
The Miriam Hospital

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Administrative Manual

Sedation and Analgesia

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POLICY/PROCEDURE

It is recognized that there is a potential for loss of consciousness during sedation and analgesia. The policy will help ensure the same level of comprehensive care for all patients of the hospital receiving sedation and analgesia during procedures. This policy does not apply to code situations, pain control or sedation of patients on ventilators.

Definition of Sedation and Analgesia

Sedation and analgesia standards 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. Sedation and Analgesia comprises a continuum of states ranging from Minimal Sedation (Anxiolysis) through General Anesthesia.

Because sedation is a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to rescue patients whose level of sedation becomes deeper than initially intended. Individuals administering Moderate Sedation/Analgesia ("Conscious Sedation") should be able to rescue patients who enter a state of Deep Sedation/Analgesia and/or a code response team with an ACLS certified practitioner will be available. Those administering Deep Sedation/Analgesia should be able to rescue patients who enter a state of General Anesthesia.

Minimal Sedation (Anxiolysis)

Minimal sedation is 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.

Moderate Sedation/Analgesia (Conscious Sedation)

A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

Deep Sedation/Analgesia

A drug-induced depression of consciousness during which patients cannot be easily aroused by 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 may be impaired.

Deep Sedation/Analgesia can only be intentionally provided by an Anesthesiologist or Certified Registered Nurse Anesthetist under the supervision of an Anesthesiologist.

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.

General Anesthesia can only be provided by an Anesthesiologist or Certified Registered Nurse Anesthetist under the supervision of an Anesthesiologist.

**CONTINUUM OF DEPTH OF SEDATION
DEFINITION OF GENERAL ANESTHESIA AND
LEVELS OF SEDATION/ANALGESIA***

(Approved by ASA House of Delegates on October 13, 1999
and amended on October 27, 2004)

	<i>Minimal Sedation (Anxiolysis)</i>	<i>Moderate Sedation/ Analgesia ("Conscious Sedation")</i>	<i>Deep Sedation/ Analgesia</i>	<i>General Anesthesia</i>
<i>Responsiveness</i>	Normal Response to verbal stimulation	Purposeful* response to verbal or tactile stimulation	Purposeful* response following repeated or painful stimulation	Unarousable even with painful stimulus
<i>Airway</i>	Unaffected	No intervention required	Intervention may be required	Intervention often required
<i>Spontaneous Ventilation</i>	Unaffected	Adequate	May be adequate	Frequently inadequate
<i>Cardiovascular Function</i>	Unaffected	Usually maintained	Usually maintained	May be impaired

**The remainder of this policy will be specifically focused on
Moderate Sedation/Analgesia (Conscious Sedation)**

Minimum Standards for Moderate Sedation/Analgesia (Conscious Sedation)

It is the responsibility of each division/department to implement the minimum standards set by their policy and to develop additional protocols pertinent to their own area. The Chief of Anesthesia in collaboration with the division/department director is responsible for review and approval of such policies and protocol.

Areas where Moderate Sedation/Analgesia (Conscious Sedation) is Administered

Moderate sedation will be administered in Endoscopy, Radiology, Cardiac Catheterization Lab, Echo Lab, CVT, ICU, CCU or the ED. In other areas of the hospital it may be appropriately used for procedures requiring sedation and analgesia when the necessary monitoring, resuscitative equipment and personnel are available. The sedation and analgesia policy must be adhered to in total.

Personnel Required for Moderate Sedation/Analgesia (Conscious Sedation)

A minimum of two people must be involved in the care of a patient undergoing moderate sedation/analgesia (conscious sedation). One shall be a Licensed Independent Practitioner (LIP)

performing the procedure and ordering the sedation. The other shall be an RN, CRNA or Anesthesiologist who administers the sedation and monitors the patient.

