DESCRIPTION/OVERVIEW
To safely administer and monitor conscious (moderate) sedation in accordance with the following procedure.

REFERENCES
Association of Operating Room Nurses (AORN) Recommended Practice – 2002 Standards and Guidelines.

AREAS OF RESPONSIBILITY
This procedure applies to situations where patients are receiving conscious sedation.
This procedure does not apply to anxiolysis (minimal sedation) or for sedation used for therapeutic management of pain control, mechanically ventilated patients in the intensive care unit, management of seizures, or patients under the immediate and direct management of the Department of Anesthesiology.

PROCEDURE
1. Conscious/Moderate sedation describes a drug-induced state of reduced consciousness that allows the patient to tolerate invasive procedures, maintain a patent airway independently, retain protective cardiorespiratory reflexes, and the ability to respond to physical and/or verbal stimulation. The goal is for the patient to have a protected airway and maintain cardiovascular function.
2. Patients who do not respond to verbal command and whose only response is reflex withdrawal from painful stimuli are deeply sedated approaching a state of general anesthesia. Deeply sedated patients require careful and ongoing cardiopulmonary monitoring to ensure the adequacy of pulmonary ventilation and hemodynamic stability. This level of sedation does not fall within the scope of this procedure. Deep Sedation is managed according to separate procedure: “Procedural Sedation – Deep”.
3. Informed consent for the procedure and moderate/conscious sedation must be obtained prior to the initiation of moderate/conscious sedation according to the “Consents Invasive Procedure/Operative Policy”. This is accomplished after the practitioner has performed the History and Physical (H&P) and is able to complete a Risk/Benefit analysis.
Universal protocol and documentation of a time-out is required. Only RNs, GNs under supervision, Specialty Registered Respiratory Therapists with their expanded scope of practice, mid-level providers or physicians may administer moderate/conscious sedation medication provided they have current certification and competency (see Attachment C).

4. LPN II’s may administer PO/PR Chloral Hydrate and provide monitoring for those patients under the supervision of an RN, provided they have current age-appropriate ALS certification and demonstrated moderate/conscious sedation competency via the class or module, and complete the annual on-line competency.

5. The above mentioned qualified personnel managing the procedural care of the patient receiving moderate/conscious sedation should have **no other responsibilities** that would require leaving the patient unattended or compromising continuous patient monitoring during the procedure. The qualified personnel administering moderate/conscious sedation will report off to the accepting staff all of their patient care responsibilities for the duration of the procedure and recovery.

6. In the following situations, the LIP should consider consultation with an anesthesiologist prior to sedation:
   6.1 Patient does not fulfill NPO criteria and requires emergency diagnostic exam or procedure.
   6.2 Severe cardiopulmonary, neurological or other organ system disease, which may present a significant hazard with the administration of sedation.
   6.3 Potential difficult airway management (i.e. distorted anatomy, obstructive sleep apnea, morbid obesity, micrognathia, immobilization of the head and neck).
   6.4 Patient taking medication that may adversely react with sedatives or analgesics (i.e. MAO inhibitors).
   6.5 Prior history of adverse reaction to sedation or anesthesia.

7. Patients who score as an American Society of Anesthesiology: Physical Status (ASA: PS) class 4, 5 or E are not appropriate candidates for moderate/conscious sedation. (See attachment A)

9. Appropriately trained staff must accompany patients who receive moderate/conscious sedation and require transfer off the floor for procedures.

10. **Essential Equipment**: All moderate/conscious sedation patients will be monitored with at least the following equipment:
   10.1 Non-invasive blood pressure monitor
   10.2 Pulse oximetry
   10.3 Oxygen capability
   10.4 Suction capability
   10.5 Crash cart with age and size appropriate equipment is available on the unit/department where sedation is given.
   10.6 IV access (see age specific for pediatric exclusions)
   10.7 Reversal drugs, such as; Naloxone (Narcan), Flumazenil (Romazicon), Atropine
   10.8 Electrocardiographic monitor with defibrillator capability is **required** for all patients with an ASA/PS score of 3 or higher. See Attachment A
   10.9 Bag-valve-mask devise (BVM) at bedside
   10.10 Appropriate sized nasal and oral airways at bedside
   10.11 Continuous Exhaled Carbon Dioxide unless precluded or invalidated by the nature of the patient, procedure or equipment.

