

Carolinas Healthcare System Cleveland
Interdepartmental Policy Manual
Sedation for Non-Anesthesia Practitioners

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| Endorsed By: CHS Cleveland Interdisciplinary Policy & Procedure Committee | Date: 8/11 | Page: 1 of 15 |
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SUMMARY STATEMENT

This policy sets forth the guidelines for the safe administration and monitoring of sedation administered by non-anesthesia providers to patients undergoing urgent and elective diagnostic or invasive procedures throughout the Carolinas Healthcare System Cleveland (CHS Cleveland). This policy pertains specifically to *all levels of sedation* and does not apply to General Anesthesia.

POLICY

Because the administration of sedative agents intravenously (for example, Versed, Valium, Demerol, Morphine, Fentanyl, Propofol, Etomidate, Brevital, Nubain, Stadol) could result in a risk of loss of protective reflexes and in keeping with organizational emphasis of uniformity of care throughout all areas, this hospital has set facility guidelines for the use of sedation. Levels of sedation occur on a continuum and changes from one level to the next may be subtle. Patients undergoing sedation may transition expectedly or unexpectedly from one level to another during the course of a procedure. It is not always possible to predict how a patient will respond to sedative medications. Providers must therefore be competent in the use of analgesics and sedatives, techniques of care and monitoring, and in the response to potential sedative and anesthetic complications, including airway management.

A. Definitions: The standards for sedation and anesthesia care apply when patients receive, in any setting, for any purpose, by any route, moderate or deep sedation as well as general, spinal, or other major regional anesthesia. Definitions of four levels of sedation and anesthesia include the following:

1. 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. The use of Minimal Sedation does not mandate the implementation of Moderate/Deep Sedation Documentation. (Examples of minimal sedation include intravenous patient controlled analgesia (IV PCA) narcotic administration for pain control, routine anti-insomnia medication, Pre-Op medication, etc.). During Minimal Sedation, patients maintain:
 - a. Normal respiration
 - b. Normal eye movement
 - c. Normal response to command, and
 - d. Normal or baseline mental orientation.

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2. Moderate Sedation (Conscious Sedation): The use of medication to depress consciousness in a manner that allows toleration of unpleasant procedures without adverse effect on cardio-respiratory function or the ability to respond purposefully to verbal command and tactile stimulation. This level of sedation requires credentialing as set forth by the medical staffs of CHS Cleveland.
During
Moderate Sedation:
 - a. Protective reflexes are intact
 - b. Patent airway is maintained independently by the patient
 - c. Patients respond appropriately to physical stimulation or verbal command, i.e., “open your eyes”.
3. Deep Sedation: 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. This level of sedation requires credentialing which surpasses that of Moderate Sedation as set forth by the medical staffs of CHS Cleveland.
4. General Anesthesia: 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.
5. Minimal Sedation Practitioner: Hospital credentialed qualified medical staff. Practitioners administering minimal sedation (pre-procedure anxiolysis, preoperative anxiolysis, anti-insomnia medications, IV PCA narcotics) are not required to be credentialed in moderate/deep sedation or implement moderate/deep sedation documentation. These practitioners should be qualified to recognize and rescue any patient whose level of sedation becomes deeper than initially intended.
6. Moderate Sedation Practitioner: Hospital credentialed physician or dentist performing a procedure for which sedation is required. He/She must be qualified and credentialed to prescribe and select the medication used to achieve moderate sedation. This practitioner directs and is responsible for Pre-, Intra-, and Post-Sedation patient care. The practitioner may not simultaneously serve as the person monitoring the patient intra-procedure, but should be able to rescue any patient whose level of sedation becomes deeper than initially intended, including a state of Deep Sedation/Analgesia. A practitioner with expertise in airway management and advanced life support is readily available.
7. Deep Sedation Practitioner: A licensed physician specializing in Emergency Medicine, Pulmonology, or Critical Care Medicine (Intensivists) who has not completed postgraduate training in anesthesiology but is specifically trained,

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qualified, and credentialed to administer deep sedation. The deep sedation practitioner may not simultaneously serve as the person monitoring the patient or monitoring the airway intra-procedure, but will direct airway management and abandon the procedure in the event of airway compromise to attend to the airway. He/She must possess the requisite knowledge and skills to assess, diagnose, and intervene in the event of complications or undesired outcomes. This practitioner must have age appropriate airway management and resuscitative skills.

