PROTOCOL

TITLE: MODERATE SEDATION

PURPOSE: To outline the criteria and management for the patient receiving moderate sedation (conscious sedation)

LEVEL: __X__Interdependent _____Independent _____Dependent

DEFINITIONS: Level of Sedation:
4 levels of sedation and anesthesia, any of which can be used to facilitate the performance of a diagnostic or therapeutic procedure by pharmacological means to produce an altered level of consciousness.

- **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 cardio vascular functions are unaffected.
- **Moderate Sedation/Analgesia commonly referred to as 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.[1]
- **Deep Sedation/Analgesia:**
  A drug induced depression of consciousness during which patients cannot be easily aroused but response 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. [1]
- **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 patient airway and positive pressure ventilation may be required.[1]

SUPPORTIVE DATA

- Privileges for administering medications for moderate sedation are granted by the chairman of the Anesthesia Department. Only those physicians credentialed in accordance with medical staff policies and procedures that specify who may administer anesthetic agents and under what conditions may give medication for the purpose of moderate sedation.
- Any procedure requiring deep sedation must have an anesthesiologist or appropriate credentialed Licensed Independent Practitioner (LIP) (CRNA) present to administer the sedation.
- Moderate Sedation can be administered in ICU, PCU, Radiology, Minor Procedures, Cardiac Cath Lab, PACU, OR and Emergency Department. If a patient requires moderate sedation in an area not listed, either the patient will be transported to the appropriate department, or the department personnel and equipment will go the area where the patient is housed. Whichever provides maximum patient safety.
- Patients who have been assessed as having as ASA class 4 or 5 must have an anesthesiologist present to administer the moderate sedation and to monitor the patient during the procedure.
- The RN managing the care of the patient (monitoring moderate sedation) will not have any other responsibilities during the procedure. The RN may not leave the patient unattended or engage in tasks which would compromise continuous monitoring.
- The following are not considered Moderate Sedation:
  Code situations (Dr. Heartwell)
  Pharmacologic management of ventilator dependent patients
  Pharmacologic agents used as pre-operative, anti-anxiety
  Pharmacologic agents used for therapeutic management of pain control or seizures

CONTENT

A. Physician Responsibility

1. Licensed Independent Practitioners (LIP) requesting privileges to administer moderate sedation during procedures must:
    - Successfully complete ACLS
    - Complete requirements/credentialing of the Department of Anesthesia.
    - Qualified and have appropriate credentials to manage patients at whatever level of sedation or anesthesia is achieved, either intentionally or unintentionally.
    - Conducts a "time out" immediately before starting the procedure as described in the Universal protocol.
    - A pre-sedation or preanesthesia assessment is conducted.[1]
    - Reevaluates the patient immediately before moderate or deep sedation.
    - Completes Physician Procedural Record
    - Assignment of ASA physical status is completed by the physician performing the procedure and documented on the record prior to the start of the procedure.

      ASA 1 A normal healthy patient
      ASA 2 A patient with mild systemic disease
      ASA 3 A patient with a systemic disease that limits activity but is not incapacitating.
      * ASA 4 A patient with severe systemic disease that is a constant threat to life.
      * ASA 5 A moribund patient who is not expected to survive 24 hours with/without the procedure.
      ASA 6 A patient declared brain dead whose organs are being removed for donor purpose
      *Requires the presence of an anesthesiologist during the procedure.

    - Anesthesia care or stand by may be considered for patients as requested/determined by attending physician.
    - Pediatric patients for the purpose of Moderate Sedation is defined as patients 12 years and under. Pediatric patients will have anesthesia present for Moderate Sedation or a physician with ATLS certification and ongoing extensive airway management (ie Emergency Department physician).

B. MEDICATION ADMINISTRATION

1. Medications used for moderate sedation are titrated as needed to achieve desired effect, individualized to the patient. Agents typically used are short acting and have a rapid onset.
2. Types of drugs that can be used for moderate sedation include sedatives/hypnotic, narcotics and anesthetics. The medications can be given via any route as indicated for the intention to obtund or reduce the intensity and pain and awareness without the loss of defensive reflexes during procedures.
3. Specific drug and dosage of medication is ordered by a licensed credentialed physician.
4. The physician will administer the initial dose of any/all medications and remain present at bedside until procedure is completed.
5. If supplemental doses of medications are required, they may be administered by the physician or the RN monitoring the patient provided that:
    - The credentialed physician administers the initial dose and remains continuously at the bedside to supervise the administration of the supplemental agents.
    - The RN is current with BLS training, IV certification
    - The RN is current with ACLS training for adults and PALS for pediatrics
    - Basic Arrhythmia and/or competency
    - Working knowledge of resuscitation equipment, monitoring equipment and ability to interpret data obtained.
    - Working knowledge of pharmacology of drugs used for moderate sedation.
6. Nurses who complete the Moderate Sedation Competency may monitor patient for the procedure and administer subsequent doses of medication used for moderate sedation except for Diprivan, Ketamine and any other agent classified as such in the Pharmacy and Therapeutic Manual. Competency will be assessed annually.
7. Diprivan for the use of Moderate sedation may only be administered by the Department of Anesthesia or a physician with ATLS certification and ongoing extensive airway management (ie Emergency Department physician).

