Because of the nature of their practice, many physicians require the privilege of ordering and supervising conscious sedation. Physicians who do not regularly use this technique within the Yale-New Haven Hospital inpatient or ambulatory care areas should have no use for this privilege. (Note: allowing your privilege to expire at re-appointment will not prompt any reporting to external physician monitoring databases).

Conscious Sedation, now called moderate sedation by the Joint Commission, is a specific technique used to facilitate invasive procedures on non-intubated patients. In adults, conscious sedation is primarily used for significant interventional procedures in Diagnostic Imaging or special treatment areas.* Orthopedic surgeons may use moderate sedation for closed fracture reductions and other bedside procedures. Most other surgeons and obstetricians use this technique in their offices, but not in the Hospital's OR's or delivery rooms. This technique is widely used in Pediatrics for many procedures and tests requiring patient cooperation. The following definitions help differentiate minimal sedation from moderate sedation:

- **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. **Note: no special privilege is needed for this level of sedation. However, the primary goal of this level of sedation is to reduce anxiety, not to reduce patient movement or modify pain response.**

- **Moderate sedation/analgesia:** a drug-induced depression of consciousness, during which patients respond purposefully to verbal commands, either alone or after light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

If you wish to obtain privileges for conscious sedation at Yale-New Haven Hospital, the requirements are as follows:

1. Provide proof of certification in Basic Life Support (BLS) or more advanced training (i.e. ACLS, PALS, ATLS, NRP) within the past four years.

   Or

   Complete a 30 minute Y-NHHospital-sponsored airway management practicum. (Contact the Department of Emergency Medicine at 785-4710 to register)

2. Read the materials that follow this document, sign the “Attestation” and complete the “Self-Test”.

3. Return the signed “Attestation”, completed “Self-Test” and your documentation of airway management training (#1 above) to the Department of Physician Services, Hunter 4.

Conscious sedation privileges will be issued upon the Department of Physician Services receipt of proof of your current certification or completion of the practicum (as indicated in #1) and “Self-Test” with a passing score.

**Please Note: Dentists who wish to administer conscious sedation at YNHH must have a current State of CT Dental Conscious Sedation Permit.**

If you have questions, after reviewing your practice and these considerations, concerning whether you should obtain privileges for conscious sedation, please contact the Department of Physician Services at (203) 688-2615.
This document covers important information from the Yale-New Haven Hospital Multidisciplinary Protocol For Management Of Patients Receiving Sedation/Analgesia For Diagnostic, Surgical And Interventional Procedures.

In order to apply for privileges in Conscious (Moderate) Sedation, you must:

1. Read the attached material
2. Sign the Attestation form that follows indicating that you have read and understand the contents of the Educational Module
3. Complete the “Sedation / Analgesia Self-Test”
4. Provide a copy of your certificate in BLS, ACLS, PALS, ATLS, NRP indicating certification within the past four years OR contact the Department of Emergency Medicine at 785-4710 to register for the 30 minute Y-NHHospital-sponsored airway management practicum.

Return your completed test and certificate copy to:

Yale-New Haven Hospital
Department of Physician Services
20 York Street, Hunter 4
New Haven, CT 06504
**Moderate Sedation Medications**

The guidelines for administration of moderate sedation medications are reviewed in section VI of the attached *YNHH Moderate Sedation/Analgesia Protocol*. These guidelines recommend:

A. Administer moderate sedation medications, as outlined in Appendix A, slowly and in small incremental doses
B. Assess the therapeutic effect before determining the next incremental dose and observe the patient for:
   1. Decreased O2 saturation
   2. Ability to maintain airway
   3. Appropriate response to physical stimulation and/or verbal commend
   4. Significant changes in vital signs
C. Adjust dosages based upon patient’s age, level of debilitation, drug combinations, patient tolerance, pulmonary reserve, previous narcotic usage and length of procedure.

