



<b>SUBJECT:</b> Deep Sedation	<b>POLICY NUMBER:</b> PAMC/MS 951.139
<b>Policy Type:</b> Patient Care	<input checked="" type="checkbox"/> <b>New</b> <input type="checkbox"/> <b>Revised</b> <input type="checkbox"/> <b>Reviewed</b>
<b>EXECUTIVE Approval:</b>  /s/ <b>Richard D. Mandsager,</b> <b>MD, Chief Executive</b> <b>Providence Alaska Medical Center</b>	<b>Date Signed:</b> 10.29.2014  <b>Effective Date:</b> 12.10.2014  <b>Implementation Date:</b> 12.29.2014

## I. PURPOSE/SCOPE

The purpose of this policy is to provide written guidelines for patients receiving moderate sedation. This policy does not provide written guidelines for deep sedation/anxiolysis. Providence Alaska Medical Center (PAMC) recognizes the different clinical settings and situations where sedation is administered. Sedation practices throughout the organization shall be monitored and evaluated by the Department of Anesthesia.

The goal of deep sedation is to achieve a medically controlled state of depressed consciousness from which the patient is not easily aroused.

RNs may not administer medication for procedural sedation when the physician's intent is to deeply sedate a patient.

## II. POLICY

In keeping with the philosophy and mission of Providence Health & Services, Anesthesia Standards of Care apply to any area in the medical center where sedation is administered.

## III. DEFINITIONS/ACRONYMS

- A. **Minimal sedation (anxiolysis):** A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilator and cardiovascular functions are unaffected.
- B. **Moderate sedation:** 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 a 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.

- C. **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 ventilator function may be impaired. Patient may require assistance in maintaining a patent airway and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.
- D. **Rescue:** Rescue of a patient from a deeper level of sedation than intended is an intervention by a practitioner proficient in airway management and advanced life support. The qualified practitioner corrects adverse physiologic consequences of the deeper-than intended level of sedation (such as hypoventilation, hypoxia and hypotension) and returns the patient to the originally intended level of sedation.
- E. **Anesthesia:** Consists of general anesthesia 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 ventilator 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.
- F. **Obstructive Sleep Apnea (OSA):** A condition where there is reduced muscle tone in the airway leading to periodic, partial, or complete airway obstruction during sleep.
- G. **Immediately Available:** within 1 – 5 minutes, e.g., Code Blue Team responders.
- H. Physical Status Classification of the American Society of Anesthesiologists (ASA):
1. **ASA 1** – A normal healthy patient
  2. **ASA 2** – A patient with mild systemic disease
  3. **ASA 3** – A patient with severe systemic disease
  4. **ASA 4** – A patient with severe systemic disease that is a constant threat to life
  5. **ASA 5** – A moribund patient who is not expected to survive without the operation
  6. **ASA 6** – A declared brain-dead patient whose organs are being removed for donor purposes.
- I. **Sedation Scoring System** – Modified Aldrete Score for adults (see

attachment A) or the N-PASS Sedation Scoring for Neonates.

- J. **Capnography** - Refers to the comprehensive measurement and display of CO<sub>2</sub> (Carbon dioxide) including end tidal inspired CO<sub>2</sub> and the CO<sub>2</sub> wave form which is referred to as a capnogram. Capnography depicts respiration which includes all three components of respiration: metabolism, transport, and ventilation.
- K. **Universal Protocol**- Per Joint Commission, the three principal components of the Universal Protocol include a preprocedure verification, site marking (if applicable), and a time out.
- L. **Procedural Time Out**: Includes verifying correct patient using 2 patient identifiers, correct procedure, correct site (marked if applicable), consent matches the procedure, safety precautions reviewed, medications labeled, and, if applicable, antibiotics, radiologic/lab studies, implants, irrigation fluids are available.

#### IV. SPECIAL CONSIDERATIONS

- A. Patients not covered under this policy:
  - 1. intubated patients,
  - 2. patients receiving medication either by direct injection, ingestion or patient controlled analgesia (PCA) for control of pain or anxiety, which is not related to the medical procedure,
  - 3. patients receiving IV medication for treatment of seizures or alcohol withdrawal, and
  - 4. Patients who are emergently intubated.
- B. Parents or legal guardians will be encouraged, when appropriate, to stay with and participate in their child's care, as they feel comfortable before, during and after the procedure.
- C. The Sedation Scoring Criteria (Modified Aldrete Score) cannot be changed or modified without the approval of the Anesthesia Department.
- D. Adverse medication reactions are reported to the pharmacy.
- E. In an emergent situations consent is implied.
- F. For patients with known or suspected obstructive sleep apnea (OSA), special considerations related to post procedural monitoring and discharge education is recommended due to the residual effects of sedatives and strong analgesics that can further suppress the patient's already reduced chemoreceptor respiratory responses to hypoxia and hypercapnia. Although there is not a universally accepted criterion for patient monitoring post sedation, it is recommended that patients with OSA can be monitored three to eight hours longer than a non-OSA patient after receiving the last dose of sedation. As applicable, patients should also be instructed to wear their CPAP/BiPAP post discharge.