11. Propofol and other general anesthetics are NOT approved for moderate/conscious sedation.
PROCEDURE DETAIL:

1. Assessment, planning, implementation and evaluation of care for a patient undergoing moderate/conscious sedation.
   1.1 Assessment
      1.1.1 Pre-procedure history
      1.1.2. Major organ systems
      1.1.3. Alcohol, tobacco, illicit substance use
      1.1.4. Drug allergies
      1.1.5. Previous experience with sedation/analgesia or anesthesia
      1.1.6. Current medications including over-the-counter medications or homeopathic remedies
      1.1.7. Availability of a ride home for outpatient procedures
      1.1.8. LIP’s order for NPO status
      1.1.9. Verification of NPO status

Gastric emptying may be influenced by many factors including anxiety, pain, abnormal autonomic function ie; gastric paresis, pregnancy and mechanical obstruction. Therefore, the suggestions listed do not guarantee that complete gastric emptying has occurred. Unless contraindicated, pediatric patients should be offered clear liquids until 2-3 hours before sedation to minimize the risk of dehydration.

<table>
<thead>
<tr>
<th>Age Classification</th>
<th><em>Solids or Nonclear Liquids</em></th>
<th>Clear Liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>6 – 8 Hours or none after midnight</td>
<td>2 – 3 Hours</td>
</tr>
<tr>
<td>Children &gt; 36 months</td>
<td>6 – 8 Hours</td>
<td>2 – 3 Hours</td>
</tr>
<tr>
<td>Children aged 6 – 36 months</td>
<td>6 Hours</td>
<td>2 – 3 Hours</td>
</tr>
<tr>
<td>Children &lt; 6 months</td>
<td>4 – 6 Hours</td>
<td>2 Hours</td>
</tr>
</tbody>
</table>

*This includes milk, formula and breast milk (high fat content may delay gastric emptying)

1.1.10. If judged appropriate by the treating practitioner, patients who have radiographically demonstrated nasal-duodenal tubes secured with the appropriate fastening harness may receive nutrition up to the time of conscious sedation. This does not apply to deep sedation.

1.2. Focal Physical Assessment
   1.2.1. Consciousness level
   1.2.2. Baseline vital signs (heart rate, respiratory rate, blood pressure, oxygen saturation). Weight and age of patient.
   1.2.3. Respiratory/airway assessment
   1.2.4. Cardiovascular assessment

1.3. Pre-Sedation scoring using the assessment ASA/PS guidelines (See Attachment A). ASA/PS scoring shall be done by a physician or by a qualified licensed individual in conjunction with the physician.

2. Planning
   2.1 Explain the steps to the patient, family or significant others prior to the initiation of moderate/conscious sedation.
   2.2 Prepare pharmacological agents according to physician’s order using weight based dosage formula below as a guideline, if appropriate.
   2.3 Have reversal agents immediately available.
   2.4 Time-out requirements:
3. Implementation

3.1 Monitoring will be done by personnel that have demonstrated moderate/conscious sedation competency. The individual monitoring shall NOT have additional duties or responsibilities.

3.1.1 Neurological

3.1.1.1 Level of consciousness (LOC) should be assessed every 1 to 2 minutes during the onset of sedation and whenever medications are being titrated.