8. Monitor: A Registered Nurse (RN), physician extender, or practitioner is responsible for monitoring the patient during sedation. Registered nurses that accept responsibility for monitoring a sedated patient cannot assume other responsibilities that would leave the patient unattended. RNs must have Basic Cardiac Life Support/Advanced Cardiac Life Support (BCLS/ACLS) certification and Pediatric Advanced Life Support (PALS) if sedation performed on pediatric populations, knowledge of the effects of sedative drugs, knowledge of appropriate physiologic parameters, and familiarity with emergency cart and Broselow inventory to assist with any support or resuscitative measures required. A respiratory therapist may assist with monitoring of the airway.
9. Advanced Airway Monitoring for Deep Sedation: One person with advanced airway skills must be present to monitor the patient and assist with the management of the airway under the direction of the deep sedation practitioner. Non-anesthesia personnel that meet this requirement at CHS Cleveland include Emergency Department (ED) physicians, pulmonologists, intensivists, and respiratory therapists.
10. Rescue: Rescue of a patient from a deeper level of sedation than intended is intervention by a practitioner proficient in age-specific airway management and advanced life support. The practitioner has the ability to correct adverse physiologic consequences of the deeper than intended level of sedation including hypoventilation, hypoxia, hypotension and return the patient to the desired level of sedation. The procedure can continue once an appropriate level of sedation is attained.

B. Anesthesia and Anesthetizing Locations:

1. In accordance with CHS Cleveland, (a) anesthesia services are available to meet the needs of our patients, (b) patients with the same health status receive a comparable level of quality anesthesia care, and (c) quality and appropriateness of anesthesia services are monitored and evaluated, and problem areas resolved.
2. All Sedation services must adhere uniformly to organizational anesthesia standards. These standards include:
 - a. Pre-anesthesia history and physical examination.
 - b. Appropriate patient preparation including consent and instructions.
 - c. Sedation Services are provided only in approved Sedation Locations.
 - d. Intra-procedural monitoring and care in accordance with CHS Cleveland policy.
 - e. Appropriate post sedation/anesthesia care.
 - f. Quality and Performance Monitoring.
 - g. Documentation of above in accordance with CHS Cleveland guidelines.

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3. For patient safety, sedation will only be performed in approved Sedation Locations throughout the CHS Cleveland campuses. These include:
 - a. Special Diagnostics Department
 - b. Endoscopy Suite
 - c. Intensive Care Unit
 - d. Monitored Emergency Department Beds
 - e. Post-Anesthesia Care Unit
 - f. Radiology Department
 - g. Cardiac Catheterization Laboratory
 - h. Electro Physiology Laboratory
 - i. Vascular Laboratory
 - j. Echo Laboratory
 - k. Pain Management Center
 - l. Mobile Lithotripsy Unit
 - m. Operating Room
4. Equipment: The following equipment should be available in all anesthetizing locations:
 - a. Oxygen source (Oxygen is required for all moderate/deep sedation cases)
 - b. Ambu-Bag with mask and oral airway
 - c. Laryngoscopes with Miller and Macintosh blades
 - d. Endotracheal tubes with stylet sized appropriately for patient population
 - e. Adequately functioning suction with Yankauer tip (Ready to use)
 - f. Electrocardiogram (ECG) monitor
 - g. Pulse Oximetry
 - h. Capnography
5. An Emergency “Code Blue” Cart with defibrillator, standard resuscitative medicines and Succinylcholine must be readily available. Additionally, “anesthetic reversal drugs” must be available to include:
 - a. Naloxone (Narcan)
 - b. Romazicon (Flumazanil)
- C. Preparation, Assessment, and Plan of Care
 1. A history and physical examination is to be performed and documented by the practitioner prior to the procedure including (a) time and nature of last oral intake, (b) adverse experiences with anesthesia and/or sedation, and (c) smoking and/or substance abuse history. Physical examination should emphasize the heart, lungs and airway. Airway anatomy will be documented as normal or abnormal. If the patient has an abnormal airway, an anesthesia consultation should be considered.
 2. Classification of the patient’s physical status should be documented prior to moderate/deep sedation as follows:
 - a. ASA I: Normal healthy patient
 - b. ASA II: Patient with mild systemic disease
 - c. ASA III: Patient with severe systemic disease
 - d. ASA IV: Patient with severe systemic disease that is a constant threat to life
 - e. ASA V: Moribund patient not expected to survive without operation or procedure

