

# MVHS FSLH and SEMC

## Procedural Sedation Policy & Procedures

# ***MVHS Procedural Sedation Policy (Scope)***

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- **The goal is to promote cooperation by:**
  - Reducing anxiety and pain
  - Promoting immobility (especially in children)
- **The intention is to preserve airway reflexes, spontaneous breathing and arousability while reducing the level of consciousness**

# *Levels of Procedural Sedation*

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## Minimal Sedation-

- drug induced state where:
  - Patients respond normally to verbal commands
  - Although cognitive function and coordination may be impaired, characteristically there is no altered level of consciousness
  - Airway and ventilation remain intact.

# *Levels of Procedural Sedation*

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## Moderate Sedation -

- Drug induced depression of consciousness which preserves:
  - Response to verbal commands (may require light tactile stimulation)
  - Patent airway
  - Spontaneous ventilation
  - Hemodynamic stability

# *Levels of Procedural Sedation*

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## Deep Sedation-

- drug induced state where:
  - Patients cannot be easily aroused but respond following repeated or painful stimulation
  - Patients may require assistance in maintaining a patent airway and adequate ventilation

**Sedation: Minimal** ⇨ **Moderate** ⇨ **Deep** ⇨ **GA\***

\*General Anesthesia

<b>Response</b>	<b>Normal response to verbal stim.</b>	<b>Purposeful response to verbal or tactile stim.</b>	<b>Purposeful response to repeated or painful stim.</b>	<b>Unarousable by any stimulation</b>
<b>Airway</b>	<b>Unaffected</b>	<b>No intervention required</b>	<b>Intervention may be required</b>	<b>Intervention often required</b>
<b>Spontaneous Ventilation</b>	<b>Unaffected</b>	<b>Adequate</b>	<b>May be inadequate</b>	<b>Frequently inadequate</b>
<b>CV Function</b>	<b>Unaffected</b>	<b>Usually maintained</b>	<b>Usually maintained</b>	<b>May be impaired</b>

# ***MVHS Procedural Sedation Policy Inclusion Criteria***

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- **This clinical policy is intended for all patients of all ages in all hospital units who have: emergent or urgent conditions that require:**
  - **Pain management through a drug-induced reduction in level of consciousness in order to successfully accomplish an interventional or diagnostic procedure.**

# *Drug Administration*

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**Transition from moderate to deep sedation or general anesthesia can occur when using any procedural sedation agent.**

**In order to minimize this risk:**

- **All drugs are administered slowly and titrated to effect**



# ***MVHS Procedural Sedation Policy Inclusion Criteria***

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- **This policy and its attendant documentation and monitoring requirements applies only to moderate and deep sedation.**
- **Credentialing applies to attending physicians and nurse practitioners only.**
  - **Credentialing does not apply to housestaff.**
- **The performance of deep sedation is associated with higher risks.**
  - **Limited to physicians meeting special requirements**
  - **NPs may not perform deep sedation.**

# ***MVHS Procedural Sedation Policy***

## ***Exclusion Criteria:***

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- **The administration of a minimal dose of a single medication in order to achieve anxiolysis constitutes minimal sedation**
  - **Example: 1 or 2 mg of IV Versed in a healthy middle aged patient.**
- **Use of sedative agents for control of acute agitation or withdrawal states.**
- **Use of analgesics for acute pain control.**
- **Routine nighttime use of hypnotics.**

## ***Delineation of Privileges: Moderate Sedation***

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- **Review of the procedural sedation policies and procedures and successful completion of the on-line course**
- **Current BLS certification**
- **Applies to the use of the following drugs:**
  - **Midazolam**
  - **Fentanyl**
  - **Morphine**
  - **Pentobarbital\***
  - **Chloral Hydrate\***
- **Note: Deep sedation may occur with any of the above agents at sufficient doses.**

