

PARKLAND HEALTH & HOSPITAL SYSTEM

MODERATE SEDATION/ANALGESIA (MODERATE SEDATION) (Formerly: Moderate Sedation Monitoring – Adults)

PRACTICE

STATEMENT: Moderate sedation/analgesia is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. The drug and dose given will require no intervention to maintain a patent airway, no ventilation assistance, and no cardiovascular function support allowing patients to tolerate unpleasant procedural therapies.

An Attending Physician who is currently privileged by the Parkland Health & Hospital System Medical Staff Office to provide moderate sedation is required to provide moderate sedation in accordance with this policy, or they may supervise, through his/her presence in the suite, a Physician Assistant, Advanced Nurse Practitioner, or House Staff Officer at the Post Graduate Year (PGY)-4 of training or higher who holds current certification in **BLS** and has successfully completed the Moderate Sedation Competency Assessment. A Physician Assistant, Advanced Nurse Practitioner, or a House Staff Officer at a PGY-4 level of training or higher may not participate, with the supervision of the Attending Physician within the suite, unless he/she holds a current certification in **BLS** and has successfully completed the Moderate Sedation Competency Assessment.

House Staff Officers at a training level below a PGY-4, or at the PGY-4 level or higher, who do but not hold current **BLS** nor have successfully completed the Moderate Sedation Competency Assessment, may participate in moderate sedation activities under the **direct and continuous** supervision of an Attending Physician who is currently privileged by Parkland Health & Hospital System to provide moderate sedation. Direct and continuous supervision is defined as the Attending Physician is available and able to immediately assume care of the patient.

Exclusion from this policy:

- The administration of sedative drugs by members of the Anesthesia & Pain Management Departments
- Use of sedatives on ventilator supported patients in Intensive Care areas
- Use of sedatives to facilitate emergency and/or life saving procedures
- Use of minimal sedation
- Sedation administered in the Operating Room

Contraindications for moderate sedation without an Anesthesia Consult (except in an emergency and at the discretion of the attending physician) :

- Known hyper-sensitivity to any of the sedatives and analgesics
- Untreated acute narrow-angle glaucoma
- Hemodynamic instability
- Abnormal airway (Previous history of difficult intubation, Mallampati score >3, Thyromental distance <6cm (3 finger breadths), Neck circumference >40cm, and presence of obstructive sleep apnea - OSA)
- Airway trauma
- Suspected sleep apnea history or patient reported use of Continuous Positive Airway Pressure (CPAP) at home

Scope of this policy:

Moderate sedation will be performed only in the following designated procedures areas:

- Ambulatory Surgery Center
- Intensive Care Units
- Cardiac Lab
- Noninvasive Cardiology
- Emergency Department
- ENT/Oral Surgery
- GI Lab
- Radiology Department
- Inpatient units that meet the following conditions:
 - Attending physician or provider with competency requirements
 - Nurse with competency requirements
 - Appropriate equipment

NOTE: See policy NS 1100.15 for Moderate Sedation in the NNICU.

DEFINITIONS:

Minimal sedation (anxiolysis) - A drug-induced state provided by oral anxiolytics or sedatives during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

Example: The administration of oral diazepam where the result is an alert, coherent patient who is better able to tolerate a procedure.

NOTE: Administering medications orally does not automatically constitute Minimal Sedation.

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

Example: Medication administered resulting in an alteration in mood, maintenance of consciousness, enhanced cooperation, elevated pain threshold, minimal variation of vital signs, some degree of amnesia and a rapid, safe return to activities of daily living. The patient is easily aroused and has only slightly slurred speech.

Deep sedation/analgesia – A drug-induced depression of consciousness during which patients cannot be easily aroused, but respond purposefully after 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.

Example: Medications administered resulting in partial or complete loss of protective reflexes, loss of ability to maintain a patent airway independently, unlikely to respond to physical stimulation or verbal commands, severely slurred speech.

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.

NOTE: Deep Sedation and Anesthesia are restricted to use by Anesthesiologists, Oral and Maxillofacial Surgeons, and CRNAs

POLICY:

Responsibility:

The Department of Anesthesiology

- Oversees the standards of practice for moderate sedation in collaboration with the departments that provide the service
- Collaborates with nursing and provider education departments in provision of competency based educational programs for practitioners and personnel in all the departments administering moderate sedation

- Provides pre-procedure consultation regarding sedation choices based on the patient's American Society of Anesthesiologists (ASA) score as requested by the practitioner
- Reviews outcome quality indicator reports quarterly

The Medical Director of each department administering moderate sedation

- Monitors the compliance with the moderate sedation policy within that department
- Reviews the departmental quality indicator data quarterly

The Pharmacy & Therapeutics Committee

- Recommends approval of moderate sedation medications for designated procedure areas with approval by Medical Advisory Committee.