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3. A “Plan of Care” will be established based on patient history, physical status, and procedural needs.
4. Consultation with an anesthesiologist or other appropriate specialist should be considered prior to sedation of higher risk patients including:
 - a. Patients with recent oral intake (based on Minimal NPO Requirements listed below)
 - b. Pregnant patients
 - c. Physical Status Classification of IV, or V, with exception of intubated patients
 - d. Abnormal airway
 - e. Previous history of problems with sedation or anesthesia.
5. Pre-Sedation Reassessment – All patients will have a documented reassessment immediately prior to initiating non-emergent services to ensure that the patient remains a candidate for the planned procedures and moderate/deep sedation.

Immediate Pre-Procedure vitals signs will be reviewed by the physician prior to receiving moderate/deep sedation (see Attachment 5).
6. Elective Pre-Procedure Fasting: Normally, patients should be maintained NPO past midnight prior to the intended procedure excluding necessary medications. Patient comorbidities, along with amounts and types of foods should be considered when determining appropriate NPO status. However, as a minimum, compliance with organizational NPO guidelines must be ensured and documented as follows for elective procedures:
 - a. Minimal NPO Requirements for Elective Procedures:

| Age | Solids/Milk/Breast Milk/Formula | Clear Liquids |
|----------------|---------------------------------|---------------|
| 0-6 months | 4 hours | 2 hours |
| 6 months-adult | 6 hours | 2 hours |

- b. Clear Liquids – Clear liquids are defined as water, carbonated beverages, clear tea and black coffee, or fruit juice without pulp.
- c. Solids – It is recommended that patients be asked to consume a light meal the night before surgery. A heavy meal would include fried or fatty foods or meat, which may prolong gastric emptying time.
- d. Objects placed in the mouth but not swallowed, such as chewing gum, mints, hard candy or chewing tobacco do not constitute violations of NPO guidelines. Such objects must be removed from the mouth (not swallowed) prior to induction of anesthesia.
7. Nursing Considerations for Moderate and Deep Sedation
 - a. Consent: must be obtained for moderate and deep sedation from the patient or guardian and documented in the patient record.
 - b. Pre-Procedure Fasting: NPO status must be confirmed and documented for elective procedures.
 - c. Pre-Procedural Counseling: Outpatients will be advised that: (a) an adult must be available to take them home and be available afterwards for assistance, and (b) alcohol

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use, driving or operation of hazardous machinery is prohibited for twenty-four (24) hours.

- d. A practitioner history and physical examination will be charted prior to the procedure.
- e. Intravenous access must be established for adult patients via a plastic catheter connected to a crystalloid infusion or “Hep-locked”/“Saline-locked”, with patency ensured prior to the procedure: pediatric patients may not require an IV.
- 8. Exceptions: If due to patient safety, the attending practitioner determines that sedative care must be administered outside these recommendations, this should be documented in the patient’s medical record and consultation with anesthesia considered.

D. Monitoring for Minimal Sedation

- 1. Minimal sedation vital signs should be monitored per unit/procedure specific policies. RN’s that recognize signs of sedation that exceed those of minimal sedation will notify the physician immediately.

E. Intra-procedure Monitoring for Moderate and Deep Sedation

- 1. SaO₂ (SpO₂ via pulse oximetry), blood pressure, heart rhythm & rate, respiration, capnography, and level of consciousness (LOC) will be monitored continuously throughout the case with documentation at a minimum of every five (5) minutes. Care will be documented in accordance with facility standards. Monitoring level of consciousness (patient response to verbal/tactile stimulus) should be routine during all sedation procedures except in patients who are unable to respond appropriately (e.g. young children, mentally impaired or uncooperative patients), or during procedures where movement could be detrimental. Blood pressure should be monitored at five (5) minute intervals during the procedure, unless such monitoring interferes with the procedure (e.g. pediatric magnetic resonance imaging (MRI) where stimulation from the blood pressure cuff could arouse an appropriately sedated patient).
- 2. Supplemental oxygen is required for all moderate and deep sedation procedures.
- 3. Appropriately qualified staff will be present at all times to assist the practitioner and will include:
 - a. The “Monitor” to assist with medication delivery (RN medication administration is dictated by the Restricted IV Push Medication List for CHS Cleveland), assessment of patient response to sedation, procedural documentation, and administration of additional medications during the course of the procedure in accordance with facility and North Carolina Board of Nursing (NCBON) guidelines.
 - b. Advanced Airway Monitoring Personnel must be present to assist with airway management under the direction of the procedural physician during deep sedation procedures. Post-procedure, the procedural practitioner is responsible for advanced airway management until the patient returns to a state of moderate sedation and can be released to the care of the RN.
 - c. Depending on practitioner or procedure requirement, an additional staff member(s) may be present in the area to locate items as requested, circulate, or assist as needed.
- 4. After initial medication delivery, an appropriate assessment is required before additional sedation is given.
- 5. In moderate sedation cases, once an appropriate level of sedation is achieved, and the patient is stable from a respiratory and hemodynamic standpoint, the Monitor Nurse may

