SEDATION ANALGESIA BY NON-ANESTHESIOLOGIST

Effective Date: 1/96

Approved: Anesthesia MD: 10-2014 Sedation Committee: 10-2014 MEC: 11-2014

Last Reviewed/Revised Date: 01-2014, 11-2014

OSHA Category: II

# of Pages: 6

STANDARD:
To provide appropriate care for patients receiving sedation analgesia by non-anesthesiologist. This policy does not apply to the therapeutic management of pain control, anxiety, seizures, ventilated patients, urgent/emergent endotracheal intubation, peripheral nerve blocks, topical anesthesia or single dose drugs used as anxiolytics for procedures such as lumbar punctures, dressing changes or bone marrow aspiration.

SKILL LEVEL:
Physicians, RN The administration of sedation analgesia medication by registered nurses for moderate or deep sedation analgesia should only be performed under the continuous, direct and on-site supervision of the provider with privileges and/or appropriate education to do so.

DEFINITION:

MINIMAL SEDATION (ANXIOLYSIS) - A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

MODERATE SEDATION ANALGESIA - (formerly termed conscious sedation) A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, (note, reflex withdrawal from a painful stimulus is not considered a purposeful response) either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

DEEP SEDATION ANALGESIA - A drug-induced depression of consciousness during which patients cannot be easily aroused, but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

ANESTHESIA - Consists of general anesthesia and spinal or major regional anesthesia. It does not include local anesthesia. General anesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

PALS: Pediatric Advanced Life Support

ENPC: Emergency Nurses Pediatric Course

OVERSIGHT, RESPONSIBILITY AND PERFORMANCE IMPROVEMENT:
The Sedation Committee as delegated by the Medical Executive Committee is responsible for the development of standards of practice for sedation in collaboration with the Department of Anesthesia and other departments that provide the service. The Quality Management Department in collaboration with the Pharmacy will be responsible for overseeing the continuous quality improvement process for assessing outcomes in patients receiving sedation (Pre-assessment completion and outcomes data).
CREDENTIALING AND COMPETENCY:

Sufficient qualified individuals must be present to perform the procedure and to monitor the patient throughout administration and recovery.

The individuals administering sedation and monitoring sedated patients are required to:

1) Demonstrate knowledge of proper dosages, administration, adverse reactions, and interventions for adverse reactions and overdoses.

2) Demonstrate how to maintain an airway and rescue a patient from the next deeper level of sedation.

The requirements for ADULT moderate sedation can be met by:
- RN: biennially completed ACLS and educated in sedation analgesia to include use of Capnography (ETCO₂).
- Physician: Successful completion of written sedation analgesia test biennially.

OR
- Physicians with core privileges that include sedation analgesia (Emergency Medicine, Cardiology, Gastroenterology, Pulmonology, Otolaryngology, Cardiothoracic Surgery, Orthopedics with Assistance of ED Physicians [only in the ED]).

The requirements for ADULT deep sedation can be met by:
- RN: biennially completed ACLS and educated in sedation analgesia to include use of Capnography (ETCO₂).
- Physician: Successful completion of written sedation analgesia test and BCLS biennially.

OR
- Physicians with core privileges that include sedation analgesia and management of cardiovascular system (Emergency Medicine, Cardiology, Otolaryngology, Cardiothoracic Surgery, Orthopedics with Assistance of ED Physicians [only in the ED]).

The requirements for PEDIATRIC (<12 years of age) moderate sedation can be met by:
- RN: biennially completed PALS and/or ENPC and educated in sedation analgesia
- Physician: Successful completion of written sedation analgesia test biennially.

OR
- Physicians with core privileges that include sedation analgesia (Pediatrics, Neonatology, Emergency Medicine, Otolaryngology, and Orthopedics with Assistance of ED physician [only in the ED])

The requirements for PEDIATRIC (<12 years of age) deep sedation can be met by:
- RN: biennially completed PALS and/or ENPC and educated in sedation analgesia to include use of Capnography (ETCO₂).
- Physician: Successful completion of written sedation analgesia test and BCLS biennially.

OR
- Physicians with core privileges that include sedation analgesia and management of cardiovascular system (Pediatrics, Otolaryngology, Neonatology, Emergency Medicine, and Orthopedics with Assistance of ED physician)

Nurses who administer moderate/deep sedation medication must possess knowledge and clinical competence in the drugs administering.

