ATRIUM HEALTH
PROCEDURAL (MODERATE) SEDATION
REAPPOINTMENT DELINEATION OF PRIVILEGES
(DOES NOT INCLUDE DEEP SEDATION PRIVILEGES)

Print Name

This Policy is designed to facilitate the safe use of sedatives and analgesics by Physicians for their patients who require Procedural (moderate/conscious) Sedation for procedures. Use of Procedural Sedation by Physicians who have been credentialed to do so must be in accordance with the Hospital Specific "Anesthesia Care and Anesthetizing Locations" and the **Atrium Health "Policy and Clinical Practice Guidelines for Procedural Sedation in Adult and Pediatric Patients"** policies and procedures.

I. **DEFINITIONS:**

A. **PROCEDURAL SEDATION (Moderate/Conscious Sedation):** The use of medication to depress consciousness in a manner that allows toleration of unpleasant procedures without adverse effect on cardiorespiratory function or ability to respond purposefully to verbal command and tactile stimulation. During Procedural Sedation: (1) Protective reflexes are intact; (2) Patient airway is maintained independently by the patient; (3) Patients respond appropriately to physical stimulation or verbal command, i.e., "open your eyes."

B. **DEEP SEDATION:** The use of medication to induce a level of depressed consciousness from which the patient is not easily aroused. Can result in a partial or complete loss of protective reflexes and need for airway support (**Deep Sedation requires additional credentials and is beyond the scope of this policy.**)

II. **SKILLS AND TRAINING NEEDED TO PERFORM THE PRIVILEGE:**

General competency for the qualified individual managing the care of a patient receiving Procedural Sedation includes the ability to:

a. Document knowledge of anatomy, physiology, pharmacology, recognition and complications related to Procedural Sedation and medications;

b. Assess total patient care requirements during Procedural Sedation and recovery. Physical measurements should include, but are not limited to, respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm and the patient's level of consciousness;

c. Understand the principles of oxygen delivery, respiratory physiology, oxygen transport, oxygen uptake, and demonstrate the ability to use oxygen delivery devices;

d. Anticipate and recognize potential complications of Procedural Sedation in relation to the types of medication being administered;

e. Possess the requisite knowledge and skills to assess, diagnose, and intervene in the event of complications or undesired outcomes.

f. Demonstrate skill in airway management and resuscitation.

III. **CREDENTIALS REQUIRED – PHYSICIANS AND DENTISTS:**

Provide documentation of training and current clinical competence to perform Procedural Sedation, including demonstration of skills and airway management and resuscitation. Documentation may be achieved as follows:

1. Letter from the director of his/her residency/fellowship training program documenting successful completion of structured experience to perform Procedural Sedation, including airway management, within the last two (2) years; **AND**

2. For Adult Procedural Sedation Credentials provide documentation of current Advanced Cardiac Life Saving (ACLS) certification. For Pediatric Procedural Sedation Credentials provide current Pediatric Advanced Life Saving (PALS) certification or Neonatal Resuscitation Program (NRP) certification.

OR

CREDENTIALS REQUIRED – PHYSICIANS AND DENTISTS - continued:

1. For Adult Procedural Sedation Credentials provide documentation of current Advanced Cardiac Life Saving (ACLS) certification. For Pediatric Procedural Sedation Credentials provide current Pediatric Advanced Life Saving (PALS) certification or Neonatal Resuscitation Program (NRP) certification; **AND**

2. The Physician must provide documentation of ten (10) adult cases or ten (10) pediatric cases (if the Physician requests both adult and pediatric moderate sedation that would be a total of twenty (20) cases) within the most recent two (2) year period to be eligible for Procedural Sedation Privileges; **OR**

2. If the Physician has not completed the required number of cases outlined, they must successfully complete the moderate sedation tutorials (adult and/or pediatrics) from the Specialty of Anesthesiology and achieve successful test scores.

PHYSICIANS AND DENTISTS CRITERIA FOR MAINTENANCE OF PRIVILEGES:

1. The Physician must provide documentation of ten (10) adult cases and ten (10) pediatric cases (if the Physician maintains both adult and pediatric moderate sedation that would be a total of twenty (20) cases) within the past two (2) year period. Documentation of procedures performed and the results of Quality Assessment and Improvement Committee outcomes will be reviewed at the time of the Physician's reappointment; **OR**

1. If the Physician has not completed the required number of cases outlined, they must successfully complete the moderate sedation tutorials (adult and/or pediatrics) from the Specialty of Anesthesiology and achieve successful test scores.