3.1.1.2 Assess for oral, thumbs-up or eye opening response to verbal or light tactile stimulation.

3.1.2 Respiratory

3.1.2.1 Observation of respirations, chest movement, color and auscultation of breath sounds

3.1.2.2 Continuous pulse oximetry

3.1.2.3 Supplemental oxygen should be administered as needed

3.1.3 Cardiovascular

3.1.3.1 Monitor heart rate and blood pressure every 1-2 minutes during onset of sedation.

3.1.3.2 Monitor heart rate and blood pressure every 5 minutes during procedure.

3.1.3.3 Continuous ECG monitoring for patients with underlying cardiovascular disease, procedures with an increased risk of dysrhythmia or patients who have a detected dysrhythmia per auscultation. This shall include all patients with ASA score 3 or greater. Crash carts serving multi-patient areas will not be used for elective procedures. Moderate/Conscious Sedation carts will be used.

4. Evaluation

4.1 Recovery Care (Medical P&P)

4.1.1 Patients must be monitored by personnel that have demonstrated moderate/conscious sedation competency to ensure that any adverse events are rapidly recognized and appropriately treated. The individual monitoring recovery shall NOT have additional duties or responsibilities.

4.1.2 Vital signs should be recorded at 10-15 minute intervals and as needed until discharge criteria are met. Pulse oximetry should be continued until the patient is no longer at increased risk for hypoxemia.

4.1.3 If any reversal agents were used, the patient must be observed for two hours to ensure that respiratory depression does not recur. The patient must be monitored beyond the onset and peak effect of any moderate/conscious sedation medications.

4.1.4 A Patient Safety Net (PSN) report should be completed if a reversal agent is
needed or other significant changes in patient status are observed.

4.2. Discharge Criteria
4.2.1 Minimum Aldrete Scale score of 8 or at baseline if starting lower (Attachment B).
4.2.2 Verbalized understanding of discharge instructions by the patient or responsible adult. Procedure specific instructions should include emergency telephone numbers for any post-procedure complications.

5. Pediatric patients
5.1 Pediatric patients who require consultation for moderate/conscious sedation may also consult Pediatric Critical Care in addition to Anesthesiology.
5.2 A pediatric code sheet with appropriate weight should be available.
5.3 Children under the age of three years may receive the following ORAL medications without IV access, if they score as an ASA class I or II:
   5.3.1 Chloral hydrate up to 100 mg/kg for painless diagnostic procedures
   5.3.2 Midazolam (Versed) up to 0.5 mg/kg
5.4 Children under the age of three years who are receiving ORAL Chloral hydrate or ORAL Versed (as above), may have Capillary Blood Refill substitute for Blood Pressure, if they score as an ASA class I or II.

6. Special Situations and Patient Populations
6.1 Patients undergoing procedures where blood loss is a concern should have larger age appropriate IV placed. (i.e. 18 gauge for an adult)
6.2 Burn and Wound patients are often medically complex as well as facing ongoing painful procedures. New drug dosing guidelines may be required to adequately address the patient’s pain and anxiety during moderate/conscious sedation procedures. Additional consultation with the physician is required for orders for increased doses of medication (i.e. Fentanyl 5-10 mcg/kg/minute, maximum dose for the procedure may approach 500 mcg).

7. Key Documentation:
7.1 The H & P, Physical and Consent will be documented on the Pre-procedure History & Physical for Procedures involving Moderate or Deep Sedation. (See Forms Page under Clinical Forms for Sedation Flow Sheet.)
7.2 All procedure documentation will be done on the Procedural Sedation Documentation Flow Sheet, (#10202- pages 1 & 2, the main form) (#10202C- pages 3 & 4, the ASA/PS class three or greater and overflow form). See Forms Page under Clinical Forms for Sedation Flow Sheet.
7.3 A copy of the procedure specific discharge instructions will be completed with the patient and family or significant other.

DEFINITIONS
Moderate/conscious sedation describes a drug-induced state of reduced consciousness that allows the patient to tolerate invasive procedures, maintain a patent airway independently, retain protective cardiorespiratory reflexes, and the ability to respond to physical and/or verbal stimulation. The goal is for the patient to have a protected airway and maintain cardiovascular function.