1) Consideration of the need to involve anesthesia BEFORE problems arise during a procedure in the following types of patients:
   a) Morbid Obesity- An individual is considered morbidly obese if he or she is 100 pounds over his/her ideal body weight, has a BMI of 40 or more, or 35 or more and experience obesity-related health conditions, such as high blood pressure or diabetes.
      i) Preoperatively patients should be screened for morbid obesity
      ii) Morbidly obese patients frequently have Obstructed Sleep Apnea (OSA) and with conscious sedation have a high probability of airway obstruction.
      iii) Notify procedural physician to see if anesthesia consult is needed.
   b) Airway- the goal is to better screen patients who have a high likelihood of airway issues during a planned conscious sedation by a non-anesthesia provider.
      i) ANY patient with difficult airway requires an anesthesia consult prior to non-anesthesia conscious sedation
      ii) Contributing factors to a potential difficult airway include a prior history of difficult mask ventilation or intubation, morbid obesity, mallampati 3-4 on exam, short neck, microganthia, decreased range of motion with neck flexion, extension, prior neck surgery, obese male patients with beard/goatee.
      iii) Extremes of age or weight... elderly frail patients have a high risk of over sedation with minimal dose.
CONSULTATION OF ANESTHESIA:
The following are triggers that may indicate the patient’s condition is compromised and a consultation with Anesthesia may be necessary: the goal is to avoid over sedation and involve anesthesia prior to an airway is being lost or compromised. Notify procedural physician for consideration of anesthesia consult if the following are present:

1) ETCO₂ greater than 50 with a proper waveform on the capnography
2) Oxygen saturation less than 92%
3) Respiratory rate less than 8 indicating possible narcotization
4) Difficulty maintaining patient comfort during sedation with increased dose requirements
5) Patient unable to remain still during procedure despite increased dosing requirements
6) ANY difficulty maintaining a patent airway... If the patient requires jaw thrust or oral airway CONSIDER the potential need for consulting anesthesia.
7) When in doubt... call anesthesia to evaluate CRNA #6937

PRE-PROCEDURE:
2) A health history is required to be taken prior to the procedure on all patients receiving sedation. A nurse may collect this information and the physician corroborates the data with his signature. The health history includes a minimum documentation of:
   a) Current medications and dosages.
   b) Allergies, including past adverse drug reactions.
   c) History of previous experience to sedation and/or anesthetic agents.
   d) History of sleep apnea or abnormalities of head, neck, or mouth.
   e) Comorbid conditions.
   f) Pregnancy status
   g) Indication/symptoms for procedure requiring sedation.
   h) Time of last food and fluid intake should be determined and should be considered in the application of sedation analgesia.

For scheduled adult procedures, the patient should be NPO of liquids for 4 hours prior and NPO of solids for at least 7 hours prior. In the event that a patient requires sedation for an unscheduled, urgent, or emergent procedure, it shall be the judgment of the physician to administer sedation without the above NPO status or to delay the procedure until NPO status can be attained.

For scheduled procedures for ages 0-12 months, the patient should be NPO of formula/breast milk or solids for 3 hours. Pediatric patients greater than 12 months should be NPO of formula/breast milk and/or solids for 6 hours. All pediatric age groups may have clear liquids up until 2 hours prior to sedation. In the event that a patient requires sedation for an unscheduled, urgent, or emergent procedure, it shall be the judgment of the physician to administer sedation without the above NPO status or to delay the procedure until NPO status can be attained.

3) Risks, benefits, and alternatives of this type of sedation should be explained to the patient and consent signed by the physician.

4) A physical examination should be performed prior to the procedure on all patients receiving sedation; to include a minimum documentation of Components:
   a) Assessment of:
      i) Mental status and neurological state.
      ii) Baseline vital signs, including O₂ saturation with pulse oximeter, ETCO₂ and Mallampati airway classification 1-4. A Mallampati of 4 would require the Anesthesia Department to assist with the planning of sedation.
      iii) Skin color, warmth and sensation.
      iv) Aldrete Components
   b) Examination specific to procedure to be performed.
   c) Examination of heart and lungs by auscultation.
   d) Height and weight (may be estimated when it is impractical or impossible to obtain before the procedure).
e) ASA Risk classification 1-5. Status Definition:
   i) 1 A normal healthy patient
   ii) 2 A normal patient with mild systemic disease
   iii) 3 A patient with a severe systemic disease that limits activity, but is not incapacitating
   iv) 4 A patient with an incapacitating systemic disease that is a constant threat to life
   v) 5 A moribund patient not expected to survive 24 hours with or without the operation
   vi) Risk classification will be used to plan sedation. A risk of 4 or greater would require the Anesthesia Department to assist with the planning of sedation if the procedure will be performed outside of ICU, CTU, Cardiac Cath Lab or Emergency Department, Endoscopy, Interventional Radiology

5) Assessment & Time-out:
   i) An immediate pre-procedure assessment must be performed prior to sedation administration.
   ii) The site, procedure, and patient are accurately identified and clearly communicated, using active communication techniques, during a final verification process. This “timeout,” will be documented on the sedation flowsheet prior to the start of any surgical or invasive procedure.