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assist the practitioner with interruptible ancillary tasks of short duration, provided that monitoring is maintained.

6. During deep sedation, the RN that has accepted responsibility for monitoring the patient cannot assume any other responsibilities that would leave the patient unattended. The RN's primary responsibility is to monitor the patient, not to assist the physician. If the physician requires assistance, other ancillary staff should be utilized.
7. During moderate sedation procedures, if a patient's sedation level extends beyond the continuum of moderate sedation, the Practitioner must remain with the patient until such time as the patient's protective reflexes are intact, they are able to maintain their own airway, and they are able to respond appropriately to physical or verbal commands, i.e. "open your eyes".

F. Guidelines for Medication Administration for Moderate Sedation

1. The following drugs are designed to produce a rapid state of anesthesia and therefore are not appropriate for moderate sedation
 - a. Sodium Thiopental (Pentothal)
 - b. Metohexital (Brevital)
 - c. Etomidate (Amidate)
 - d. Propofol (Diprivan)
 - e. Ketamine (Ketalar)-except in doses described in this policy
2. The following drugs have the propensity to produce rapid, profound respiratory depression and/or level of consciousness:
 - a. Benzodiazepines-Midazolam/Versed®; Diazepam/Valium®
 - b. Potent narcotics - Fentanyl, Morphine, Demerol, etc.
3. Because of this, special care should be taken to administer these drugs in small incremental doses with adequate time to assess the full effect of each dose on SpO₂, heart rhythm & rate, respirations, blood pressure and level of consciousness (LOC) before giving additional doses.
 - a. A guideline including suggested dosing parameters for the specific sedatives and sedative analgesics approved at this facility for use in moderate sedation is attached (see Attachment 1 & Attachment 2).
 - b. If combinations of these drugs are used, smaller than normal doses should be used and titrated slowly.
 - c. Exceptions: If dosing is necessitated beyond suggested parameters of this policy for moderate sedation, the indications and rationale for increased medication requirement must be documented by the practitioner in the patient record.
 - d. Supplemental oxygen must be administered to all patients undergoing moderate and deep sedation.

G. Guidelines for Medication Administration for Deep Sedation

1. RN medication administration is dictated by the Restricted IV Push Medication List for CHS Cleveland. The physician will administer the medications for deep sedation.
2. Pentothal, Brevital, Etomidate, Propofol, and Ketamine for deep sedation purposes may only be administered by Anesthesia Providers and physicians credentialed for deep sedation.

H. Recovery and Discharge

1. All patients will be monitored and receive post-procedural/anesthetic care, as indicated by the nature of the procedure and practitioner preference. Such care will be delivered in an area designated for this purpose.

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2. Patients recovering from deep sedation must return to a level of moderate sedation prior to being released by the procedural physician to the care of an RN.
3. The patient's SpO₂, heart rhythm & rate, respiratory rate, blood pressure, and level of consciousness should be monitored and documented during this recovery period, as frequently as requested by the practitioner, but minimally at least once every fifteen (15) minutes during the post-sedation/anesthesia care period.
4. The monitoring of the patient's SpO₂, heart rhythm & rate, respiratory rate, blood pressure, and level of consciousness is continued until these parameters have stabilized and are acceptable for patient's age and diagnosis.
5. The SpO₂ is assessed on admission to the recovery area and monitored until the O₂ is discontinued and the room air SpO₂ is greater than or equal to 90%.
6. Oxygen must be administered to any patient having an SpO₂ less than 90% on room air.
7. Intravenous access will be maintained until discharge.
8. The attending practitioner responsible for the procedure is to be notified regarding changes in the patient's status.