SUMMARY OF CHANGES
Replaces document of same name, last revised 10/2007.
2/2013 – Attachment D “Guidelines for Anxiolysis-Pediatric” added.
## RESOURCES/TRAINING

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<td>Clinical Education</td>
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</tr>
<tr>
<td>BATCAVE</td>
<td>Procedural Sedation, Difficult Airway Management, &amp; Rapid Sequence Intubation Courses</td>
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## DOCUMENT APPROVAL & TRACKING

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<th>Item</th>
<th>Contact</th>
<th>Date</th>
<th>Approval</th>
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<tr>
<td>Owner</td>
<td>Procedural Sedation Committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant(s)</td>
<td>Hugh Martin, MD Chair, Anesthesiology, Steve McLaughlin, MD Emergency Medicine, Mark Crowley, MD Pediatric Intensivist, Linda Bailie, RN, In Pt Unit Director PICC/Conscious Sedation Team, Meaghan White, BSN, IR Supervisor</td>
<td></td>
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<tr>
<td>Committee(s)</td>
<td>Procedural Sedation Committee, Clinical Operations Committee Nursing PP&amp;G Subcommittee</td>
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<td>Y</td>
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<tr>
<td>Nursing Officer</td>
<td>Sheena Ferguson, Chief Nursing Officer</td>
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</tr>
<tr>
<td>Medical Director/Officer</td>
<td>David Pitcher, MD</td>
<td></td>
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<tr>
<td>Official Approver</td>
<td>Sheena Ferguson, MSN, CNS, CCRNr, CNO</td>
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### Official Signature

| Date: 12/6/2011 |

### Effective Date

| 12/6/2011 |

### Origination Date

| 7/1/2003 |

### Issue Date

| Clinical Operations Policy Coordinator | 12/14/2011 | ar |

## ATTACHMENTS:

- Attachment A – American Society of Anesthesiology: Physical Status Classification
- Attachment B – Modified Aldrete Scoring System
- Attachment C – Certification & Competency requirements for Procedural Sedation
- Attachment D – Guidelines for Anxiolysis-Pediatric
Attention: Current Sedation Flow sheet Form is on-line via the forms page under Clinical Forms.

Attachment A – American Society of Anesthesiology: Physical Status Classification

<table>
<thead>
<tr>
<th>ASA Classification</th>
<th>Medical Description of Patient</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>P I</td>
<td>No known systemic disease</td>
<td>Optimal Candidates for moderate sedation</td>
</tr>
<tr>
<td>PII</td>
<td>Mild or well controlled systemic disease(s)</td>
<td></td>
</tr>
<tr>
<td>P III</td>
<td>Multiple or moderate controlled systemic disease(s)</td>
<td>Medical Consultation is highly recommended.</td>
</tr>
<tr>
<td>P IV</td>
<td>Poorly controlled systemic disease(s)</td>
<td></td>
</tr>
<tr>
<td>P V</td>
<td>Moribund Patient</td>
<td>Anesthesia provider is required*.</td>
</tr>
<tr>
<td>PVI</td>
<td>Declared Brain Dead patient/ Organ Donor</td>
<td></td>
</tr>
</tbody>
</table>

*Anesthesia provider may not be required or available in an emergency.
## Modified Aldrete Scoring System

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>Score</th>
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<tbody>
<tr>
<td>Able to move four extremities voluntarily on command</td>
<td>2</td>
</tr>
<tr>
<td>Able to move two extremities voluntarily on command</td>
<td>1</td>
</tr>
<tr>
<td>Unable to move</td>
<td>0</td>
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</table>

