DUKE UNIVERSITY HEALTH SYSTEM
PAIN, AGITATION, AND DELIRIUM (PAD) ORDER SET FOR MECHANICALLY VENTILATED ICU PATIENTS

OPIOID-TOLERANT/HIGH
Patients who have taken the equivalent of the following medications for one week or longer: oral morphine 60 mg/day, oral hydrocodone 60 mg/day, oral oxycodone 40 mg/day, oral hydromorphone 15 mg/day. Also appropriate for anticipated significant opioid requirements (e.g. massive trauma)

NOT intended for the following populations: neuromuscular blockade, oscillation ventilation, targeted temperature management, refractory intracranial hypertension, status epilepticus, severe alcohol withdrawal or any other indication where deep sedation may be warranted as determined by provider.

- Discontinue previous intravenous and enteral analgesic and sedative orders
- Medication Message Order: PAIN-AGITATION-DELIRIUM PROTOCOL
- Review patient’s home medications to assess for opiate tolerance and consider restarting adjunctive analgesics

STEP 1 – PAIN: Titrated analgesia to maintain GOAL of ≤ 3 using the Numeric Rating Scale (NRS, 1-10) (preferred as gold standard) or CPOT ≤ 2. Assess every 4 hours while at goal. Assess pain within 30-60 minutes after dose changes or titrations. Consider PCA if patient can appropriately manage.

☐ Fentanyl

- Continuous Infusion: Fentanyl 12.5-150 mcg/hr IV. Give bolus when infusion starts. Initiate infusion at *** mcg/hr. If ≥ 4 PRNs are required in less than 4 hours, then increase by 12.5 mcg/hr
  - If NRS > 3 or CPOT > 2 (pain present)
    - Give fentanyl bolus for acute pain
    - If ≥ 4 PRNs are required in less than 4 hours, then increase infusion by 12.5 mcg/hr
  - If NRS ≤ 3 or CPOT ≤ 2 (pain at goal) AND
    - RASS below goal
      - Patient on opioid infusion only: Hold opioid infusion until RASS at goal. May resume at one-half of previous infusion rate if pain above goal.
      - Patient on opioid infusion and sedative: Wean sedative to goal RASS. If sedative weaned to off, and NRS ≤ 3 or CPOT ≤ 2 and RASS remains below goal, hold opioid infusion until RASS at goal. May resume at one-half of previous infusion rate if pain above goal.
    - RASS at goal for 4 hours
      - Decrease infusion rate by 12.5 mcg/hr and reassess per protocol.
    - RASS above goal
      - Notify provider and proceed to Step 2
  - Bolus from Infusion PRN: Fentanyl PRN bolus from infusion 12.5-150 mcg IV every 30 minutes PRN pain (NRS > 3 or CPOT > 2), ventilator asynchrony, pre-emptive analgesia. PRN dose is equivalent to infusion rate. A PRN for pre-emptive analgesia does not count in advancing protocol (example: changing infusion rate).

☐ Hydromorphone

- Continuous Infusion: Hydromorphone 0.25-2 mg/hr. Give bolus when infusion starts. Initiate infusion at *** mcg/hr. If ≥ 4 PRNs required in less than 4 hours, increase by 0.25 mg/hr.
  - If NRS > 3 or CPOT > 2 (pain present)
    - Give hydromorphone bolus for acute pain
    - If ≥ 4 PRNs are required in less than 4 hours, then increase infusion by 0.25 mcg/hr
  - If NRS ≤ 3 or CPOT ≤ 2 (pain at goal) AND
    - RASS below goal:
      - Patient on opioid infusion only: Hold opioid infusion until RASS at goal. May resume at one-half of previous infusion rate if pain above goal.
      - Patient on opioid infusion and sedative: Wean sedative first to goal RASS. If sedative weaned to off, and NRS ≤ 3 or CPOT ≤ 2 and RASS remain below goal, hold opioid infusion until RASS at goal. May resume at one-half of previous infusion rate if pain above goal.
- **RASS at goal** for 4 hours
  - Decrease by 0.25 mg/hr and reassess per protocol.
- **RASS above goal**
  - Notify provider and proceed to Step 2.
- **Bolus from Infusion PRN:** Hydromorphone PRN bolus from infusion 0.25-2 mg IV every 30 min PRN pain (NRS > 3 or CPOT >2), ventilator asynchrony, pre-emptive analgesia. PRN dose is equivalent to infusion rate. A PRN for pre-emptive analgesia does not count in advancing protocol (example: changing infusion rate).

### STEP 2 – AGITATION

Assess RASS every 4 hours if at goal. Assess RASS 1 hour after dose changes or titrations.

If no specific indication for sedative exists (e.g. alcohol withdrawal) then proceed to the following in order of preference:

- ✓ **Propofol 1000 mg/100 mL premix (concentration 10 mg/mL)**
  - Propofol 5-60 mcg/kg/min. Initial propofol starting rate of 5 mcg/kg/min. Titrate infusion to goal RASS.
  - Dose may be adjusted in increments of 5 mcg/kg/min every 5 minutes.
  - Patient must be mechanically ventilated. Requires continuous ECG monitoring
  - Consider checking triglycerides 48 hours after propofol initiation, and every 7 days thereafter.
- ✓ **Dexmedetomidine 400 mcg/100 mL premix (concentration 4 mcg/mL)**
  - Dexmedetomidine 0.2-1 mcg/hr. Initial dexmedetomidine starting rate of 0.3 mcg/kg/hr. Titrate infusion to goal RASS. Dose may be adjusted in increments of 0.1 mcg/kg/hr every 15 minutes. Do not exceed 1 mcg/kg/hr.

**CRITERIA FOR USE:** CHECK ALL THAT APPLY (MUST CHECK TO PROCEED)

- Anticipated extubation in less than 12-24 hours
- Failure of other sedation strategies and is experiencing severe agitation
- Contraindication to propofol

**Second-Line**

- ✓ Lorazepam 1 mg IV PRN every 4 hours PRN agitation, pain at goal, and RASS above goal. Notify provider if requires 3 doses over 12 hours.

### STEP 3 – DELIRIUM

Assess every 12 hours using CAM-ICU. Goal is CAM-ICU negative or patient’s baseline. Assess that all causes of delirium have been ruled out and/or treated and consider the use of non-pharmacologic strategies for delirium management.

- ✓ Delirium prevention and sleep enhancement measures per nursing policy
- ✓ Contact provider for a newly identified CAM-positive assessment

### ADJUNCTIVE AGENTS

- ✓ Senna-s 2 tablets VT BID
- ✓ Miralax 17g VT daily
- ✓ Acetaminophen ___ mg VT q6 hours

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Rev. JS/BLK/MS/MJS & ICU Sedation Committee 07/2016