9. Assessment at discharge will include measurement and documentation of patient status utilizing Moderate/Deep Sedation Recovery/Discharge Criteria. Patients who do not meet discharge criteria must be evaluated/signed-out by the attending practitioner prior to discharge from the procedure recovery area (see Attachment 4).

10. It is the responsibility of the attending practitioner to authorize discharge of the patient from the post-procedure recovery area. When this practitioner is not personally present to make the decision to discharge, or does not sign the discharge order at the time of discharge, discharge criteria, approved by the medical staff, are rigorously applied by post procedure recovery area staff to determine the patient's readiness for discharge.
11. The name of the practitioner responsible for discharge will be recorded in the medical record.
12. The name of the responsible person who will accompany the patient will be documented.
13. If there is no one to accompany the patient home, the physician will be consulted for discharge planning to include; when the patient can be discharged, the need for extended recovery bed, and if they can go home alone.

I. Quality and Performance Improvement

1. All anesthesia/sedation services will undergo a Quality and Performance Improvement (Q & PI) review including measurement screening of activities utilizing standard facility anesthetic/sedation related indicators and forward quarterly to Chief, Department of Anesthesia.
2. In the event that one or more complications occur, the appropriate indicator(s)/indicator code(s) will be noted and forwarded to the hospital QA Division and Chief, Department of Anesthesia. This function may be accomplished by any member of the care team so long as accuracy is maintained.
3. Highlight or otherwise document any of the performance review indicators that constitute a change from baseline if such change is directly or indirectly attributable to sedation or procedural intolerance on the patient's part.
4. Performance Improvement recommendations for quality assurance for patients undergoing moderate sedation are evaluated and implemented as appropriate.

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Attachment 1: Moderate Sedation Adult Medication Guidelines

Suggested Adult Drug Dosing for Moderate Sedation

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| Doses are for healthy adults. |
| Greater than 60 years of age, debilitated or chronically ill, the dose should be reduced by 50%. |
| In morbidly obese patients, the dose should be administered slowly and titrated to the desired effect. |
| If dosing is necessitated beyond suggested parameters of this policy, the indications and rationale for increased medication requirement must be documented by the practitioner in the patient record. |

Intravenous Agent – Adult Drugs

| DRUG | DOSE | ONSET | DURATION |
|--|--|-----------------------------|-------------|
| Morphine Sulfate IV | 0.025-0.05 mg/kg Maximum 0.15 mg/kg | 1-5 MIN | 30-180 MIN |
| Caution: Histamine release, asthmatics | | | |
| Fentanyl (Sublimaze) IV | 1-2 mcg/kg Maximum 3mcg/kg | 1-5 MIN | 30-180 MIN |
| Caution: Narcotic may cause profound respiratory depression, and chest wall rigidity. | | | |
| Meperidine (Demerol) IV | < 1mg/kg Maximum 50-100 mg | 1-5 MIN | 30-180 MIN |
| Midazolam (Versed) IV | 0.02-0.03 mg/kg Maximum 0.1 mg/kg | 1-3 MIN | 20-40 MIN |
| Naloxone (Narcan) IV | | Titrate 0.1 mg IV to effect | |
| Nubain (Nalbuphine) IV | 0.15 mg/kg (not to exceed 10 mg) | 1-5 MIN | 60-180 MIN |
| Considerations: Though Nubain is a narcotic with agonist/antagonist properties, respiratory depression can occur. Narcan is effective to reverse any respiratory depression caused by Nubain. Caution: | | | |
| <ol style="list-style-type: none"> 1. Pure agonists (Morphine/Demerol, etc.) should not be employed to improve analgesia after Nubain has been used. 2. Nubain should not be selected for the patient who has a history of chronic narcotic use. | | | |
| Valium (Diazepam) IV | 0.1 mg/kg (not to exceed 10 mg) | 15-60 MIN | 240-480 MIN |
| Considerations: Valium's duration may be prolonged in the elderly. | | | |

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Attachment 2: Moderate Sedation Pediatric Medication Guidelines