***The potential for respiratory depression increases when drugs are combined.***

**Benzodiazapines**

The most common IV sedation medications used in both adults and children are the benzodiazepines, midazolam (Versed) and diazepam (Valium). Benzodiazapines have several pharmacologic actions that make them worthy choices for moderate sedation. These actions include anxiolysis, amnesia, muscle relaxation, sedation and anti-convulsant. Benzodiazepines do not have analgesic effects. Midazolam is two to three times as potent as diazepam. Lorazepam (Ativan) is five to ten times more potent than diazepam and has profound anterograde amnestic affects. It is recommended that these drugs be administered slowly, over 2-3 minutes in the case of an adult and over at least 3 minutes in pediatric cases. Slow infusion is recommended to avoid respiratory depression or apnea. Sedation usually occurs within 3-5 minutes of IV administration.

**Opioids**

During moderate sedation, narcotics can be prescribed to provide pain control/analgesia. These medications may either be natural or synthetic compounds. Narcotics commonly used in moderate sedation include fentanyl, morphine sulfate, and meperidine (Demerol). Meperidine is becoming less frequently used. It is contraindicated if patients are on MAO inhibitors, and because of variable renal excretion can cause seizures and delerium in situations other than very short term use.

**Oral Sedatives**

Oral medications may also be used to provide moderate sedation. Oral sedatives may provide a less invasive means of medicating patients, and are used commonly in young children. Three of the most common oral sedatives include: midazolam, diazepam and chloral hydrate. As with all medications administered to provide moderate sedation, oral preparations require vigilant patient monitoring and assessment. Monitoring is required in order to maintain patient comfort and safety throughout the sedation. Several variables affecting the efficacy of oral preparations include: dosage, rate of absorption and case specific risk factors (i.e. age, patient history, disease process, level of anxiety). Inadequate sedation or over sedation may be related to these variables.

**Reversal Agents**

Antagonists are administered to reverse the effects of medication used for moderate sedation. Naloxone reverses opioid effects and flumazenil reverses benzodiazepine effects. The half-life of reversal agents is generally shorter than that of the medications they reverse. If reversal agents are administered, it is vital
to provide careful patient assessment for signs of re-sedation. Patients may be at risk for re-sedation for up to two hours.

Nitrous Oxide

Yale New Haven Hospital Sedation/Analgesia Protocol includes the administration of Nitrous Oxide. The Sedation/Analgesia Protocol must be followed when the concentration of N₂O is greater than 50% or it is administered in combination with other sedation/analgesia medications as described in Appendix A or B of the Sedation/Analgesia Protocol.²

**Specific dosing/drug information is provided in the Sedation/Analgesia Protocol **
Appendix A.²

Pre-Sedation Considerations:

The intent of moderate sedation is to provide sedation and analgesia during diagnostic, interventional, or surgical procedures. Appropriate patient selection and careful assessment of moderate sedation risk is necessary to provide optimal patient outcomes.¹²

In 2002, the American Society of Anesthesiologists (ASA) published guidelines for sedation and analgesia by non-anesthesiologists. This document details risk factors for moderate sedation: uncooperative patients, extremes of age, severe obesity, pregnancy, sleep apnea, drug or ETOH abuse, facial or airway abnormalities that would make intubation or mask ventilation difficult, and severe cardiac, pulmonary, hepatic, renal or neurologic (e.g., altered gag reflex) disease. The ASA recommends that an anesthesiologist be consulted for patients with these risk factors and underlying conditions. Information sought and documented as part of the pre-sedation clinical assessment also helps to identify patients at risk for complications. Important individual factors include: pertinent medical/surgical history, drug allergies, current medications, airway and cardiopulmonary exam, and time/type of last PO intake.³

Prior to sedation, an ASA Score must also be determined. The ASA employs a numeric patient classification system (ASA Score) to estimate anesthesia risk status. The complete scoring system is detailed in Appendix C in the attached YNHH MULTI DISCIPLINARY PROTOCOL FOR MANAGEMENT OF PATIENTS RECEIVING SEDATION/ ANALGESIA FOR DIAGNOSTIC, SURGICAL AND INTERVENTIONAL PROCEDURES.