8. Reversal medication can be considered appropriate as determined by physician. Reversal medications should be readily available and should be only used when a patient reaches an unintentional sedation state and a return to preprocedural baseline is not achieved. Basic and initial rescue efforts have been attempted. (Repositioning patient, head tilt/jaw lift, oral airway, IV fluids) The physician will document need and dosage given. If the reversal agent is necessary the monitoring time will be increased up to a two hour period or appropriate to the sedating and reversal agents used. The same standard of care is provided throughout post procedural monitoring.

C. PREPROCEDURE

1. The purpose of a pre-procedure assessment is to evaluate the status of the patient, obtain baseline, physiologic parameters, and to gain awareness of any factors that may increase the patient's risk during the procedure.
2. Completion of nursing assessment is done prior to the procedure includes all of the following:
    - Identification of patient using HRMC's unique identifiers. ID band on patient.
    - Verification of informed consent for procedure and moderate sedation.
    - Remove dentures if applicable and document NPO status (at least 8 hours solid, at least 4 hours for liquids recommended). Preps for procedures or medications taken as indicated by the physician are excluded from the NPO time status. Any deviation from this standard must be brought to the physician's attention. Physician judgment permits the shortening of these time frames.
    - Record baseline vitals, including BP, pulse rate, respiratory rate, EKG rhythm interpretation, Sa02 at room air, level of consciousness, pain and pre-procedural aldrete score. This is completed prior to any mediation administration.
    - For outpatient areas only: Ascertain that patient has a family member/friend to provide transportation and post procedure care. If such a person can not be identified the procedure will be canceled or delayed until such a person is found.
    - History/Physical and pre anesthesia assessment completed by physician.
    - Past medical history
    - Maintain/ascertain an infusing IV line is present on all patients before the administering of sedation regardless of age. Outpatient will have 1000mL LR running at 20ml/hr for the procedure. Inpatient to have an IV compatible with sedation agents running at current therapy or start a separate NS at 10mL/hr or as prescribed by procedural physician.
    - Previous patient anesthesia problems.
    - Urine pregnancy test will be done on all menstruating females prior to Moderate Sedation. Result must be documented on the patient's record.
    - Oxygen per nasal cannula (at 2 liters per min or per MD order)
    - Check monitoring equipment prior to use. Crash cart including emergency drugs, defibrillator, and airway kit/ambu bag must be immediately accessible. Suction and O2 supplies set up.
    - Have the medications that are ordered by the physician for moderate sedation procedure available for use.
    - Have appropriate reversal agents available for use.
3. Physician administering sedation will perform a pre-procedure assessment immediately prior to procedure and evaluate the patient as a candidate for moderate sedation. Finding will be recorded on physician pre-procedural form.

D. INTRA PROCEDURE

1. The individual monitoring the patient shall be continuously present in the procedure room. This person is separate from the individual performing the procedure and has primary responsibility of monitoring the patient.
2. During the procedure, the patient will be monitored and the following items will be documented every 5 minutes during the procedure and 1 minute following the administration of additional doses of medication:
    - HR and rhythm
    - Blood pressure
    - Respiratory rate
    - O2 saturation and source/amount

- Level of sedation

3. Report and changes in monitoring parameters to physician.
4. Document all medications: time given, drug, dosage and route.
5. Record type and amount of fluids infused, including blood and blood products and unusual events during the procedures.
6. If patient is going to a different area for recovery, give full report on the patient's status.

E. POST PROCEDURE

1. The level of care for post moderate sedation will be standard regardless of where the procedure took place. Moderate sedation follows post anesthesia recovery units standards. The first 15 minutes (phase 1) there will be no more than a 1:2 patient ratio, then after 15 minutes (phase 2)1:3 depending on level of consciousness.
2. The following will be completed and documented by the RN monitoring the post procedure recovery of the patient every 15 minutes for a minimum of one-half hour or until the patient is awake, vital signs and level of consciousness have returned to pre-procedural levels:
    - Cardiac Rhythm and rate
    - Blood pressure
    - Respiratory rate
    - O2 saturation, titrate to off while continuously monitoring O2 saturation.
    - Level of sedation
    - Pain level
    - Aldrete score immediately post procedure or upon arrival to recovery area,. Then every 15 minutes x2. If patient remains in post procedural area for more than 30 minutes an Aldrete score should be completed one hour post procedure.
    - Assessment of toleration to any medication
3. Observe, document and report any unusual events or post procedure complications, any interventions and patient's response.
4. Document the time of discontinuing IV, the amount of fluid infused.
5. Provided and document post procedure teaching as indicated.
6. If a reversal agent is used, the monitoring time will be increased up to a two hour period post reversal agent. Use of reversal agents will be reviewed.