Staffing and Training

It is the responsibility of the division/department director and hospital administration to ensure that all areas are appropriately staffed with nursing personnel trained to manage patients receiving sedation and analgesia. Sufficient number of qualified personnel in addition to the LIP performing the procedure must be present during procedures using moderate or deep sedation and analgesia. The departments of Anesthesia, Pharmacy and Respiratory Therapy shall play a role in this education process, as appropriate.

Credentialing of Physicians

All physicians administering conscious sedation and analgesia agents for procedures shall be credentialed by the appropriate division or department director based upon training, experience, continuing education or performance evaluation. During the recredentialing process, evidence (documentation) of continuing education in sedation and analgesia must be provided unless the physician has routinely performed sedation and analgesia without complication as determined by peer review and the chairman of the department/division.

Collaboration

A physician or CRNA is qualified to prescribe, order and select the medication(s) to be used to achieve sedation and analgesia. A qualified physician may perform administration and monitoring of sedation and analgesia. A registered nurse trained in administering and monitoring of sedation and analgesia may also perform this function.

Patient Evaluation

An appropriate and current history, physical examination and pertinent pre-procedural diagnostic studies shall be incorporated into the patient's record prior to the procedure.

Minimum information to be recorded includes history and physical including:

Patient age and weight

Review of systems specific to cardiopulmonary disease

Current medications

History of any adverse allergic or drug reaction including abnormal reaction with anesthesia or previous sedation

Vital signs

Level of consciousness

NPO Status - non emergency patients will be made NPO, at least six (6) for solids and two (2) hours for liquids, except for routine medications. Documentation of reasons to proceed in patients with full stomach should be done.

Pregnancy status when appropriate

Sedation shall not be administered unless the physician has re-evaluated the patient immediately prior to the procedure.

ASA Physical Status

All patients having sedation and analgesia should be assigned an ASA risk status by the physician assessing the patient.

ASA (American Society of Anesthesiology) Physical Classification

Class I: No organic, physiologic, biochemical or psychiatric disturbance. Normal, healthy patient.

Class II: Mid-moderate systemic disturbance; may or may not be related to reason for procedure.

Class III: Severe systemic disturbance (Examples: heart disease, poorly controlled hypertension)

Class IV: Life threatening systemic disturbance (Examples: congestive heart failure, persistent angina pectoris, chronic renal failure)

Class V: Moribund patient. Not expected to survive 24 hours with or without procedure (Example: uncontrolled bleeding, ruptured abdominal aortic aneurysm)

Class E: Patient requires emergency procedure (Example: endoscopy for uncontrolled bleeding)

Re-evaluation

All patients to receive sedation and analgesia must be re-evaluated immediately prior to procedure.

Informed Consent

Informed consent for the administration of moderate sedation/analgesia (conscious sedation) must be obtained and documented prior to the procedure.

Equipment

It is the responsibility of the division/department director and hospital administration to ensure that each procedure area where sedation and analgesia is administered is equipped with the following minimum amount of equipment:

- Patient resuscitation (crash) cart and other emergency equipment

- Suction apparatus

- Cardiac monitor

- Blood pressure monitoring

- Pulse oximeter

- Oxygen supply

- Means to administer positive pressure ventilation

- Intravenous equipment

- Means of viewing and monitoring patient when personnel are unable to remain with the patient at all times, such as during radiological procedures

Drugs

Approved drugs for moderate sedation include:

Morphine Sulfate
Ativan (Lorazepam)
Demerol (Meperidine)
Valium (Diazepam)
Sublimaze (Fentanyl)
Versed (Midazolam)
Benadryl (Diphenhydramine)
Etomidate* (in the ER by attendings or anesthesiologist only)

Drugs approved for reversal include:

Narcan (Naloxone)
Flumazenil

Intravenous Requirement

All patients receiving sedation and analgesia will have an intravenous access. Patency of the venous access must be checked immediately prior to procedure and administration of any intravenous medications.