The following patient care/information must be obtained and documented before the patient is sedated:

- A physical examination performed by a physician, dentist, or other credentialled licensed independent practitioner (LIP, e.g., nurse practitioner, physician's assistant) documented within 30 days of the proposed procedure.
- Medication orders written/entered by a physician, dentist, or LIP, who will be immediately available during the procedure.
- Informed Consent for the proposed procedure and sedation must be documented in the patient chart.
- Patients are instructed before the procedure to avoid: making any major decisions, operating heavy equipment or drinking alcohol for 24 hours after the procedure.⁵²
- Ambulatory patients must verify a responsible adult will accompany them at discharge. If unable to verify this information, the procedure must be canceled and rescheduled.

The day of the procedure:

- The physician, dentist or LIP will document an ASA Score, and evaluate the patient for individual factors indicating increased risk of sedation.
- Physical assessment performed immediately before the procedure documents the patient’s baseline airway and cardiopulmonary status.
Determine and document baseline temperature, heart rate and rhythm, respiratory rate, blood pressure, oxygen saturation, level of consciousness, Modified Aldretti Score (Appendix H), and intravenous access (appendix A).

Emergency equipment must be available and checked for function (appendix E).

Intra-procedural Considerations:

During sedation the physician, dentist, or LIP must be in the immediate procedural area. In order to monitor the efficacy of sedation and ensure patient safety, continuous monitoring of the patient's physiologic parameters is required during moderate sedation. These parameters include: level of consciousness, adequacy of sedation, heart rate, respiratory rate and pattern, and oxygen saturation. Blood pressure should be measured every 5 minutes. Documentation of pulse, BP, R, O₂Sat, LOC, and pain must occur every 15 minutes during the procedure. At the conclusion of the procedure, heart rate, oxygen saturation, and blood pressure must be repeated and documented.

Careful documentation of medications used for sedation is important. The time, type and dose of medication used, as well as route of administration should be noted in the clinical record.

Every medical procedure carries risks. Practitioners caring for patients receiving moderate sedation must be attentive to the possibility of sedation related complications. Complications may include: aspiration, hypoventilation, loss of independent airway, hyper- or hypotension, or cardiac arrhythmia/arrest. Any complications occurring during moderate sedation or the recovery period must be reported on the YNHH Sedation Analgesia Adverse Event Form.

Post-procedural Considerations:

Patients maintain their need for continuous monitoring during the recovery period. The RN, physician, dentist or LIP must be in the immediate recovery area while the patient is recuperating. Heart rate and rhythm, respiratory rate and pattern, blood pressure, oxygen saturation, level of consciousness and adequacy of sedation is to be documented on admission to the recovery area, or beginning of the recovery period. Patient assessment includes evaluation every 15 minutes for one-hour (minimum) after the last administration of sedation medication. Vital signs and oxygen saturation should be monitored as appropriate for the patients’ age and condition. Patients who have received reversal agents should be carefully monitored for resedation.

The Yale New Haven Hospital Nursing Organization and Practice Manual standard of care for moderate sedation instructs nurses to document and report the following post-procedure conditions to the physician, dentist or LIP: respiratory depression/distress, oxygen saturation < 90% for adults (≤ 95% for children), vital signs outside the normal limits for age and condition, diaphoresis, vaso-vagal reaction or emesis.

Clinical Discharge Criteria

Clinical criteria outlined in the Yale New Haven Hospital Sedation/Analgesia Protocol determine when a patient may be discharged from the moderate sedation protocol. The Modified Aldretti Score (MAS) is used. The MAS must be assessed prior to initiating sedation, and the patient can be discharged from the protocol when their score is ≥ 7 on the 8 point Score. If a patient's baseline Score is 6, then the patient may be discharged on reaching this baseline, as long as an explanatory note is documented in the record. After appropriate assessment, a physician, dentist, or LIP may discharge the patient from the moderate sedation protocol 'off-criteria' at their clinical discretion, but must sign the sedation record at the time of discharge.