#### V. PROCEDURES

**A. Equipment:** The following emergency equipment is immediately accessible and available where sedation is performed, including:

1. A positive pressure oxygen delivery system capable of administering greater than 90% oxygen for at least 60 minutes and a bag valve mask.
2. Oral and nasal airways of appropriate size.
3. Suction and suction catheters of appropriate size.
4. Non-invasive blood pressure cuff and apparatus.
5. Cardiac monitor with appropriate size pads.
6. Pulse oximeter with appropriate size probes.
7. Capnography with appropriate nasal cannula or mask adapters.
8. Emergency crash cart, with defibrillator, at the location where the procedure is being performed.
9. Flashlight
10. Mobile telephone if no other reliable two-way communication is available.

**B. Pre-sedation responsibilities**

1. Physician who is prescribing the sedation is responsible for:
  - a) Maintaining credentials for deep procedural sedation,
  - b) Assessing the adequacy of equipment and personnel to meet sedation/anesthesia requirements,
  - c) Obtaining informed consent for deep sedation,
  - d) Ordering medications including dose and route of administration,
  - e) Assessing NPO status and employ strategies to prevent aspiration,
  - f) Performing a history and physical (H & P) that is completed immediately prior to sedation or between 24 hours and 30 days with an interval note prior to sedation. An H & P includes documentation of:
    - i. Allergies and reactions to medications and anesthetics
    - ii. Current medications and co morbid conditions
    - iii. Indication for deep procedural sedation

- iv. Airway assessment (Mallampati)
    - v. Physical Exam
  - g) Assigning ASA status,
  - h) Documenting planned level of sedation, and the route the sedation medications are to be administered.
  - i) Reassessing the patient immediately prior to sedation start
2. Registered Nurses (RN) and Cath Lab Technologists, assisting in the sedation is responsible for:
- a) Maintaining appropriate education and training requirements set forth by Providence Alaska Medical Center, including completion of appropriate competencies,
  - b) Current BLS and ACLS, PALS, NRP as appropriate for population served,
  - c) One individual capable of establishing a patent airway and positive pressure ventilation must be present. This may be:
    - i. A physician who has current ACLS, NRP/NALS, or PALS training or equivalent core competencies
    - ii. RN who has current ACLS, NRP/NALS, and/or PALS training and who has completed the deep sedation competency-based education within the last year
    - iii. Respiratory Therapist
  - d) Verifying physician's deep sedation privileges,
  - e) Acquiring all monitoring and resuscitation equipment listed above,
  - f) Obtaining and labeling of medications ordered by physician,
  - g) Ensuring appropriate access for medication administration (e.g. functioning IV intravenous line),
  - h) Ensuring reversal medications are available as applicable,
  - i) Verifying allergies and reactions to medications and anesthetics,
  - j) Obtaining or verifying a pre-sedation set of vital signs are completed to include- height, weight, temperature, pulse, blood pressure, oxygen saturation, level of consciousness, respirations (adequacy and number), and baseline cardiac rhythm,
  - k) Documenting pre-sedation Modified Aldrete Score,

- l) Completing pre-procedure checklist,
- m) Verifying free and unimpeded access to the patient's chest,
- n) Confirming a safe mode of transportation is available for post sedation discharge,
- o) Confirming appropriate adult supervisor will be with the patient for a minimum of 6 hours following sedation recovery. If adult supervisor is not available discuss patient disposition with the physician.

