SUBJECT/TITLE: Monitoring Over-Sedation in Patients Receiving Opioids for Pain Management (Inpatient Care Areas except ICU and Burn Unit)

PURPOSE: To provide safe care while managing a patient’s pain. To prevent over-sedation and respiratory depression in patients receiving opioids for pain management. To outline sedation monitoring of patients receiving opioids for pain management.

DEFINITIONS:

1. **Opioid-Tolerant Patients**: Patients who have been taking scheduled opioids for at least the previous 5 days may be considered opioid-tolerant. Tolerance to opioid side-effects, such as, respiratory and other CNS effects, generally develops with regularly scheduled opioid therapy for 5 days or more.¹

2. **Opioid-Naïve Patients**: Patients who have not been on opioids regularly for the past week and are susceptible to respiratory depression, since tolerance has not been developed.¹,²

POLICY:

1. Staff members will provide appropriate monitoring and assessment to prevent over-sedation and respiratory depression in patients receiving any opioids for pain management as listed in the procedure section of this policy.

   A. Patients at high risk for over-sedation are or have.⁴,⁵,⁷,⁸,⁹,¹⁰, E1-6:
      1) Obstructive sleep apnea
      2) Central sleep apnea
      3) Snoring
      4) Obesity/Bariatric (BMI greater than 35mg/m²)
      5) Age 65 or greater, infants less than 6 months or premature infants less than 12 months of age
      6) End-stage organ failure, such as, liver, renal, or cardiac
7) Altered CNS function
8) Concurrent use of sedating medications, such as, muscle relaxants, benzodiazepines, antihistamines and anxiolytics
9) Supplemental oxygen use (oximetry may mask hypoventilation)
10) Patient Controlled Analgesia (especially with basal rate)
11) Caregiver Controlled Analgesia
12) Altered airway (e.g. oral mucositis, chronic pulmonary conditions, such as, CO2 retention, tracheostomy, home ventilatory support/CPAP or BiPAP)

B. Monitor patients:
   1) To ensure adequate oxygenation, ventilation and patient safety
   2) To evaluate response to treatment
   3) Because the **first 24 hours is the most crucial time for monitoring**\(^1,6,7,:\)
      a) After surgery
      b) When existing doses of analgesics are altered
      c) When new analgesic modalities are introduced


3. Respiratory and sedation monitoring is not required, but may be ordered at the discretion of the licensed independent practitioner for the following patients:
   A. End-of-life situations
   B. Palliative Care Service

**PROCEDURE:**

Monitoring Guidelines
Frequency of Assessment
Intervention
Documentation
Assessment During Sleep

1. Monitoring guidelines while opioids are administered:
   A. Standard Assessment:
      1) Pain assessment/pain level per Nursing Pain Management policy (for further details see Department of Nursing Services and Patient Care Standards of Practice N-02.041 Pain Management for Adults: Inpatient and N-CWS-PEDS-02.080 Pain Management for Infants and Children) and is summarized briefly:
         a) Pain assessment is individualized.
b) Any patient in pain should be reassessed routinely (e.g. no less than every 4 hours) and following pain treatment (e.g. dependent upon the intervention being used).

c) Reassessment may include: pain intensity, acceptable intensity level, quality, location, alleviating and aggravating factors, and/or nonverbal signs of pain.

2) Respiratory assessment\(^{1,2,6,7,8, E6}\)

a) Respiratory rate (e.g. watch for changes in respiratory rate)

b) Respiratory rhythm/pattern (e.g. regularity of respirations; presence/absence of apnea)

c) Respiratory effort (e.g. no spontaneous effort)

d) Respiratory depth (e.g. shallow)

e) Airway characteristics (e.g. presence of snoring, gurgling)

f) Continuous pulse oximetry monitoring during the first 48 hours for patients on pediatric general care floors (2JCP and 3JCP) receiving continuous opioid infusions.

3) Sedation level:

a) Modified Pasero Opioid Sedation Scale (POSS):\(^{1,3,6,7, E6}\)

0 = Sleep and easy to arouse. *Acceptable; no action necessary; may increase opioid dose if needed/ordered*

1 = Awake and alert. *Acceptable; no action necessary; may increase opioid dose if needed/ordered*

2 = Slightly drowsy, easily aroused. *Acceptable; no action necessary; may increase opioid dose if needed/ordered*

3 = Frequently drowsy, arousable, drifts off to sleep during conversation. *Unacceptable; continue to monitor more frequently until return to baseline. Notify LIP and consider calling the Rapid Response Team and giving dilute naloxone (see UIHC Formulary for administration guidelines – Naloxone).*

4 = Somnolent, minimal or no response to physical stimulation. *Unacceptable; stop opioid; continue to monitor more frequently until return to baseline. Notify LIP and consider calling the Rapid Response Team and giving dilute naloxone (see UIHC Formulary for administration guidelines – Naloxone).*