Suggested Pediatric Drug Dosing for Moderate Sedation

a. Oral Agents (PO/Rectal) - Pediatric Drugs

| DRUG | DOSE | ONSET | DURATION |
|---|---|---------------------------------------|----------------------------------|
| Chloral Hydrate (Oral and Rectal) *Not to be given at home or prior to arrival at the hospital | (Oral and Rectal) Initial 25-75mg/kg Maximum 100mg/kg Do not exceed 2gm. Neonates do not exceed 50mg/kg | (Oral and Rectal) 20-60 MIN | (Oral and Rectal) 1-8 HRS |
| Midazolam (Versed) | 0.5mg/kg as a single dose (mix in 5cc of flavored Tylenol elixir) | 15-30 MIN | 60-90 MIN |

b. Intranasal (IN) - Pediatric Drugs

| DRUG | DOSE | ONSET | DURATION |
|---------------------------|---|-----------|-----------|
| Midazolam (Versed) | 0.2-0.3mg/kg as a single dose. Administer slowly over 1 minute or dose will be p.o. rather than IN | 15-20 MIN | 60-90 MIN |

c. Intramuscular (IM) - Pediatric Drugs

| DRUG | DOSE | ONSET | DURATION |
|---|--|------------------|---------------------|
| Atropine | 0.01 - 0.02mg/kg IM – one dose only. (Minimum dose 0.1 mg) May mix with Ketamine | 15 MIN | 60-240 MIN |
| Ketamine (Ketalar) – Recommended ages 1-18 years Use limited to Pediatric Patients in the Emergency Room and Intensive Care Setting | Up to 3 mg/kg IM As a single dose; if analgesia is inadequate consider supplement with a local anesthesia. Subsequent IM doses of Ketamine should not be administered sooner than 10 minutes after initial dose. Subsequent dosing (IM) – 2 mg/kg (limited to 1 dose) Maximum dose 5 mg/kg IM | 5-20 MIN | 20-30 MIN |
| Glycopyrrolate (Robinul) | 0.005 - 0.01 mg/kg as an alternative to Atropine. Maximum single dose 0.2 mg/kg. Does not cross the blood brain barrier. Contraindicated in infants under six (6) months of age. | 15 MIN | 60-240 MIN |
| <p>Ketamine stimulates salivary and tracheobronchial secretions; concurrent administration of anticholinergics are suggested.</p> <p>Hallucinating emergence reaction may occur in children over seven years of age.</p> <p>Laryngospasm due to increased secretions may occur.</p> <p>Increased intraocular and intracranial pressure</p> <p>Increased muscle tone</p> | | | |
| Demerol (Meperidine) | 1-1.5 mg/kg Maximum Dose 1.5 mg/kg or 100 mg | Variable 1-5 MIN | Variable 30-180 MIN |

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d. Intravenous (IV) – Pediatric Drugs

| | | | |
|--|--|------------------|---------------------|
| Midazolam (Versed) IV | Initial 0.05mg/kg dose maximum 0.1mg/kg dose | <5 MIN | 20-40 MIN |
| Morphine IV | Initial dose 0.025-0.05mg/kg maximum total dose 0.15mg/kg | 1-5 MIN | 30-180 MIN |
| Ketamine (Ketalar) – Recommended ages 1-18 years Use limited to Pediatric Patients in the Emergency Room and Intensive Care Setting | 0.5 – 1 mg/kg for initial dose with subsequent IV dosing of 0.25 – 0.5 mg/kg every 1-2 minutes to the desired effect. Recommend subsequent IV dosing no sooner than 10 minutes after the initial IV dosing. | Immediate | 30-45 MIN |
| Glycopyrrolate (Robinul) | 0.005 - 0.001 mg/kg May be administered with Ketamine as a single dose. Maximum single dose 0.2 mg/kg. Contraindicated in infants under six (6) months of age. | Immediate | 60-240 MIN |
| Ketamine stimulates salivary and tracheobronchial secretions; concurrent administration of anticholinergics are suggested. | | | |
| Hallucinating emergence reaction may occur in children over seven years of age. | | | |
| Laryngospasm due to increased secretions may occur. | | | |
| Increased intraocular and intracranial pressure Increased muscle tone | | | |
| Considerations: Asthmatics – histamine release Neonates – increased sedation | | | |
| Fentanyl (Sublimaze) IV | Initial dose 1mcg-2mcg/kg maximum total dose 3mcg/kg | 1-2.5 MIN | 30-180 MIN |
| Cautions: Very potent; may cause profound respiratory depression, chest wall rigidity, glottic rigidity | | | |
| Demerol (Meperidine) | 1-1.5 mg/kg Maximum Dose 1.5 mg/kg or 100 mg | Variable 1-5 MIN | Variable 30-180 MIN |