### C. Intra-procedural responsibilities

1. Physician who is prescribing the sedation is responsible for considering  
  
Anesthesia consultation for patients with an ASA score of III or higher per ASA airway algorithm.
2. Registered Nurses (RN) and Cath Lab Technologists, assisting in the sedation is responsible for:
  - a) Performing the procedural time out with the MD and patient (when applicable) present,
  - b) Monitoring the patient in collaboration with the attending physician who is responsible for the care of the patient
    - i. Vital signs including pulse, respirations (adequacy and number), blood pressure, presence of capnography, oxygen saturation, level of consciousness, cardiac rhythm and/ or arousability are documented every 5 minutes during the procedure.
    - ii. Frequent blood pressure measurements in pediatric patients receiving sedation can cause agitation and may be deferred per physician discretion.
    - iii. When sedation is being performed by an anesthesiologist, intraprocedural medication and vital sign measurement is documented by the anesthesiologist.
  - c) The patient care provider will monitor the patient's airway, respiratory status, and level of consciousness during the intra-sedation and the immediate post-sedation period of deep sedation. **This individual will have no other responsibilities.**
  - d) The Cath Lab Technologist is considered to be under the direct supervision and observation of the attending physician and may monitor and provide care in this phase however a RN will perform pre and post sedation monitoring, care and teaching,

- e) RN and Cath Lab Technologists may not administer medications if the intent is to deeply sedate the patient and will comply with rulings of the Alaska State Board of Nursing.
  - f) Documenting any change in patient condition or therapies utilized throughout procedure.
3. Endoscopy Technologists in the room where sedation is being provided are responsible for Maintaining appropriate education and training requirements set forth by Providence Alaska Medical Center, including maintaining current BLS completion of appropriate competencies.

**D. Post-sedation responsibilities**

- 1. Physician who is prescribing the sedation is responsible for: Post-Procedure Documentation: The sedating physician dictates his/her procedure note is entered/dictated directly into the patient's EMR.
- 2. Registered Nurses (RN) is responsible for:
  - a) Post Sedation Monitoring to include:
    - i. Obtain an initial set of vital signs immediately post sedation including pulse, blood pressure, oxygen saturation, level of consciousness, arousability, and respirations (adequacy and number),
    - ii. Assignment of Modified Aldrete/N-PASS,
    - iii. A surveillance temperature,
    - iv. Vital Signs and Modified Aldrete/N-PASS to continue every 5 minutes until patient is arousable to verbal and light tactile stimulation and stable,
    - v. then every 15 minutes x 4 for the first hour or until patient awake, conversing, and back to baseline Modified Aldrete/N- PASS (once the N-Pass is back to baseline, the patient may then be discharged from post anesthesia care),
    - vi. then per unit routine or until discharged.
  - b) If reversal agents are used, the patient is monitored for a minimum of two hours after the final dose of any reversal agent.
  - c) For patients that are discharged or transferred from the post-sedation area: All patients must meet the following criteria prior to patient discharge/transfer from the post-sedation area:
    - i. A minimum of two [2] hours has lapsed after the administration of reversal agents to ensure patients do not become re- sedated after

reversal effects have abated.

- ii. The duration of monitoring is individualized depending on the level of sedation achieved, overall condition of the patient, and the nature of the intervention for which sedation was administered.
- iii. OSA patients may need to stay 3 to 8 hours longer than a non OSA patient. The OSA patient should be observed in an unstimulated environment, preferable while asleep, to establish the ability to maintain their baseline oxygen level.
- iv. Modified Aldrete Score of 18 or higher or return to pre-sedation score or upon discretion of sedating physician

d) Transferring Patients:

- i. Patient must be transferred in a gurney or crib in accordance to intrahospital transfer policy 957.006
- ii. Pediatric patient may be carried as condition warrants
- iii. Hand-off communication is given to receiving unit

e) Discharging Patient to Home:

- i. The patient and their responsible adult care provider understand all the home instructions, to include but not limited to:
  - Procedure post care
  - Sedation post care
  - Obstructive Sleep Apnea (If applicable)
  - Continued risk for respiratory compromise could be up to a week post procedure
  - CPAP/BiPAP use is crucial during the first week post procedure
- ii. The patient may be discharged once discharge criteria are met. If the discharge criteria are not met, exceptions may be made by the sedating physician or a physician of equal competence.
- iii. Discharge Criteria:
  - a. Modified Aldrete > or equal to 18 or a return to the patient's baseline
  - b. Protective reflexes are intact and the patient exhibits no signs of respiratory distress
  - c. The patient is not suffering from nausea, vomiting, or dizziness
  - d. A minimum of 30 minutes has elapsed since the end of the procedure
  - e. The patient is accompanied by a responsible adult

- f. The patient has a responsible adult staying with them for 24 hours
  - iv. If the patient does not have a responsible adult who can remain with the patient, the patient will be cared for in an observation unit for 6 hours following sedation recovery (OSA patients may need to be monitored longer). The patient may then be discharged home if Modified Aldrete has a score of 18 or who has returned to their pre procedure Modified Aldrete and meets discharge criteria.
  - v. The patient will be instructed not to drive, operate any heavy equipment, or make any important decisions for the next 24 hours after the last dose of sedating agent.
- 3. Per regulatory requirements, RN/Cath Lab Techs need the core competencies for moderate sedation upon hire and annually.
  - 4. Sedation QI worksheet (attachment C) should be utilized to track quality initiatives agreed upon by the department of anesthesiology and sedation committee.