Medications:

- Opioids, e.g., Morphine, Fentanyl
- Opioid agonist/antagonists, e.g., Butorphanol (Stadol), Naloxone (Narcan), Nalbulphine (Nubain)
- Benzodiazepines, e.g. Midazolam (Versed), Diazepam (Valium), Lorazepam (Ativan), and benzodiazepine antagonists, e.g. Flumazenil (Romazicon)
- Phenothiazines, e.g. Prochlorperazine (Compazine), Chlorpromazine (Thorazine)
- Butyrophenones, e.g. Haloperidol (Haldol); Antihistamines, e.g., Hydroxyzine (Vistaril, Atarax), Diphenhydramine (Benadryl)

Personnel and competency:

The attending physician who is currently privileged in moderate sedation and licensed personnel responsible for managing and monitoring the care of the patient receiving moderate sedation will complete and maintain competency in the skill prior to administering and/or monitoring sedation.

The competency shall include:

- Ability to assess the total patient care requirements or parameters, including but not limited to respiratory rate, oxygen saturation, blood pressure, cardiac rate, and level of consciousness
- Ability to establish/reestablish peripheral IV access on an immediate basis
- Knowledge and recognition of impending or ongoing airway obstruction and be capable of establishing a patent airway and delivery of positive pressure ventilation
- Familiarity and knowledge of drug(s) proper dosages, administration, interactions, adverse reactions, and pharmacological intervention for adverse reactions overdose

Competency and Compliance Monitoring:

Attending Physician

- Medical Staff Office credentialing process for moderate sedation/analgesia
- Biennial certification in Basic Life Support (BLS) and/or Neonatal Resuscitation Program (NRP), complete Moderate Sedation module, and test through Medical Staff office

Nursing Personnel

- Nursing orientation presentation and test
- Unit based skill check-off by preceptor during orientation
- Biennial certification in BLS
- Interval competency testing as defined by nursing education

Nurse Practitioners and Physician Assistants

- Biennial certification in BLS and/or NRP, complete Moderate Sedation module, and test through Medical Staff office

House Staff Officer

- Biennial certification in BLS and/or NRP, complete Moderate Sedation module, and test through Medical Staff office
- For House Staff Officer operating under direct supervision of Attending Physician BLS certification, NRP certification, Moderate Sedation module, and Moderate Sedation test are not required

Required Equipment

The following equipment shall be accessible during and after the procedure:

Bedside

Oxygen
Pulse Oximeter
Sphygmomanometer
Suction
Reversal Agents

Immediately Available

Emergency cart with drugs
Bag/Valve/Mask
Oral and Endotracheal airways
Intubation equipment

Defibrillator
EKG Monitor
IV Fluid

Recommended, not required
Capnography

PROCEDURE:

Each patient who has a procedure requiring sedatives, analgesics or hypnotics constituting moderate (conscious) sedation shall have an ASA score performed and documented by the primary provider and/or provider performing the invasive procedure. Providers will determine the need for an anesthesia consult.

ASA PHYSICAL STATUS CLASSIFICATION SYSTEM

I	A normal healthy patient
II	A patient with mild systemic disease
III	A patient with severe systemic disease that limits activity but not incapacitating
IV	A patient with severe systemic disease that is a constant threat to life
V	A moribund patient who is not expected to survive without the operation

These definitions appear in each annual edition of the ASA Relative Value Guide.

The House wide Resuscitation Team should be paged if assistance with airway management is needed or in case of cardiopulmonary arrest. Units such as ICU, OR or ESD may need to activate the House wide Resuscitation Team.

Provider responsibility:

Only a qualified provider trained in professional standards and techniques to administer pharmacologic agents to predictably achieve desired levels of sedation and to monitor patients carefully in order to maintain them at the desired level of sedation, and who meets the criteria set by the Medical Staff may order drugs to cause moderate sedation.

Pre-Sedation

- Discuss the risks, benefits and alternatives of the procedure with the patient and /or significant other, including the plan of care and the possibility of need for blood transfusion if indicated
- Complete procedure and anesthesia/sedation consents
- The attending physician is ultimately responsible for selection of medication(s) ordered, maximum dosage, and route of administration

- Assessment present on the medical record to include:
 - Allergies
 - Current medications
 - Weight
 - Vital Signs
 - Auscultation of heart and lungs
 - History of Present Illness
 - History of tobacco, alcohol, or substance use or abuse
 - Diseases, disorders/abnormalities
 - Prior hospitalizations, surgeries, and anesthesia
 - Airway assessment including history of prior airway management difficulties
 - NPO status
 - No solids eight hours prior to procedure
 - No liquids two hours prior to procedure
 - Exception to NPO time frame may vary with procedures, refer to departmental policies
 - Exception to NPO time frame with emergent situations, follow aspiration precautions
- The provider performing the procedure shall be present during the initial and continued administration of sedation. The attending physician should be immediately available within the suite (i.e. GI suite, Nursing unit, ICU unit, etc.)
- Drug dosages shall be recorded on the appropriate form with the patient's response to each drug documented
- Reassessment of the patient immediately before first dose of medication in the procedure room
- A pre-procedure timeout will be performed to verify patient using two patient identifiers, site, and procedure to be performed. And the patient will participate whenever possible.

Intra-Procedure

- Determine amount of sedation patient receives
- Manage patient's response to sedation
- The provider performing the procedure shall be present during the initial and continued administration of sedation.
- The attending physician should be immediately available within the suite (i.e. GI suite, Nursing unit, ICU unit, etc.).