\* for moderate sedation in children

# ***Delineation of Privileges: Deep Sedation***

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- **Board certification/prepared in a specialty that routinely employs deep sedation**
  - **Advanced airway skill competency.**
    - (ACLS,PALS,NALS or equivalent training/experience)
  - **Current experience established.**
  - **Performance of deep sedation will be restricted to the following attending physician groups\*:**
    - Anesthesiology                      Oral Surgery
    - Critical Care                              Pediatric Critical Care
    - Emergency Medicine      Pediatric Emergency Medicine
- \*Other attending physicians whom the sedation committee deems qualified by their training and/or experience.**

# ***Delineation of Privileges: Deep Sedation***

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- **Review of the procedural sedation policy and procedures course and completion of the on-line test.**
  - **The use of the following drugs for procedural sedation will a priori constitute deep sedation:**
    - **Propofol**
    - **Ketamine\***
    - **Etomidate**
- \* **Ketamine produces a specialized condition, referred to as a “dissociative” state where patient responses more closely resemble deep sedation.**

# *Procedural Sedation Time Periods*

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- **Pre-procedure preparation**
- **Procedural period**
- **Post-procedure period**

## ***Required Documentation Prior to Procedure***

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- **Signed consent for both the procedure and procedural sedation**
  - Specify moderate or deep sedation
  - Use same consent form for procedural sedation and procedure.
- **Completed History and Physical**
- **Results of pregnancy testing for women of childbearing age.**

## ***Required Documentation Prior to Procedure - continued***

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- **Completed pre-sedation assessment portion by the physician or nurse practitioner\* who will perform the procedural sedation. This includes**
  - **Airway assessment**
  - **Fasting status**
  - **ASA classification**

\* NP only permitted to perform moderate sedation



# ***Pre-Sedation Assessment – History and Physical***

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- **History\***
    - Previous problems with sedation
    - Sleep apnea
  - **Physical exam-head and neck\***
    - Limited mouth opening
      - modified Mallampati classification
    - Short neck (reduced thyromental distance)
    - Small mandible
    - Large tongue
    - Loose teeth, dentures
- \* The presence of one or more of these findings may require advanced airway skills.

# ***Pre-Sedation Assessment - Fasting Guidelines***

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**Ingested Material**

**ASA Guidelines**

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**Clear Liquids**

**2h**

**Breast Milk**

**4h**

**Non-clear liquids**

**4h**

**All other meals**

**6h**

## ***Pre-Sedation Assessment - ASA Classification (Health Status)***

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**Class I    Healthy**

**Class II    Mild systemic disease**

**Class III    Severe but not incapacitating  
systemic disease**

**Class IV    Incapacitating systemic disease  
that is a constant threat to life**

**Class V    Moribund patient not expected  
to survive more than 24 hours**

# ***Pre-Sedation Assessment***

## ***Anesthesia Consultation – required if:***

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- **Patient falls within ASA classification 4 or greater.**
- **Anticipated difficult airway or**
  - **Poor mouth opening**
  - **Reduced thyromental distance**
- **History of adverse reaction to sedation or general anesthesia.**
- **Known respiratory/hemodynamic compromise.**
- **Significant co-morbid conditions/ sleep apnea.**

## ***Required actions prior to procedure***

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- **Medication orders entered into ICIS**
- **Pre-procedure “Time-Out”**
  - **Confirm correct patient**
    - If possible query patient directly; if not:
    - Correct name on ID bracelet
    - Correct date-of-birth on ID bracelet
  - **Confirm correct procedure (including if moderate or deep sedation is being performed)**
  - **Confirm correct side, level (if applicable)**
- **Document baseline vital signs just prior to start of procedural sedation**

# ***Required Actions Prior to Procedure - continued***

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- **Reliable IV access**
  - Establishing reliable IV access is required in *most* cases of moderate and deep sedation
  - Exceptions include:
    - Use of Chloral hydrate for moderate sedation in children
    - Use of intramuscular (IM) Ketamine for deep sedation in children with anticipated difficult IV access.
- **Appropriate monitoring (& documentation)**
- **Appropriate “monitor” (see slide 23)**
- **Appropriate resuscitation equipment**

## *Procedural Period* **“The Monitor”**

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- **The designated individual, separate from the operator, to directly observe and monitor the patient throughout the procedure performed with sedation.**
- **Monitor must be an RN with at a minimum BLS certification.**
- **During moderate sedation, the dedicated RN may perform minor interruptible tasks.**
- **During deep sedation, the dedicated RN must continuously monitor the patient uninterrupted.**