e. Reversal Agents – Pediatric Drugs

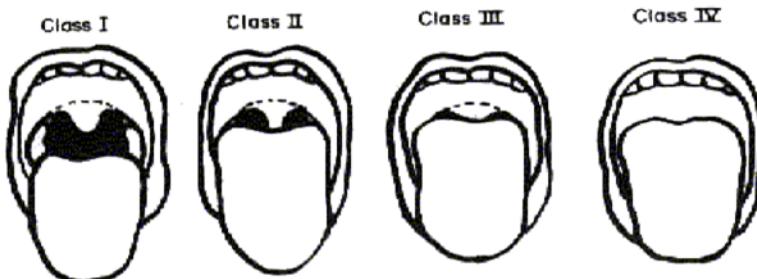
| | | | |
|---|--|---------|-----------|
| Flumazenil (Romazicon) | Initial IV dose 0.01mg/kg may be repeated in 45 seconds maximum dose 1mg | 1-2 MIN | 15-90 MIN |
| Caution: Resedation may occur due to short 1/2 life. Avoid premature discharge of patient | | | |
| Naloxone (Narcan) | Initial dose is 0.01mg/kg. May be repeated in 2-3 minutes if no effect | 1-2 MIN | 60 MIN |

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Attachment 3: Airway Anatomy via Mallampati Scale:

Mallampati/Samsoon classes are useful to classify patients with varying difficulties of potential airway management and/or intubation. The oral cavity is examined with the patient seated upright, head in neutral position, mouth opened as wide as possible, and tongue protruded maximally.

| | |
|-------------------|---|
| Class I: | Soft palate, tonsillar fauces, tonsillar pillars, uvula visualized - "easy" airway management. |
| Class II: | Soft palate, tonsillar fauces, uvula visualized - "mildly difficult" airway management. |
| Class III: | Soft palate, base of uvula visualized - "much more difficult" airway management (consultation with "expert airway practitioner" recommended). |
| Class IV: | Soft palate not visible - "near impossible" airway management (consultation "expert airway practitioner" required). |



Physical Status Documented via the ASA Status:

| |
|---|
| Check one: |
| ASA I Normal healthy patient |
| ASA II Patient with mild systemic disease |
| ASA III Patient with severe systemic disease |
| ASA IV Patient with severe systemic disease that is a constant threat to life |
| ASA V Moribund patient not expected to survive without the operation or procedure |

Continuum of Depth of Sedation Definition of General Anesthesia and Levels of Sedation/Analgesia

(Approved by ASA House of Delegates on October 27, 2004, amended on October 21, 2009)

| MINIMAL SEDATION | | MODERATE SEDATION ("CONSCIOUS SEDATION") | DEEP SEDATION/ANALGESIA | GENERAL ANESTHESIA |
|------------------|---------------------------------------|--|---|--|
| Responsiveness: | Normal response to verbal stimulation | Purposeful response to verbal or tactile stimulation | Purposeful response following repeated or painful stimulation | Unarousable even with painful stimulus |
| Airway: | Unaffected | No intervention required | Intervention may be required | Intervention often required |

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| | | | | |
|--------------------------|------------|--------------------|--------------------|-----------------------|
| Spontaneous Ventilation: | Unaffected | Adequate | May be inadequate | Frequently inadequate |
| Cardiovascular Function: | Unaffected | Usually maintained | Usually maintained | May be impaired |

*Reflex withdrawal from a painful stimulus is NOT considered a purposeful response.