Registered Nurse Responsibility (or PA, NP, or House Staff Officer that is designated to monitor patient):

Pre-Sedation

- Collect required medications, equipment, and documentation tools
- Identify patient using two patient identifiers
- Assessment of anticipated patient needs post-procedure
- Provides patient with pre-procedural education, treatment, and services according to plan for care
- Assessment and documentation include:
 - Pre –Procedure Aldrete score
 - Blood pressure
 - Respiratory rate
 - Heart rate
 - Oxygen saturation
 - Orientation level
 - Rhythm if EKG or continuous cardiac monitoring device in patients with significant cardiovascular disease or when dysrhythmias are anticipated or detected
- Confirm that required provider documentation is present
- Perform and record Time Out procedure

Intra-Procedure

- A Registered nurse (RN) (or covering PA, NP, or House Staff Officer) shall monitor the patient for potential adverse reaction to the medication(s) being administered. Any sign or symptom of adverse reaction shall be reported immediately to the provider.
- RN (or PA, NP, or House Staff Officer) shall be dedicated to continuous patient monitoring
- IV access maintained for the procedure recovery
- Drug dosages shall be recorded on the appropriate form with the patient's response to each drug documented
- Monitoring performed and recorded on the appropriate unit-specific form at intervals no greater than every 5 minutes should include:
 - Blood pressure
 - Respiration rate
 - Heart rate
 - Oxygen saturation
 - Level of consciousness
 - Rhythm if EKG or continuous cardiac monitoring device in patients with significant cardiovascular disease or when dysrhythmias are anticipated or detected

Post Procedure

- Aldrete score recorded at onset of recovery period
- Monitoring performed and recorded on the appropriate unit-specific form at intervals no greater than every 15 minutes until the patient reaches pre-procedure level:
 - Blood pressure
 - Respiratory rate
 - Heart rate
 - Oxygen saturation
 - Level of consciousness
- Significant variations in physiologic parameters shall be reported to the provider immediately. These include, but are not limited to:
 - BP variation +/- 20 mmHg
 - Pulse variation +/- 20 bpm
 - O2 Sat decrease > 5mmHg
 - Dyspnea
 - Apnea
 - Diaporesis
 - Inability to arouse patient
 - Need to maintain airway mechanically
 - Other unexpected patient responses
- Patients receiving agents for the purpose of reversing the effects of medication intended for moderate sedation should be monitored for one hour beyond the last dose of the reversal agent
- Notify the responsible provider immediately if the patient does NOT meet the criteria specified above by one hour post-procedure
- Submit PSN if the following occurs:
 - Death
 - Aspiration
 - Deeper sedation than intended
 - Rescue breathing
 - Use of a reversal agent
 - Reversal agent is not available
 - Unplanned transfer to higher level of care

Aldrete Scale	Assessment criteria	Score
Respiration	Ability to deep breath and cough freely	2
	Dyspnea or limited breathing	1
	Apneic	0
Circulation	BP 20 % of baseline value	2
	BP 20-50% of baseline value	1
	BP 50% of baseline value	0

O ₂ Saturation	RA Saturation at baseline or > 90%, whichever is lower	2
	Supplemental O ₂ need for a saturation at baseline or > 90%, whichever is lower	1
	With supplemental O ₂ at baseline or < 90%, whichever is lower	0
Consciousness	Fully awake	2
	Arousable on calling	1
	Not responding	0
Activity	Ability to move 4 extremities	2
	Ability to move 2 extremities	1
	Ability to move 0 extremities	0
Post procedure score less than 9 at one hour requires further assessment and monitoring (unless the score was less than 9 prior to sedation).		

POST PROCEDURE MONITORING DISCHARGE CRITERIA:

Includes the following sedation discharge assessment before post procedure monitoring discontinued:

- The patient's Aldrete score must be 9 or above or return to baseline
- No drug antagonist given within the previous hour
- No IV sedatives/analgesics given within the previous 20 minutes
- No IM sedatives/analgesics given within the previous 60 minutes
- No protracted nausea/vomiting
- Able to ambulate with minimal assistance (or to baseline status)
- No excessive bleeding

Inpatients

- Call condition report to patient's assigned floor nurse for inpatients returning to their room
- The recovery nurse is responsible for the appropriate and safe transfer of the patient back to their room, including any equipment, IV, and/or oxygen that the patient may require during transport

Outpatients

- Patient is awake, alert, stable, and ambulatory as appropriate for physical status, procedure and age, or according to pre-procedure baseline
- Discharge assessment of the patient acknowledging the discharge criteria have been met prior to discharge
- Patient and/or responsible adult have received verbal and written instruction relative to the procedure and aftercare
- Patient will be discharged in the company of a responsible designated adult

REFERENCES

- a. University Health System Consortium 2008
- b. The Joint Commission 2008
- c. Aldrete JA, Kroulik D. A Postanesthetic Recovery Score. *Anesthesia and Analgesia* 1970; 49: 924-934.
- d. Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologist. *Anesthesiology* 2002; 96: 1004-1017.