## VI. REFERENCES

### A. Regulatory and / or Accreditation

The Joint Commission, Comprehensive Accreditation Manual (2014), Provisions of Care, PC.03.01.01, PC.03.01.03, PC.03.01.05, PC.03.01.07, PI.01.01.01, RC.02.01.03

### B. Policy

Policy PAMC 970.005 - Adverse Drug Reactions Management and Reporting

Policy PAMC 957.006 - Intrahospital Transporting of Patients

Medical Staff Policy MS 920.020 – Documentation and Compliance of Medical Record

Policy-Discharge/transporting of patients

### C. Other

American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists: "Practice Guidelines for Sedation and Analgesia by Non- Anesthesiologists", Anesthesiology 2002; 96: 1004-17

CMS guidelines 42CFR582.52

Alaska Board of Nursing Advisory Opinion Nurse Administration of Sedating and Anesthetic Agents 2007

C90125 Moderate and Deep Sedation

Lippincott. (2014). Sleep Apnea Patient Care, PACU

Up To Date. (2014). Postoperative management of adults with obstructive sleep apnea

Perianesthesai Nursing Standards, Practice Recommendations and Interpretive Statements 2012-2014. Practice Recommendation 10- Obstructive Sleep Apnea in the Adult Patient

## **VII. ATTACHMENTS**

Attachment A – Modified Aldrete Scoring system

Attachment B–Sedation QI Worksheet

## **VIII. KEY SEARCH WORDS**

**\*\* Policy is not complete without Signature Authorization sheet following\*\* HISTORY: \*\***

**NEW \*\*** *This policy replaces, in part, PAMC/MS 951.090 "Sedation Policy".*

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**PROVIDENCE ALASKA MEDICAL CENTER  
Policy Approval Sheet**

<b>Policy Title:</b> Deep Sedation			
<b>Policy Number:</b> PAMC/MS 951.139			
Policy is: <input checked="" type="checkbox"/> new <input type="checkbox"/> reviewed by owner (with verified references) Dates:  <input type="checkbox"/> reviewed and revised by owner with changes Dates: <input type="checkbox"/> to be archived. Reason:			
Policy owner: <i>Periop Clinical Nurse Specialist, Amy Myers</i>			
Signature/date: /s/ 10.29.2014			
<b>Patient Care Policy Review</b>			
Committee(s) approval dates: <ul style="list-style-type: none"> <li>• GPP: 05/2014</li> <li>• Policy Triage: 06/2014</li> <li>• By-laws: 07/2014</li> <li>• Medical Executive 09/2014</li> <li>• Board: 10/2014</li> </ul>	<b>Facility Policy Review</b>		
<b>Signature Approvals</b>			
Approved:  /s/ Deborah Hansen, RN, MS, NE-BC Chief Nurse Executive			
Approved :  /s/ Michael Acarregui, MD Chief Medical Officer			
Approved :  /s/ Stanley Watkins, MD Chief of Staff			

ATTACHMENT A  
Modified Aldrete  
Scoring system

Physical activity	2 – Able to move 4 extremities voluntarily or on command 1 – Able to move 2 extremities voluntarily or on command 0 – Unable to move extremities voluntarily or on command
Respiratory stability	2 – Able to breathe and cough freely 1 – Dyspnea, limited breathing or tachypnea 0 – Apnea or mechanical ventilator
Circulation	2 – BP +/- 20% of pre-anesthetic level 1 – BP +/- 20-49% of pre-anesthetic level 0 – BP +/- 50% of pre-anesthetic level
Level of Consciousness	2 – Fully awake 1 – Arousable on calling 0 – Not responding
O2 Saturation	2 – able to maintain O2 saturation greater than 92% on room air 1 – needs O2 inhalation to maintain O2 saturation greater than 90% 0 – O2 saturation less than 90% even with O2 supplement
Dressing	2 – dry and clean or not applicable 1 – wet but marked and not increasing 0 – growing area of wetness
Pain	2 – pain free 1 – mild pain handled by oral medication 0 – severe pain requiring parenteral medication
Ambulation	2 – able to stand up and walk straight, on ordered bed rest, or performing at previous level of function 1 – vertigo when erect 0 – dizziness when supine
Fasting/Feeding	2 – able to drink fluids or NPO 1 – nauseated 0 – nausea and vomiting
Urine Output	2 – has voided, adequate urine output per device, or not applicable 1 – unable to void but comfortable 0 – unable to void and uncomfortable