B. Frequency of sedation and respiratory assessment as outlined above in section A:

1) Opioid IV Infusions/Drips/PCA/CCA with and without a basal, and/or long-acting or sustained released opioids (e.g. MS Contin, Oxycontin, Fentanyl Duragesic Patch)(Note: if the patient has been on ongoing opioid therapy for more than 24 hours and then is switched over to a long-acting or sustained
release opioid, monitoring may proceed at the current frequency; monitoring does not need to start over when a new opioid is started - e.g., every 4 hours):

a) At initiation
   i. The initial reassessment after opioid administration should consider factors such as:
      • Peak effect of the opioid
      • Patient activity
      • Risk factors for sedation
      • Previous exposure to opioids

b) Then at least every 1 hours for 12 hours\textsuperscript{L7,8}

c) Then at least every 2 hours for 12 hours\textsuperscript{L8}

d) If stable, POSS score equal to or less than 2 AND absence of respiratory distress or respiratory rate at baseline, absence of apnea or snoring, then frequency is changed to every 4 hours for the duration of administration\textsuperscript{L8}

e) If POSS score 3 or 4, presence of respiratory distress/apnea/snoring, change in respiratory rate, patient unstable, patient condition warrants, or per nursing judgment, continue to monitor more frequently until return to baseline. Notify LIP and consider calling the Rapid Response Team and giving dilute naloxone (see UIHC Formulary for administration guidelines – Naloxone).

2) Nurse administered (e.g. prn or scheduled) doses, any route – each dose given:
   a) At initiation
   b) The initial reassessment after opioid administration should consider factors such as:
      i. Peak effect of the opioid
      ii. Patient activity
      iii. Risk factors for sedation
      iv. Previous exposure to opioids
   c) After the initial 24 hours, stable patients (as defined above in B.i.5.) receiving around-the-clock opioid dosing, re-assessment for sedation and pain level may be completed every 4 hours.
   d) When administering via NCA and the frequency is similar to PCA or continuous infusion, monitoring may be completed as described above in B.i.

C. Intervention
   1) Based on POSS and nursing assessment, measures will be taken to reduce the risk of over-sedation.
NOTE: If POSS score 3 or 4, presence of respiratory distress/apnea/snoring, change in respiratory rate, patient unstable, patient condition warrants, or per nursing judgment, continue to monitor more frequently until return to baseline. Notify LIP and consider calling the Rapid Response Team and giving dilute naloxone (see UIHC Formulary for administration guidelines – Naloxone).

D. Documentation

1) Document in the EMR on the Flowsheet under: “Modified Pasero Opioid-Induced Sedation Scale (POSS)” which includes:
   a) POSS Score (Sedation level)
   b) Resp (Respiratory rate)
   c) Respiratory (Rhythm/Pattern) (e.g. regular, bradypnea, apnea)
   d) Respiratory Effort (e.g. no spontaneous effort)
   e) Respiratory Depth (e.g. shallow)
   f) Airway Characteristics (e.g. snoring, gurgling)
   g) If necessary, document any action taken within the Clinician Communication Group.

2) Document continuous pulse oximetry readings hourly for the first 48 hrs for pediatric general care inpatients (2JCP and 3JCP) receiving continuous opioid infusions.

3) POSS Score (Sedation Level) may be viewed in the Pain Accordion Report.

PRECAUTIONS, CONSIDERATIONS, OBSERVATIONS:

1. Sedation usually precedes respiratory depression
2. POSS is for monitoring and early detection of unintended sedation with opioid administration.
3. While the patient is asleep
   A. Assess respiratory status
   B. Then assess sedation (e.g. responsiveness to stimuli, such as, patient stirs when the bed is bumped).
   C. Document “patient asleep” in the pain assessment section.
   D. If concerned or patient is snoring, arouse patient more fully.
4. Based on nursing judgment, patients alert, awake and/or participating in activities may not require a full respiratory assessment.
5. All hand-off reports should include patient monitoring status.
RELATED POLICIES:

N-02.401 Pain Management for Adults: Inpatient
N-07.062 Patient Controlled Analgesia
N-CWS-PEDS-02.080 Pain Management for Infants and Children
N-ISS-03.020 Sedation Management: Adult Mechanically Ventilated Patients in MICU and CVICU
N-00.050 Procedural Sedation and Analgesia
MM.3-4 Patient Controlled Analgesia
MM.3-18 Caregiver Controlled Analgesia
SS-A-01.19 Procedural Sedation and Analgesia Program

Refer to UIHC Formulary for Naloxone administration information and each specific opioid IV administration guidelines (Fentanyl Adult and Fentanyl Peds; Hydromorphone Adult and Hydromorphone Peds; Morphine Adult and Morphine Peds).

REFERENCES:


E6 Chris Pasero, MS, RN-BS, FAAN, Pain Management Educator and Clinical Consultant.

E7 Eric Edens

E8 Sameer

E9 Joss Thomas, MD

Date Created: 3/10
Source: Nursing Pain Task Force
Initial Approval Date: 7/10
Initial Effective Date: 7/10
Date Revised: 6/11
Date Reviewed: 6/11