# ***Procedural Period Required Equipment***

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- **Basic Equipment**
  - **Oxygen source**
  - **Suction device**
  - **Oxygen delivery devices**
    - **Nasal cannulae, oxygen mask,**
  - **Airway adjuncts (age appropriate)**
    - **Oral/nasal airways.**
  - **BP/pulse oximeter/ECG monitor**
  - **Exhaled CO2 monitor (*for deep sedation*)**



# ***Procedural Period***

## ***Required Equipment - continued***

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- **Resuscitation Equipment**
  - **Age appropriate airway equipment**
    - **Ambu Bags, Laryngoscopes, ETTs**
  - **Defibrillator/ACLS medications**
  - **Reversal Agents**
    - **Naloxone**
    - **Flumazenil**

# ***Procedural Period***

## ***Required Monitoring and Documentation***

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- **Continuous HR, RR, BP O2 sat and ECG monitoring**
  - Pre-procedure (baseline)
  - During Procedure: document at least every 5 minutes
  - Post-procedure: document at least every 10 minutes
- **Degree of sedation:**
  - document at least every 5 minutes during procedure and at least every 10 minutes post-procedure.
- **Dose, route, time and effects of all medications**
- **Document anticipated interventions (i.e. repositioning for snorers)**
- **Document unanticipated interventions**

# ***Procedural Period***

## ***Events Requiring Documentation***

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- **Apneic periods with O2 desaturation**
  - (O2 saturation < 90)
- **Need for intervention for Airway patency or Controlled Ventilation**
- **Hemodynamic Instability**
- **Significant Arrhythmias**
- **Use of reversal agents**
- **Hospital admission**

## *Procedural Period Drug Administration*

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- **Avoid repeating initial doses until ample time has passed to observe peak effect in order to minimize the risk of over-sedation.**
- **Combination of analgesics and hypnotics may offer synergy so that combined effect is greater than sedation with each drug alone.**

# ***Procedural Period Important Warnings***

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- **Do not turn audible alarms off.**
- **Always assume abnormal monitor equipment readings are due to the patient's condition, not artifact.**
- **Always confirm monitor equipment readings.**
- **Observe patient along with monitoring equipment readings.**

## ***Procedural Period***

### ***Important Warnings - continued***

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- **The use of reversal agents (Nalaxone and/or Flumazenil) to accelerate recovery from procedural sedation is prohibited.**
  - **They should be reserved for use as a rescue agent only after recovery from respiratory depression has failed to occur despite adequate ventilatory support.**

## ***Post-Procedure Termination of Monitoring***

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- **Alert and Oriented (or return to baseline)**
- **Vital Signs stable (or return to baseline)**
- **If reversal agents were administered, patient must be observed for a minimum of 2 hours after the last dose.**

## ***Post-Procedure Guidelines for Discharge***

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- **Pre-procedure alertness and orientation**
- **Stable (or pre-procedural) vital signs**
- **Ability to move/coordinate all muscle groups within pre-procedural abilities.**
- **Waiting at least 2 hours after last dose of reversal agent (used emergently only).**
- **Patient or family can verbalize discharge instructions (including ability to report post-procedure complications)**
- **Accompanied by an responsible adult escort.**



# ***Post-Procedure WARNING!***

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## **Discharged Patients:**

- **Cannot go home alone!**
  - **Must be accompanied by a responsible adult who will be with patient for at least 6 hours.**
- **Cannot Drive or participate in dangerous activities for 24 hours**
- **Recommended: No business activities or legally binding decisions for 24 hours**

# Quality Improvement Program

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- **Review of Cases by each Service Director or Designate**



- **Report of Results to Hospital QA & I Committee**

# References

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**For a review of agents commonly used in procedural sedation the following websites are suggested:**

1. [www.acep.org](http://www.acep.org)
2. [www.asahq.org](http://www.asahq.org) (go to publications and click on practice guidelines for sedation and analgesia by non-anesthesiologists)