# Procedural Sedation QI Worksheet

Procedure: \_\_\_\_\_ Date: \_\_\_\_\_ Sedation MD: \_\_\_\_\_

Pre-Sedation:		(please circle response)	
1	<b>Intended level of sedation</b>	Moderate	Deep
<b>MD privileges verified as current:</b>			
2	Sedation privileges	YES	NO
<b>Consent obtained:</b>			
3	Specifying both procedure <u>and</u> sedation	YES	NO
4	Signed by both patient and physician	YES	NO
<b>Pre-sedation/procedure education:</b>			
5	Pt educated about procedure and sedation	YES	NO
6	Education documented as a narrative note (in ER) or under Patient Education portion of Epic	YES	NO
<b>Documentation of Vital Signs (BP, HR, RR, O<sub>2</sub> Sat) and Modified Aldrete Score, <u>Pre-Sedation</u>:</b>			
7	VS/Modified Aldrete score documented at least once	YES	NO
Nurse/Reviewer: (PRINT name legibly) _____		Date: _____	

Intra-Sedation/Procedure:		(please circle response)	
8	<b>Is emergency equipment readily available?</b>	YES	NO
<b>Physician has documented:</b>			
9	Current H&P	YES	NO
10	Patient's ASA score	YES	NO
11	<u>Immediate</u> reassessment, prior to sedation	YES	NO
<b>Time-Out done <u>immediately</u> before procedure:</b>			
12	To verify correct patient, procedure, and site	YES	NO
<b>Documentation of Vital Signs (BP, HR, RR, O<sub>2</sub> Sat), <u>Intra-Sedation/Procedure</u>:</b>			
13	VS (including presence of EtCO <sub>2</sub> ) every 5 minutes (Aldrete <i>not</i> required)	YES	NO
14	<b>Identify undesirable effects from the administration of IV sedation meds:</b>	NONE	(or <b>√</b> below)
<input type="checkbox"/> Unarousable or stuporous <input type="checkbox"/> Respiratory depression-Intervention (s) _____ <input type="checkbox"/> Loss of ability to maintain airway <input type="checkbox"/> Hypotension-Intervention (s) _____ <input type="checkbox"/> Respiratory arrest <input type="checkbox"/> Anesthesia support requested <input type="checkbox"/> Nausea and/or Vomiting <input type="checkbox"/> Unplanned admission <input type="checkbox"/> Combativeness or agitation			
15	<b>Reversal agent used? (<u>Note</u>: 2 additional hours of monitoring required)</b>	YES	NO
Nurse/Reviewer: (PRINT name legibly) _____		Date: _____	

Post-Sedation/Procedure:		(please circle response)	
<b>Documentation of Vital Signs (BP, HR, RR, O<sub>2</sub> Sat) and Modified Aldrete Score, <u>Post-Sedation/Procedure</u>:</b>			
16	VS/Mod. Aldrete every 15 min, until $\geq 18$ , or returns to pre-sedation baseline	YES	NO
<b>Post-sedation/procedure education:</b>			
<b>Outpatients:</b> Discharge instructions include printed material on:			
17	Procedure	YES	NO
18	Sedation	YES	NO
19	Sleep Apnea, (if applicable)	N/A	YES
<b>Inpatients:</b>			
20	Hand-off communication given to receiving nurse	YES	NO
21	<b>Recovery criteria met</b> (i.e., Document that Modified Aldrete score is $\geq 18$ , or returns to patient's pre-sedation baseline)	YES	NO
22	<b>Discharged with a responsible adult, and documented</b>	YES	NO
23	<b>Consent labeled and sent to Medical Records</b>	YES	NO
Nurse/Reviewer: (PRINT name legibly) _____		Date: _____	

(Developed-5/2014 LS/AM)

(Give this QI Worksheet to Charge RN, to go to Sedation QI)

(Attach patient label)

NOT A  
PART  
OF THE  
PATIENT  
RECORD