Monitoring/Documentation of Monitoring

Levels of consciousness must be recorded every 15 minutes. Pulse, blood pressure, respiratory rate and pulse oximetry must be recorded every 5 minutes during the procedure. All vital signs including baseline, intra-procedure and immediate post-procedure must be entered in patient's record.

Documentation must include;

Medication, dose, route

IV fluids given

Type of procedure

Specimens obtained

"Vocal rapport," this indicates patient's ability to maintain a clear airway and appropriately respond purposely to verbal commands

Continuous ECG

Continuous pulse oximetry

Any adverse reaction, its treatment and the patient's response must be documented.

Emergency Management

In the event of a serious or life threatening complication, the staff attending the patient will initiate resuscitative measures and deploy the emergency protocol for respiratory or cardiac arrest.

Post Moderate Sedation/Analgesia (Conscious Sedation) Recovery Care

Policies and procedures shall be developed for the care and discharge of all patients. The period of post-sedation surveillance will be determined by the status of the patient and judgment of the physician. A minimum of one hour observation from the time of the last sedation dose will be

required. Patients who receive reversal agents must have need for reversal documented and must be monitored for one hour after reversal agents are given.

Discharge criteria should be established for each patient area and should include:

Stability and documentation of pertinent vital signs

Documentation of mental status

The presence of a responsible individual to accompany the patient home

Standards of Post Moderate Sedation/Analgesia (Conscious Sedation) Recovery Care

Appropriate post-sedation monitoring will be done by a nurse or a physician. A patient requiring transportation to a recovery area shall be accompanied by a nurse or physician, who provide overall report to the nurse assuming the care. Upon arrival in recovery area, the patient shall be re-evaluated and a verbal report provided to the responsible nurse by the person who accompanied the patient.

Prior to discontinuing the post procedure monitoring, the patient's vital signs must be stable compared to baseline (pre-procedure reading). Mental status and vital signs (blood pressure, pulse and respiratory rate must be recorded every 15 minutes until one hour after the last dose of sedation. Patients whose mental status does not return to baseline or patients who remain unstable must be sent to PACU, ICU or CCU with an RN in attendance.

Discharge of Patients from Moderate Sedation/Analgesia (Conscious Sedation) monitoring

All patients may be discharged from post-sedation monitoring either by a physician or by discharge criteria approved by the medical staff. Period of surveillance will be a minimum of one hour, but will be determined by the discharge nurse. Outpatients who have received sedation and analgesia shall be discharged from the hospital in the company of a responsible individual. Outpatients shall be given written instructions. Inpatients must meet post-sedation monitoring discharge criteria prior to transfer to the floor.

Quality Improvement

In order to systematically evaluate and improve the quality of care provided to patients receiving sedation and analgesia throughout the Hospital, a quality improvement plan shall be developed by individual divisions/departments and pertinent quality indicators reported to the Chief of Anesthesia. Outcomes of patients undergoing moderate and deep sedation and analgesia are collected in the aggregate in order to identify opportunities to improve care.

Role of the Department of Anesthesia

The Anesthesiology staff shall be available for teaching, support and consultation on all matters related to moderate sedation. Unexpected adverse events or patient injury related to sedation and analgesia should be reported to the Chief of Anesthesia for review.

Recommended Dose Guide

<u>Age</u>	<u>Fentanyl</u>	<u>Versed</u>
< 65	5 mls 250 micrograms	10 mg
65 - 75	3 mls 150 micrograms	7 mg
>75	2 mls 100 micrograms	5 mg

These are recommendations, which have been made by the Department of Anesthesia in conjunction with those who most often do conscious sedation. If these limits are met, consideration should be given to contacting the anesthesiologist on call for a sedation recommendation, or to postponing the procedure until the Anesthesia Services are available.

In certain cases the physician performing the procedure may safely prescribe and administer sedation in excess of this guide. By way of example, more sedative will be required during procedures of longer duration and/or for patients who demonstrate or have a pre-existing tolerance to sedative agents.