<table>
<thead>
<tr>
<th>RESPIRATION</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to deep breathe and cough freely</td>
<td>2</td>
</tr>
<tr>
<td>Dyspnea or limited breathing</td>
<td>1</td>
</tr>
<tr>
<td>Apneic</td>
<td>0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CIRCULATION</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP and HR ± 20% of preanesthetic level</td>
<td>2</td>
</tr>
<tr>
<td>BP and HR ± 20% to 50% of preanesthetic level</td>
<td>1</td>
</tr>
<tr>
<td>BP and HR ± 50% of preanesthetic level</td>
<td>0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSCIOUSNESS</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Awake (able to answer questions)</td>
<td>2</td>
</tr>
<tr>
<td>Arousable on calling (arousable only to calling)</td>
<td>1</td>
</tr>
<tr>
<td>Unresponsive</td>
<td>0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>OXYGENATION</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to maintain O₂ saturation &gt; 92% on room air</td>
<td>2</td>
</tr>
<tr>
<td>Needs O₂ inhalation to maintain saturation &gt; 90%</td>
<td>1</td>
</tr>
<tr>
<td>O₂ saturation &lt; 90%, even with O₂ supplement</td>
<td>0</td>
</tr>
</tbody>
</table>
Attachment C:

Certification & Competency Requirements for Procedural Sedation:

Moderate/Conscious Procedural Sedation:

Physician Team Members:
1. Enhanced BLS certification (“enhanced” specifies additional airway management procedures) or age-appropriate ALS every two years.
   - Age-appropriate ALS is encouraged and highly recommended.
2. Moderate/Conscious Sedation Competency as demonstrated by successful completion of test available in the BATCAVE.
   - This test is the same as that used by the VAMC.
3. The Self-Study Module which reviews Moderate Conscious Sedation can be used as a study guide.
   - Prepared by Clinical Education and available in the BATCAVE.
4. Renew Written Competency every two years.
5. Off-site Clinics that perform Moderate Conscious Sedation are required to have ACLS/PALS.

Allied Health Team Members:
1. Age-appropriate ALS every two years.
2. Moderate/Conscious Sedation Competency as demonstrated by successful completion of class or module (available in the BATCAVE).
3. Renew on-line competency annually.

Deep Procedural Sedation:

Physician Team Members (excludes Anesthesia Professionals: house staff, midlevels and faculty):
1. Age-appropriate ALS (ACLS, PALS, NRP) is required every two years.
2. Successful completion of the Advanced Procedural Sedation Class (or equivalent) one time.
3. Renew APS written competency every two years.
4. APS procedures are limited to licensed physician Attendings with special training and competency-verification.
5. APS is limited to specific areas within the hospital.
6. Rapid Sequence Intubation & Difficult Airway Management Classes are encouraged and highly recommended.

Guidelines for Anxiolysis

Pediatric

1. Patient is not required to be NPO
2. Sedationist is not required.
3. Monitoring should include pulse oximetry for at least one hour after dose is administered.
4. Resuscitation equipment (oxygen and crash cart) should be readily available.
5. Patients with co-morbidities (ie OSA, Down Syndrome or other significant disease) should be excluded.
6. More than one drug may not be administered.
7. Maximum recommended doses should not be exceeded.

RECOMMENDED DOSES FOR ANXIOLYSIS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Route of Administration</th>
<th>Dose</th>
<th>Maximum Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midazolam</td>
<td>PO</td>
<td>0.5 mg/kg</td>
<td>12 mg</td>
</tr>
<tr>
<td>Midazolam</td>
<td>IV</td>
<td>0.05 mg/kg</td>
<td>1 mg</td>
</tr>
<tr>
<td>Morphine</td>
<td>IV</td>
<td>0.1 mg/kg</td>
<td>2 mg</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>IV</td>
<td>1 mcg/kg</td>
<td>25 mcg</td>
</tr>
<tr>
<td>Ativan</td>
<td>IV</td>
<td>0.1 mg/kg</td>
<td>2 mg</td>
</tr>
</tbody>
</table>

IF THE PATIENT FAILS USING THE MAX DOSE FOR ANXIOLYSIS AND NEEDS ADDITIONAL PHARMACOLOGIC MEASURES, ADDITION SEDATION SHOULD BE GIVEN USING SEDATION GUIDELINES (NPO/SEDATIONIST)

If anxiolysis is not achieved using the maximum dosage recommended, proceed with sedation following UNMH Sedation Procedure.