VIII. **MEDICATIONS FOR WHICH PROCEDURAL SEDATION PRIVILEGES ARE REQUESTED: GENERAL DRUG DOSEAGE GUIDELINES:**

Medications included on page 3 are used for sedative purposes at the MACS Facilities. The stated, "Usual Dose Ranges" are based on national medical data and are pharmacologically accepted as general norms for the average healthy patient. Adjustments should be made for smaller size and/or diminished physical condition. These represent drugs and dose ranges not expected to result in loss of protective reflexes for clinically significant percentage of normal patients. **Pediatric patients are varied in their sedative requirements and responses.** Whenever it is necessary to sedate a child, one must consider the type of procedure planned, the duration of the procedure, the size, age, and underlying medical condition of the patient (proper fasting, fluid deficits, blood volume, interaction with other medications, and intact mechanisms of drug elimination), as well as the need for anxiolysis.

I hereby apply for privileges to perform * **ADULT** Procedural Sedation at the following Facilities:

- ☐ Carolinas Medical Center
- ☐ Carolinas Rehabilitation
- ☐ Atrium Health Anson
- ☐ Atrium Health Cabarrus
- ☐ Atrium Health Cleveland
- ☐ Atrium Health Lincoln
- ☐ Atrium Health Pineville
- ☐ Atrium Health Stanly
- ☐ Atrium Health Union
- ☐ Atrium Health University City

Medicines and Dosing Guidelines have been approved by the Medical Staff of the above listed facilities for Procedural Sedation.

ADULT DRUGS (DOSING GUIDELINES)

- Doses are for healthy adults < 60 years of age.
- > 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.

a. **Intravenous Agent -** Adult Drugs (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Ketamine (Ketalar) **NOTE: Benzodiazepines may be considered to reduce the occurrence of or to treat emergence reactions.** **Midzolam (Versed): 0.03 mg/kg IV may be considered**	**Initial dose: Titrate 0.5 – 1 mg/kg** **Subsequent dose no sooner than 10 minutes after initial dose: Titrate -0.25mg/kg up to a Maximum 2mg/kg**	**30 -40 seconds**	**5-10 MIN** **Recovery time 1-2 HOURS**
Morphine Sulfate IV <u>Caution:</u> Histamine release, asthmatics	0.025-0.05mg/kg Maximum 0.15mg/kg	1-5 MIN	30-180 MIN
Fentanyl (Sublimaze) IV **(Not approved for use at Carolinas Rehabilitation)** <u>Caution:</u> Narcotic may cause profound respiratory depression and chest wall rigidity	1-2mcg/kg Maximum 3mcg/kg	1-5 MIN	30 **60** MIN

a. Intravenous Agent - Adult Drugs (Dosing Guidelines) - Continued

Meperidine (Demerol) IV	< 1mg/kg Maximum 50-100mg	1-5 MIN	30-180 MIN
Midazolam (Versed) IV	0.02-0.03mg/kg Maximum 0.1mg/kg	1-3 MIN	20-40 MIN
Naloxone (Narcan) IV	Titrate 0.1mg IV to effect		
Nalbuphine (Nubain) IV	0.15mg/kg (not to exceed 10mg)	1-5 MIN	60-180 MIN
Considerations: Though **Nalbuphine** is a narcotic with agonist/antagonist properties, respiratory depression can occur. **Naloxone** is effective to reverse any respiratory depression caused by **Nalbuphine**. Caution: 1. Pure agonists (**e.g., m**orphine**, meperidine**) should not be employed to improve analgesia after **nalbuphine** has been used. 2. **Nalbuphine** should not be selected for the patient who has a history of chronic narcotic use.			
Diazepam (Valium IV	0.1mg/kg (not to exceed 10mg)	15-60 MIN	240-480 MIN
Considerations: **Half-life** increases in the elderly			

b. Nitrous Oxide - (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Nitrous Oxide (N20)	**Nitrous Oxide (N2O) in a concentration not to exceed 70% N2O and a concentration of O2 not less than 30% O2 **.** **a. Only to be used with the patient breathing the N2O/O2 mixture;** **b. Not to be used simultaneously with any opioid analgesic or sedative of any class.**	**2-5 MIN**	**5-10 MIN**

**** Only approved for emergency department physicians following the approved standards for use of anesthetic gases. Patients receiving Nitrous Oxide should be monitored in accordance with this policy**

***** The Department of Dentistry may continue to use Nitrous Oxide (N20) outside the Procedural Sedation policy.**

I hereby apply for privileges to perform * **PEDIATRIC** Procedural Sedation at the following Facilities:

- ❑ Carolinas Medical Center
- ❑ Carolinas Rehabilitation
- ❑ Atrium Health Anson
- ❑ Atrium Health Cabarrus
- ❑ Atrium Health Cleveland
- ❑ Atrium Health Lincoln
- ❑ Atrium Health Pineville
- ❑ Atrium Health Stanly
- ❑ Atrium Health Union
- ❑ Atrium Health University City

Medicines and Dosing Guidelines have been approved by the Medical Staffs of the above listed facilities for Procedural Sedation.