Attachment 4

| Admission/Baseline | Recovery | Discharge |
|--|--|--|
| Respiratory Status <input type="checkbox"/> Able to maintain and protect the airway with no signs of respiratory distress. <input type="checkbox"/> Oxygen at _____ L via _____ or <input type="checkbox"/> O2 greater than or equal to 90% on room air SpO2 _____ | Respiratory Status <input type="checkbox"/> Able to maintain and protect the airway with no signs of respiratory distress and <input type="checkbox"/> O2 sat greater than 90% (on O2) SpO2 _____ or <input type="checkbox"/> O2 greater than or equal to 90% (on room air) SpO2 _____ | Respiratory Status <input type="checkbox"/> Spontaneous respirations, rate greater than or equal to 10 breaths/min and <input type="checkbox"/> O2 ≥90% on room air. <input type="checkbox"/> Or Return to baseline SpO2 _____ |
| Level of consciousness <input type="checkbox"/> Oriented to time, person, place, age appropriate or <input type="checkbox"/> Disoriented or not aware of time/person/place, age appropriate or <input type="checkbox"/> Arouses to verbal/tactile stimulation or <input type="checkbox"/> Arouses to painful stimulation or <input type="checkbox"/> Unresponsive. | Level of consciousness <input type="checkbox"/> Returns to baseline and <input type="checkbox"/> Interested in returning to inpatient setting | Level of consciousness <input type="checkbox"/> Returns to baseline. <input type="checkbox"/> Interested in returning home |
| Circulation Blood Pressure: _____ Pulse: _____ Respirations: _____ | Circulation <input type="checkbox"/> Vital signs for stable for 30 minutes | Circulation <input type="checkbox"/> Vital signs stable for 30 minutes |
| Comfort Level <input type="checkbox"/> Pain scale rating _____ <input type="checkbox"/> Non-verbal-moaning, groaning, restless <input type="checkbox"/> Non-verbal-no apparent signs of pain | Comfort Level <input type="checkbox"/> Returns to baseline or improved. | Comfort Level <input type="checkbox"/> Returns to baseline or improved |
| Activity <input type="checkbox"/> Independent ambulation <input type="checkbox"/> Demonstrates controlled, coordinated movements. <input type="checkbox"/> Requires assistance <input type="checkbox"/> Non-ambulatory | Activity <input type="checkbox"/> Demonstrates controlled, coordinated movements. | Activity <input type="checkbox"/> Independent/ minimal assistance with ambulation <input type="checkbox"/> Responsible adult available for discharge and home environment. <input type="checkbox"/> Or return to baseline |
| | <input type="checkbox"/> No evidence of bleeding or <input type="checkbox"/> N/A | <input type="checkbox"/> No evidence of bleeding/dressing dry and intact or <input type="checkbox"/> N/A |
| RECOVERY/DISCHARGE SUMMARY Patient may be discharged when recovery/discharge criteria in each category is met. | Sedation <input type="checkbox"/> Minimum 30 minutes after procedure or <input type="checkbox"/> Reversal agents administered with 120 minutes elapsed. | Sedation <input type="checkbox"/> Minimum 30 minutes after procedure <input type="checkbox"/> Reversal agents administered with 120 minutes elapsed |
| | <input type="checkbox"/> Recovery Criteria met for each category <input type="checkbox"/> Or Transferred to _____ per physician orders. | <input type="checkbox"/> Met discharge criteria <input type="checkbox"/> Criteria not met/physician notified. See narrative notes. |

| | |
|---|---|
| Post Procedure Recovery Evaluation Transferred to _____ Report Called to _____ (time) _____ | Discharge Evaluation: Discharge Instructions given to : <input type="checkbox"/> Patient <input type="checkbox"/> Other _____ Discharged to point of entry by: _____ at _____ (Time) Responsible adult to accompany patient: _____ |
|---|---|

Attachment 5

Carolinas Healthcare System Cleveland
Interdepartmental Policy Manual
CHS Cleveland
Sedation Physician Assessment

DATE: _____ **TIME:** _____

- Emergent Situation

- Reviewed pre-assessment documentation and agree

The patient has been examined and there are **no changes** in the patient's condition since the attached history and physical was documented.

The patient has been examined and changes (as listed) have been noted in the patient's condition since the history and physical was documented. _____

Time/Nature of last oral intake: _____

Previous adverse experiences with anesthesia and/or sedation? No Yes

Smoking or substance abuse history: _____

Heart sounds: Normal Others: _____

Lung sounds: Normal Others: _____

Airway Assessment

No abnormalities noted

Abnormalities noted

ASA Physical Classification (Select one)

ASA I- (healthy patient)

ASA II- (mild systemic disease)

ASA III- (severe systemic disease)

ASA IV- (life threatening disease)

ASA V- (moribund patient)

E- (denotes emergency)

Sedation Plan: Moderate Sedation

Other: _____

Risks discussed with patient/surrogate. They understand the risks and potential benefits of the procedure and are willing to proceed.

MD Signature _____

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Revised 04/2011

Patient Label

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