAZEPINE WITHDRAWAL PREVENTION GUIDELINES

**GOAL:** Shorten patients’ duration of benzodiazepine utilization while minimizing symptoms of withdrawal and over-sedation.

**KEY:**
- BZD = benzodiazepine
- ATC = around the clock
- PRN = as needed dose

**RISK STRATIFY FOR WITHDRAWAL:**
Based upon # of days on continuous BDZ infusions

**LOW RISK:** ATC / Continuous BZD < 5 days.
**MODERATE RISK:** ATC / Continuous BZD 5-7 days.
**HIGH RISK:** ATC / Continuous BZD 8-30 days.
**VERY HIGH RISK:** ATC / Continuous BZD > 30 days.

**CONVERSION:**
- Using DOSING GUIDELINE TABLE for scheduled & PRN doses.
- Start IV Lorazepam and D/C infusion.
  - (See Dosing Guideline Table)

**ASSESS FOR WITHDRAWAL:**
- CONCERNED ABOUT WITHDRAWAL? (Unlikely if no wean of medications in previous 24 hours)

**WEAN:**
- Decrease dose each day by 20% of original daily dose.
  - Duration of wean: 5 days
- Decrease dose every other day by 20% of original daily dose.
  - Duration of wean: 10 days
- Decrease dose every other day by 10% of original daily dose.
  - Duration of wean: > 10 days

**CONCERN FOR WITHDRAWAL:**
- HOLD WEAN
  - If 3 or MORE PRN’s in Last 24hrs – Hold Wean.
  - If 5 or MORE PRN’s Last 24hrs – Consider returning to previous scheduled dose.

**NOTE:** As with all guidelines, individual patients may require deviation from this guideline and clinical judgment is advised.
Withdrawal Minimization Dosing Guideline Table

**Opioids:**

<table>
<thead>
<tr>
<th>Current Infusion Dose</th>
<th>Recommended Scheduled Dosing</th>
<th>PRN Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fentanyl Drip</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 mcg/kg/hr</td>
<td>0.05 mg/kg/dose PO Q8H</td>
<td>0.01 mg/kg/dose IV Q4H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 mcg/kg/hr</td>
<td>0.1 mg/kg/dose PO Q8H</td>
<td>0.02 mg/kg/dose IV Q4H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 mcg/kg/hr</td>
<td>0.1 mg/kg/dose PO Q8H</td>
<td>0.02 mg/kg/dose IV Q4H</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 mcg/kg/hr</td>
<td>0.15 mg/kg/dose PO Q8H</td>
<td>0.03 mg/kg/dose IV Q4H</td>
</tr>
</tbody>
</table>

| **Hydromorphone Drip** |                             |            |
| 0.005 mg/kg/hr (=5mcg/kg/hr) | 0.1 mg/kg/dose PO Q8H | 0.02 mg/kg/dose IV Q4H | 0.02 mg/kg/dose IV Q2-4H PRN |
| 0.01 mg/kg/hr (=10 mcg/kg/hr) | 0.1 mg/kg/dose PO Q8H | 0.04 mg/kg/dose IV Q4H | 0.04 mg/kg/dose IV Q2-4H PRN |
| 0.015 mg/kg/hr (=15mcg/kg/hr) | 0.1 mg/kg/dose PO Q8H | 0.06 mg/kg/dose IV Q4H | 0.06 mg/kg/dose IV Q2-4H PRN |
| 0.02 mg/kg/hr (=20mcg/kg/hr) | 0.15 mg/kg/dose PO Q8H | Use Methadone or Wean Infusion | 0.08 mg/kg/dose IV Q2-4H PRN |
| 0.025 mg/kg/hr (=25mcg/kg/hr) | 0.15 mg/kg/dose PO Q8H | Use Methadone or Wean Infusion | 0.08 mg/kg/dose IV Q2-4H PRN |
| 0.03 mg/kg/hr (=30mcg/kg/hr) | 0.15 mg/kg/dose PO Q8H | Use Methadone or Wean Infusion | 0.08 mg/kg/dose IV Q2-4H PRN |

| **Morphine Drip**     |                             |            |
| 0.1 mg/kg/hr          | 0.05 mg/kg/dose PO Q8H      | 0.01 mg/kg/dose IV Q4H | 0.01 mg/kg/dose IV Q2-4H PRN |
| 0.2 mg/kg/hr          | 0.1 mg/kg/dose PO Q8H       | 0.02 mg/kg/dose IV Q4H | 0.02 mg/kg/dose IV Q2-4H PRN |
| 0.3 mg/kg/hr          | 0.1 mg/kg/dose PO Q8H       | 0.02 mg/kg/dose IV Q4H | 0.02 mg/kg/dose IV Q2-4H PRN |
| 0.4 mg/kg/hr          | 0.15 mg/kg/dose PO Q8H      | 0.03 mg/kg/dose IV Q4H | 0.03 mg/kg/dose IV Q2-4H PRN |

**IV to PO Conversion:** Hydromorphone IV : PO = 1 : 5; Methadone IV : PO = 1 : 0.7.
### Withdrawal Minimization Dosing Guideline Table

**Benzodiazepines:**

<table>
<thead>
<tr>
<th>Current Infusion Dose</th>
<th>Recommended Scheduled Dosing</th>
<th>PRN Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Midazolam Drip</strong></td>
<td>IV Lorazepam (Max Dose: 4 mg)</td>
<td>PRN IV Lorazepam (Max Dose: 4 mg)</td>
</tr>
<tr>
<td>0.06 mg/kg/hour</td>
<td>0.05 mg/kg/dose IV/PO Q4H</td>
<td>0.025-0.05 mg/kg/dose IV Q2-4H PRN</td>
</tr>
<tr>
<td>0.12 mg/kg/hour</td>
<td>0.1 mg/kg/dose IV/PO Q4H</td>
<td>0.05-0.1 mg/kg/dose IV Q2-4H PRN</td>
</tr>
<tr>
<td>0.18 mg/kg/hour</td>
<td>0.15 mg/kg/dose IV/PO Q4H</td>
<td>0.1-0.15 mg/kg/dose IV Q2-4H PRN</td>
</tr>
<tr>
<td>0.24 mg/kg/hour</td>
<td>0.25 mg/kg/dose IV/PO Q4H</td>
<td>0.15-0.25 mg/kg/dose IV Q2-4H PRN</td>
</tr>
</tbody>
</table>

**Lorazepam IV : PO = 1 : 1**

Lorazepam Intermittent Dosing at Intervals Other Than Q4H Should be Converted to Q4H Equivalents (Calculator will do this automatically).