PEDIATRIC DRUGS (DOSING GUIDELINES)

a. Topical Agents - Pediatric Drugs (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Lidocaine (Xylocaine) injection Local infiltration **(Not approved for use at Carolinas Rehabilitation)**	3-5 mg/kg 5-6 mg/kg with epi 1: 200,000	5-10 MIN	30-60 MIN
LET* lidocaine 4% epinephrine 1:2,000 Tetracaine 0.5% **(Not approved for use at Carolinas Rehabilitation)**	Apply gauze with 3cc of mixture to affected area x 15 minutes	15-20 MIN	30-60 MIN
EMLA Cream Eutectic mixture of local anesthetic	Apply to desired area for 30-40 min. and cover with tegaderm	30-45 MIN	Up to 2 HRS.
Lidocaine (LMX) topical	Lidocaine topical 4% cream with instructions to follow: Levine Children's Hospital Standing physician orders	15-20 MIN	30-60 MIN

	for application of Lidocaine topical 4% cream.		
*Epinephrine is contraindicated in areas supplied by end arteries, i.e. digits, penis.			

b. Oral Agents (PO/Rectal)-Pediatric Drugs (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Midazolam (Versed)	0.5mg/kg as a single dose (mix in 5cc of flavored Tylenol elixir)	15-30 MIN	60-90 MIN
Carolinas Rehabilitation -- **Midazolam (Versed)**	0.25 - 0.5 mg/kg as a single dose max 20 mg (mix in 5cc of flavored Tylenol elixir)	15-30 MIN	60-90 MIN

c. Intranasal (IN) - Pediatric Drugs (Dosing Guidelines)

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

d. Intramuscular (IM)-Pediatric Drugs (Dosing Guidelines)

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) - Should be limited to the ED and ICU setting and administered to patients 1 year and older.** **(Not approved for use at Carolinas Rehabilitation; 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**
• Ketamine stimulates salivary and tracheobronchial secretions; concurrent administration of **an** anticholinergics **may be considered.** • 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			
Demerol	1-1.5 mg/kg Maximum Dose 1.5 mg/kg or 100 mg	Variable 1-5 MIN	Variable 30-180 MIN

e. Intravenous (IV)- Pediatric Drugs (Dosing Guidelines)

PLEASE NOTE INTRAVENOUS (IV) IS NOT PERFORMED AT CAROLINAS REHABILITATION

DRUG	DOSE	ONSET	DURATION
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) – Should be limited to the ED and ICU setting and administered to patients 1 year and older. 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 (Robinol)	**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 <u>Cautions:</u> Very potent; may cause profound respiratory depression, chest wall rigidity, glottic rigidity	Initial dose 1mcg-2mcg/kg maximum total dose 3mcg/kg	1-2.5 MIN	30-180 MIN
Demerol	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 (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Flumazenil (Romazicon)	Initial IV dose 0.01mg/kg may be repeated in 45 seconds maximum dose 1mg **or 0.05 mg/kg whichever is lower**	1-2 MIN	15-90 MIN
<u>Caution:</u> 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

f. Nitrous Oxide - (Dosing Guidelines)

DRUG	DOSE	ONSET	DURATION
Nitrous Oxide (N20)	**Nitrous Oxide (N2O) in a concentration not to exceed 70% N2O and a concentration of O2 not less than 30% O2 **.** **c. Only to be used with the patient breathing the N2O/O2 mixture;** **d. Not to be used simultaneously with any opioid analgesic or sedative of any class.**	**2-5 MIN**	**5-10 MIN**

**** Only approved for emergency department physicians following the approved standards for use of anesthetic gases.**
***** The Department of Dentistry may continue to use Nitrous Oxide (N20) outside the Procedural Sedation policy.**
Patients receiving Nitrous Oxide should be monitored in accordance with this policy

I have attained the level of competency required to administer the above requested drugs for moderate (conscious) sedation through the following training and/or experience:

_____
_____
_____
_____
_____

I attest that I have read the Policy and Clinical Practice Guidelines for the Use of Sedatives and Analgesics for Procedural Sedation and agree to abide by this Policy and the Clinical Practice Guidelines.

I attest that I am not currently a user of illegal drugs or do not currently abuse the use of legal drugs.

I attest that I do not have a physical or mental condition which could affect my motor skills or ability to exercise the clinical privileges requested or that I require an accommodation in order to exercise the privileges requested safely and competently.

_____ _____
Signature Date

_____ _____
Print Name Specialty