Documentation of heart rate and rhythm, blood pressure, respiratory rate and pattern is required immediately before discharge from the recovery area and protocol. Prior to sedation, the patient should have been provided with verbal and written instructions regarding effects of moderate sedation, activity...
Transportation of sedated patients

All patients should meet discharge criteria as described above before transportation to an inpatient bed. If transportation must occur before the patient is fully recovered from sedation, a physician, dentist, physician’s assistant or RN must accompany the patient to maintain patient safety and comply with hospital protocol. Heart rate and oxygen saturation will be continuously monitored while in transit. The physician, dentist, LIP, or RN will remain with and continue monitoring the patient until one of the following occurs:

1. The patient is at pre-sedation baseline
2. The patient meets clinical discharge criteria
3. The unit receiving the transported patient (i.e. intensive care unit or outpatient recovery unit) provides staff to assume responsibility for the continuous monitoring of the patient through the recovery period.

Physician, Dentist and LIP Responsibilities:

* It is the responsibility of the attending physician, dentist or LIP to maintain delineated privileges to administer sedation for diagnostic/interventional/surgical procedures. Criteria for clinical privileges may be found in the YNHH Sedation/Analgesia Protocol
* The attending physician, dentist or LIP must evaluate, prior to and the day of the procedure, factors that would increase patient risk for moderate sedation.
* The attending physician, dentist or LIP must remain immediately available during the procedure.
* Assure that heart rate, respiratory rate and pattern, oxygen saturation, level of consciousness and adequacy of sedation are monitored and communicated continuously.
* The physician, dentist, LIP or RN must be in the immediate recovery area during the patient's recovery.
* A clinical record of moderate sedation must be maintained and be made part of the patient’s medical record.
* The attending physician, dentist or LIP must document the following information:

MD, dentist, LIP Responsibilities Requiring Clinical Record Documentation

* **Medication orders** must be written/entered by a physician, dentist, or LIP. Any intra-procedure verbal orders must be signed immediately after procedure completion
* **History and physical (H&P)** must be performed and documented by a physician, dentist or LIP within 30 days of the procedure.
* **Last PO intake** must be determined by the physician, dentist or LIP and documented the day of the procedure.
* **Informed consent** must be obtained for proposed procedure including consent for sedation through a discussion of anesthesia options, benefits, and risks.

Registered Nurse (RN) Responsibilities:

* Moderate sedation medications must be written/entered by a physician, dentist, or LIP who will be immediately available during the procedure.
* If sedation is to be provided through intravenous access, the Guidelines for IV administration must be followed.
* The RN will provide size/age appropriate equipment including: pulse oximeter, blood pressure apparatus, EKG monitor, defibrillator, manual resuscitator (Jackson Reese, Ambu bag) and mask, suction, airway, emergency cart (codes 5 and/or 7) and supplemental oxygen.
* Medication reversal agents (i.e. flumazenil/naloxone) are immediately available.
* Pre-sedation the RN will verify patient connection to a responsible adult for future discharge.
* Pre-sedation the RN will instruct the patient to avoid: drinking alcohol, operating heavy equipment, or make any major decisions for 24 hours after discharge and obtain a signature acknowledging these instructions.
* The physician, dentist, LIP and/or RN will monitor HR, RR and Pattern, \(O_2\) sat, LOC and pain continuously.

**RN Responsibilities**

**Baseline:** The RN will obtain and document *baseline temperature, heart rate and rhythm, respiratory rate, blood pressure, oxygen saturation, level of consciousness, Modified Aldretti Score (MAS), intravenous access* and assess completion of the multidisciplinary flow sheet.

**During the procedure:** The RN will assess and document *heart rate and oxygen saturation every 15 minutes* during, and at the conclusion of the procedure. *Blood pressure* will be assessed and documented *every 30 minutes* and at the conclusion of the procedure.

**Recovery:** The physician, dentist, LIP, or RN will document *heart rate and rhythm, respiratory rate and pattern, oxygen saturation, level of consciousness, MAS, and adequacy of sedation at completion of procedure* (if performed at bedside), and/or on admission to and throughout recovery. *Immediately prior to discharge* from the recovery area/period, documentation of *heart rate and rhythm, respiratory rate and blood pressure* is required. The patient's (parent's or guardian's for pediatric patients) signature is required on information regarding *discharge instructions*.

**References**


Bibliography for Specialty Consideration