6) Confirm patency of IV access before administering IV sedation.
7) Confirm the physician orders for dose, rate, etc. of the sedatives.
   a) All medications will be titrated and administered according to patient’s responsiveness under the direct order of a physician.
8) Initiate the fall prevention policy.
9) Confirm the presence of nearby emergency resuscitation equipment.
10) Apply O2 per nasal cannula, if prescribed by the physician.
11) Apply monitoring equipment to include ETCO₂

INTRA-PROCEDURE:

1) The patient must be observed continuously throughout the procedure: Monitoring parameters include:
   a) Respiratory rate, oxygen saturation, ETCO₂, blood pressure, cardiac rate and rhythm, and patient’s level of consciousness.
2) Monitoring parameters are obtained upon initial administration of sedation, every 5 minutes times then every 15 minutes based on patient’s condition and response to sedation.
3) A saline lock or continuous infusing IV must be present and used for administration of IV sedation medications.
4) Give verbal reassurance frequently throughout case.
5) Keep the head of the bed elevated to prevent aspiration, if procedure allows.
6) Pain will be assessed and documented in appropriate area.
7) During moderate or deep sedation the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide (ETCO₂), unless invalidated by the nature of the patient, procedure and equipment.

POST-PROCEDURE:
Monitor the following until stable, documenting every 5 minutes times 3, then every 15 minutes until patient meets discharge criteria.
1) Vital signs including O₂ saturation
2) Level of consciousness
3) Pain

DISCHARGE FROM UNIT CRITERIA:
Discharge the patient from the post-sedation recovery area, if applicable, when the following criteria are met.

1) A score of 8 on Aldrete Scoring System (modified) or return to pre-procedure Aldrete score is required for patient discharge.
   a) If patient unable to meet score of 8 must notify physician for discharge order.
   b) If procedure performed on a current patient ICU or CTU and nurses have demonstrated competency to care for patients undergoing sedation may continue the care of the patient provided appropriate handoff communication occurs.
CONDITIONS TO REPORT:
For adult patients these monitoring parameters will be immediately reported to physician as appropriate:
1) Significant decrease (<90%) in SaO2 for greater than 5 minutes.
2) ETCO2 greater than 50 mm Hg sustained for greater than 15 minutes.
3) Marked decrease in patient responsiveness to verbal/tactile stimulation.
4) Signs and symptoms of allergic reaction, medication dose intolerance and/or severe pain. If these conditions arise, they shall be documented on appropriate forms.
5) Airway interventions required to assist ventilation.
6) Hypotension requiring intervention.
7) Need for reversal medication.
8) Recovery time greater than one hour from end of procedure to discharge.

For Pediatric patients these monitoring parameters will be evaluated for possible significance and reported to the physician, as appropriate:
1) Oxygen saturation < 92%
2) ETCO2 greater than 50 mm Hg sustained for greater than 15 minutes.
3) Abnormal BP, HR/rhythm, RR, based on age.
4) Marked decrease in patient responsiveness to verbal/tactile stimulation.
5) Changes from baseline.
6) Signs and symptoms of allergic reaction, medication dose intolerance and/or severe pain. If these conditions arise, they shall be documented on appropriate forms.
7) Airway interventions required to assist ventilation.
8) Need for reversal medication.
9) Recovery time greater than one hour from end of procedure to discharge.

Monitoring of sedation analgesia documentation and quality issues will be completed by the Quality Management Department.

<table>
<thead>
<tr>
<th>Department</th>
<th>Performs moderate sedation</th>
<th>Performs Deep Sedation</th>
<th>Orientation Requirements</th>
<th>Care Plan for Recovery</th>
<th>Discharge Criteria Aldrete Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>X</td>
<td>X</td>
<td>Unit based and time in PACU ACLS required, Deep Sedation Education Packet</td>
<td>Generated out of HIS for post procedure care</td>
<td>Documented on Sedation Analgesia by Non-Anesthesiologist Flowsheet</td>
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<td>CTU</td>
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<td>Unit based and time in PACU ACLS required, Deep Sedation Education Packet</td>
<td>Post procedure interventions in cath lab documentation system</td>
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<tr>
<td>Non-Invasive Cath Lab</td>
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<td>Unit based ACLS required</td>
<td>Care plan incorporated into current documentation</td>
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<tr>
<td>Endoscopy Services</td>
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<td>Unit based PALS required</td>
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<td>Documented on Sedation Analgesia by Non-Anesthesiologist Flowsheet</td>
</tr>
</tbody>
</table>
Radiology X Unit based ACLS required PALS

Care Plan in Radiology Information System

Documented on Sedation Analgesia by Non-Anesthesiologist Flowsheet Patient to PACU for recovery

Emergency Department X X Unit based and time in PACU ACLS, PALS and/or ENPC required Deep Sedation Education Packet

Interventions for post procedure care documented in PICIS system

Documented on Sedation Analgesia by Non-Anesthesiologist Flowsheet

REFERENCES:


American Academy of Pediatrics Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures (RE9252)


The Joint Commission, E-Dition, Release 3.0, 2011


American Society of Anesthesiologists (July 20, 2005) JCAHO Compliance Toolkit, Sedation Model Policy. Taken off website http://www.asahq.org last modified 8/16/05.