



Applies To: **All HSC Hospitals**
Component(s):
Responsible Department: Procedural Sedation Committee

Title: Procedural Sedation – Conscious/Moderate		Procedure			
Patient Age Group:	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> All Ages	<input type="checkbox"/> Newborns	<input type="checkbox"/> Pediatric	<input type="checkbox"/> Adult

DESCRIPTION/OVERVIEW

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

REFERENCES

- Patient Identification Policy
- Consents Invasive Procedure/Operative Policy
- Procedure for Identification and Verification of Patient, Procedure, and Site for Consented Invasive Procedures (Time-Out)
- Practice Guidelines for Sedation and Analgesia by Non-anesthesia. *Anesthesiology*, 96 p. 1004 - 17.
- Aldrete, J.A. Discharge Criteria. *Bailliere’s Clinical Anesthesiology*. 8:763-773, 1994.
- Association of Operating Room Nurses (AORN) Recommended Practice – 2002 Standards and Guidelines.
- JCAHO Standards and Intents for Sedation and Anesthesia Care. 2002.
- JCAHO Standards for Sedation and Anesthesia Care, retrieved August 18, 2006 from <http://www.Jointcomission.org>
- Procedural Sedation – Deep Procedure

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, 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. Consent = Time-out requirement.
4. 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 age-appropriate ALS certification and demonstrated moderate /conscious sedation competency.
5. LPN’s may administer PO/PR Chloral Hydrate and provide monitoring for those patients, 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.
6. 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.
7. In the following situations, the physician should consider consultation with an anesthesiologist prior to sedation:
 - a. Patient does not fulfill NPO criteria and requires emergency diagnostic exam or procedure.
 - b. Severe cardiopulmonary, neurological or other organ system disease, which may present a significant hazard with the administration of sedation.
 - c. Potential difficult airway management (*i.e.* distorted anatomy, obstructive sleep apnea, morbid obesity, micrognathia, immobilization of the head and neck).
 - d. Patient taking medication that may adversely react with sedatives or analgesics (*i.e.* MAO inhibitors).
 - e. Prior history of adverse reaction to sedation or anesthesia.
8. 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.
9. Patients who receive moderate/conscious sedation and require transfer off the floor for procedures must be accompanied by appropriately trained staff.

EQUIPMENT (essential):All moderate/conscious sedation patients will be monitored with the following equipment:

1. Non-invasive blood pressure monitor
2. Pulse oximetry
3. Oxygen capability
4. Suction capability
5. Crash cart with age and size appropriate equipment is available on the unit/department where sedation is given.
6. IV access (see age specific for pediatric exclusions)
7. Reversal drugs, such as; Naloxone (Narcan), Flumazenil (Romazicon), Atropine
8. Electrocardiographic monitor with defibrillator capability is **required** for all patients with

an ASA/PS score of 3 or higher. See Attachment A

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. Physician'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 (*i.e.* diabetes), 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.

N P O GUIDELINES		
<u>Age Classification</u>	*Solids or Nonclear Liquids	Clear Liquids
Adults	6 – 8 Hours or none after midnight	2 – 3 Hours
Children > 36 months	6 – 8 Hours	2 – 3 Hours
Children aged 6 – 36 months	6 Hours	2 – 3 Hours
Children < 6 months	4 – 6 Hours	2 Hours

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

- 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 Consent = Time-out requirement
 - Correct patient
 - Correct Side & Site
 - Agreement on Procedure being performed
 - Correct patient position
 - Availability of correct implants, equipment, labs and x-rays.
 - Entire team present.
- 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 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.

- 4.1.4 The patient must be monitored beyond the onset and peak effect of any moderate/conscious sedation medications.
- 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.

1. Pediatric patients who require consultation for moderate/conscious sedation may also consult Pediatric Critical Care in addition to Anesthesiology.
2. A pediatric code sheet with appropriate weight should be available.
3. Children under the age of eight years may receive the following ORAL medications without IV access, if they score as an ASA class I or II:
 - Chloral hydrate up to 100 mg/kg
 - Midazolam (Versed) up to 0.5 mg/kg
4. Children under the age of eight 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.

SPECIAL SITUATIONS/PATIENT POPULATIONS

1. Patients undergoing procedures where blood loss is a concern should have larger age appropriate IV placed. (i.e. 18 gauge for an adult)
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).

KEY DOCUMENTATION:

1. All documentation will be done on the Moderate/Conscious Sedation Documentation Flow Sheet. Exception: Intubated patients in the ICU and OR. 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.
2. A copy of the procedure specific discharge instructions will be completed with the patient, 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

There are no changes to the document since the last version, other than format.

KEY WORDS

Sedation, Moderate Sedation, Conscious Sedation, Moderate Conscious Sedation, Procedural Sedation.

RESOURCES/TRAINING:

Procedural Sedation Course

Difficult Airway Management Course

Rapid Sequence Intubation Course

See the BATCAVE catalogue for a complete list of offerings and resources.

Resource/Dept	Internet/Link
Clinical Education	http://hyper.unm.edu/unmhs_intranet/Education/CE_Page/CE_Staff.cfm
BATCAVE	

DOCUMENT APPROVAL & TRACKING

Item	Contact	Date	Approval
Owner	Procedural Sedation Committee		
Consultant(s)	Steve McLaughlin, MD Emergency Medicine Mark Crowley, MD Pediatric Intensivist Michelle Moro, MD Pediatric Anesthesia Sheena Ferguson, MSN, RN Clinical Education		
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Finance	[Name, Title], [UNMH or HSC]		[N/A]
Legal	[Name, Title], [UNMH or HSC]		[N/A]
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Official Signature		10/12/06	
2nd Approver (Optional)			
Signature		[Day/Mo/Year]	
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ATTACHMENTS:

Attachment A – American Society of Anesthesiology: Physical Status Classification

Attachment B – Modified Aldrete Scoring System

Attention: Current Sedation Flow sheet Form is on-line via the forms page under Clinical Forms (2006 version).

Attachment A – American Society of Anesthesiology: Physical Status Classification

American Society of Anesthesiology: Physical Status Classification		
<u>ASA Classification</u>	<u>Medical Description of Patient</u>	<u>Comments</u>
P I	No known systemic disease	Optimal Candidates for moderate sedation
P II	Mild or well controlled systemic disease(s)	
P III	Multiple or moderate controlled systemic disease(s)	Medical Consultation is highly recommended.
P IV	Poorly controlled systemic disease(s)	Anesthesia provider is required*.
P V	Moribund Patient	
P VI	Declared Brain Dead patient/ Organ Donor	

*Anesthesia provider may not be required or available in an **emergency**.

Attachment B – Aldrete Scoring System

Modified Aldrete Scoring System		
ACTIVITY	Able to move four extremities voluntarily on command	2
	Able to move two extremities voluntarily on command	1
	Unable to move	0
RESPIRATION	Able to deep breathe and cough freely	2
	Dyspnea or limited breathing	1
	Apneic	0
CIRCULATION	BP and HR \pm 20% of preanesthetic level	2
	BP and HR \pm 20% to 50 % of preanesthetic level	1
	BP and HR \pm 50% of preanesthetic level	0
CONSCIOUSNESS	Fully Awake (able to answer questions)	2
	Arousable on calling (arousable <i>only</i> to calling)	1
	Unresponsive	0
OXYGENATION	Able to maintain O ₂ saturation > 92% on room air	2
	Needs O ₂ inhalation to maintain saturation > 90%	1
	O ₂ saturation < 90%, even with O ₂ supplement	0