F. DISCHARGE

1. Outpatients will be ready for discharge and inpatients may return to the nursing unit when the following criteria are met unless there were documented exceptions pre-procedure:
    - Recorded stable vital signs for 30 minutes
    - Alert and oriented or mental status is at pre-procedural status.
    - Spontaneous, adequate respirations with oxygen saturation at pre-procedural baseline on room air.
    - Normal skin color (Normal for patient)
    - Pain or discomfort controlled
    - Minimal or absent nausea and vomiting
    - Dry surgical dressing or minimal drainage
    - Voiding as ordered by physician (outpatient only)
    - Taking fluids by mouth as ordered by physician (outpatient only)
    - Aldrete score return to baseline pre-procedure

2. Patients will be evaluated at time of discharge utilizing the Aldrete index of recovery score. In the event that the criteria for discharge is not met and/or the patients with an aldrete total score 2 less than pre procedure total score, the physician will be notified and will evaluate the patient prior to discharge.
3. Outpatients will have a written physician order for discharge.
4. All outpatients must be discharged home accompanied by a responsible adult who is identified in the medical record.

5. All outpatients will have written discharge instructions and it will be given to patient and escort. The information will include but not limited to:
    - Common post- procedural complications
    - Limitation in physical activity: operating machinery, driving, decision-making, no intake of alcoholic beverages for 24 hours, tranquilizers and sedatives.
    - Plan for follow up care: emergency physician phone numbers, physician appointments, hospital tests.
6. All patients discharged from the recovery area will have post procedure pain assessment and final set of vital signs documented. An abdominal assessment completed and documented if applicable.

G. DOCUMENTATION

1. In all areas where moderate sedation is being monitored by a registered nurse, the Moderate Sedation Pre-Post Procedure Assessment form is utilized.(Form # 6834)
2. This tool will be utilized to document pre-procedural assessment
3. This tool will be utilized to document vital sign and medication administration both pre, intra and post procedure.
4. All aldrete scores will be documented utilizing this form.
5. Discharge instruction, final vital signs and assessments and discharge mode and destination will be captured on this tool.
6. Use the nurse notes to document any events or treatments that deviated from baseline.

H. ADVERSE EFFECTS/POTENTIAL COMPLICATIONS

1. Any and all adverse effects and complications are documented and reported to the physician immediately. Any and all interventions are documented.
2. Potential complication related to moderate sedation can included but are not limited to :
    - Airway obstruction- either from too much sedation or tongue is obstructing airway
        - ⇒ Stimulate patient, head tilt chin lift, oral airway. Consider reversal agents if above not effective.
    - Hypoxemia- SaO2 90% or less, can be related to respiratory depression effects of drugs given.
        - ⇒ Stimulate patient, supplemental oxygen, oral airway. Consider reversal agents if above not effective.
    - Cardiac Dysrhythmias- due to cardiac disease, holding of medications pre procedure, cardiac stimulation of meds or procedure, electrolyte imbalances.
        - ⇒ Oxygen, deep breathing, ACLS drugs depending on symptoms may be ordered
    - Hypotension- defined as BP, 20% baseline. Due to vasodilatation or hypovolemia.
        - ⇒ Fluids and/or vasopressors may be ordered, change patient's position (HOB flat or trendelenburg)

J. Special Considerations

Moderate sedation is not limited by age and can be provided to the pediatric patient through to our geriatric patients. Some considerations for the two extreme ends of the population:

Consideration	*Pediatrics*	*Geriatric*
Physiologic Changes	• Immature sympathetic nervous system • Short neck/flexible airway • Limited response to ↑pCO2 and p ↓O2 • Decrease liver function • Sensitive skin/ ↑heat loss • ↓Ability to hand fluid/NA+	• Loss of arterial elasticity • Cardiac irritability • ↓Total lung capacity • ↓Nerve conduction • ↓Cerebral blood flow • ↓Hepatic function • Skeletal changes • Epidermis atrophied
Assessment Needs	• Obtain weight in KG. Medications ordered per kg • Determine last meal • Immunizations • Parental consent	• Use of OTC meds • Took am meds as instructed? • Need for sensory aids
Monitoring	• Promote oxygenation • Watch airway closely • IV pump • Safety (bumpers) • Emergency pediatric equipment	• Promote oxygenation • Fluid balance • Care in positioning

REFERENCES:

1. Comprehensive Accreditation Manual for Hospitals. The official Handbook. Copyright by Joint Commission on Accreditation of Healthcare Organizations. 2006

2. Kost , M. Moderate Sedation/Analgesia Core Competency for Practice, 2nd Edition. Saunders Co. 2004

3. 2007 SGNA Practice Guidelines and Position Statement. *Role of GI nurses in Management of Patient undergoing Sedated Procedures and Statement on the Use of sedation and Analgesia in the GI Endoscopy Setting.* 2007 Society of Gastroenterology Nurses and Associates. USA.

4. Halliday, A. *Shades of Sedation, Learning about Moderate Sedation and Analgesia.* Nursing 2006. April p37-41

5. Harrington, L. *Staying Alert about NAPS*. Critical Care Insider. Spring 2006 p 4-9.

6. American Nurses Association, Endorsement of Position Statement. *Role of the RN in management of patient receiving IV conscious sedation for short term therapeutic, diagnostic or surgical procedures.* Printed, April 14,2004. Last accessed 7/2007.

7. American Society of PeriAnesthesia Nurses, Standards and Practice 2006