Clinton Regional Hospital	**Policy and Procedures**	NUMBER
	MANUAL: Emergency Department	EFFECTIVE DATE
	SUBJECT: Moderate Sedation Policy	REVISED REVIEWED

I. PURPOSE

A. To establish patient safety requirements and standards for the use of moderate sedation used in therapeutic and surgical procedures at *Clinton Regional Hospital*.

B. To provide procedural guidance for healthcare workers involved in moderate sedation procedures.

II. POLICY

A. Moderate sedation is provided only by individuals who are qualified by education, certification, and evidence of competence as specified in Procedures, section I.

a. Qualified non-Anesthesia providers may provide moderate sedation.
b. Deep sedation may be provided by qualified Anesthesia personnel and non-Anesthesia providers with evidence of competence who are qualified by education, certification, and evidence of competence as specified in Procedures, Credentials.
c. General anesthesia is provided only by qualified Anesthesia providers.

B. Patients are selected for moderate sedation based upon assessed needs and medical/surgical condition as described in Procedures, Patient Selection.

C. A Registered Nurse provides direct nursing care of patients requiring sedation.

D. The patient is assessed prior to the procedure, at specific intervals during the procedure, and immediately post-procedure as described in Procedures.

E. The patient will be reassessed immediately prior to the administration of sedation medications.

F. The plan for sedation and for the procedure involves the patient and/or caregiver.

G. In addition to the Licensed Independent Practitioner (LIP) performing the procedure, there are sufficient numbers of qualified staff present during the procedure to provide the sedation, monitor and recover the patient, and assist the LIP.

H. The patient is recovered after sedation, and same-day or Emergency

response.

E. **Deep Sedation/Analgesia** is 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 ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

F. **General Anesthesia** is 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.
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 should be able to rescue*** patients who enter a state of Deep Sedation/Analgesia, while those administering Deep Sedation/Analgesia should be able to rescue*** patients who enter a state of General Anesthesia.

** Reflex withdrawal from a painful stimulus is NOT considered a purposeful response.

*** 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. It is not appropriate to continue the procedure at an unintended level of sedation.

IV. PROCEDURE

A. Qualifications of the LIP and RN providing moderate sedation

1. The LIP performing procedures using moderate sedation will have Medical Staff privileges granted to do so in accordance with local policy.
    a. The LIP requesting privileges to perform procedures using sedation will not already have credentials to provide anesthesia at any level. The privilege request will be restricted to moderate sedation only.
    b. Privilege requests are facility specific and may include limits on the level of sedation and age group of patients.
    c. If the LIP performing a procedure does not have current privileges to care for a patient undergoing moderate

airway compromise, and deterioration of oxygenation.

g. If the RN administering moderate sedation also recovers the patient post-procedure, s/he must also demonstrate competence in post-anesthesia recovery of the patient.

B. **Patient Selection for moderate sedation by non-Anesthesia Providers**
Only qualified LIPs with appropriate privileges may order the medications that will result in moderate sedation.

1. The LIP will assess the appropriateness for utilizing moderate sedation rather than a higher level of anesthesia/analgesia based on the planned procedure and the patient's assessed physical status using the American Society of Anesthesiologists (ASA) physical status classification guide (Appendix 1).
   a. The patient's risk factors, age, overall condition, and history are assessed for appropriateness of using moderate sedation.
2. Patients who are classified as ASA category I or II are appropriate candidates for moderate sedation. A patient who is medically stable and optimized ASA III may be considered if facility policy allows.
   a. State law and policy may limit RN involvement in monitored sedation regarding the medications or categories of patients.
3. Unstable, not medically optimized ASA III, and ASA IV or V patients are not appropriate patients for moderate sedation. An Anesthesia provider should be consulted prior to the procedure for this category of patients.
   a. Anesthesia consultation should be considered for patients with a history of sleep apnea, previous anesthesia difficulties, significant co-morbidities that could impair recovery from sedation, polypharmacy and potential for drug/drug interactions, or history of substance abuse.
   b. Other medical consultations should be considered as appropriate based on the patient's diagnoses and co-morbid conditions (cardiac, pulmonary, renal, etc.)
4. The RN and LIP should collaborate prior to the procedure on the appropriateness if a question arises regarding the patient's assessed status and ASA classification.
5. Any questions or concerns about the appropriateness of the plan for moderate sedation should be escalated using the facility's chain of command.

C. **Locations where moderate sedation may be used**

1. Moderate sedation may be administered in various departments where the required monitoring equipment is available.
   a. Hemodynamic monitors: blood pressure, cardiac, respiratory to include pulse oximetry and end-tidal CO2 (capnography).
2. Where sufficient numbers of qualified and competent staff are available for the entire procedure, and
3. Where resuscitation equipment is immediately available.
   a. At a minimum, cardiac monitors and defibrillator, cardiac resuscitation drugs, opioid and sedation reversal drugs, and airway resuscitation supplies and equipment.

may be reviewed with the patient and caregiver at this time.

4. In conjunction with the procedure team, perform a procedure Time Out prior to the start of the procedure, and document per facility policy.

E. **Intraprocedural care**

1. The LIP will be present and immediately available prior to administration of the first dose of sedation medication.
2. The LIP will actively participate in the Time Out prior to beginning the procedure.
3. The RN administering the sedation will not have other duties during the procedure that will inhibit the ability to continuously monitor the patient's oxygenation, ventilation, and cardiac status.
   a. Any other duties or tasks must be immediately interruptible.
4. The sedation goal is to use the optimum dose based on the patient's assessed needs and desired safe level of sedation.
   a. The Observer's Assessment of Alertness/Sedation Scale should be used to assess the depth of sedation experienced by the patient. (Appendix 4)
5. The RN will monitor the patient continuously during the procedure.
   a. Monitoring will include cardiac rate and rhythm, respiratory rate and ventilation efforts, pulse oximetry, end-tidal CO2, level of consciousness (LOG), and pain response measurement to facility policy.
   b. Vital signs (cardiac and respiratory rates, BP, SpO2 %, end-tidal CO2, pain level, LOG) will be documented at a minimum every 5 minutes.
   c. Any changes or unexpected responses are reported to the LIP immediately.
6. The LIP may order oxygen at a rate determined by the patient's assessed need.
   a. The detection of apnea may be impaired due to the delay of clinical hypoxia if supplemental oxygen is routinely administered. Restlessness can be misinterpreted as a pain response rather than hypercapnia and hypoxia. This emphasizes the critical importance of continuous observation and monitoring of the patient's ventilatory function, respiratory status, blood pressure and cardiac rate and rhythm.
7. Procedure team response to an unintended progression to deeper sedation
   a. Provide immediate emergency care including airway and ventilation support as determined by the patient's responses and vital signs.
   b. Call a Rapid Response or other emergency team if indicated.
   c. Notify Anesthesia provider to assist with the level of sedation as indicated.
   d. Notify chain of command as indicated by facility policy.

F. **Post procedure care**

1. The LIP will remain immediately available in the procedure area until the patient's vital signs are stable or returned to baseline.
2. The LIP will enter a progress note immediately after the procedure according to facility policy.
   a. A post-sedation evaluation must be completed per policy no later than 48 hours after the procedure.
   b. If the patient is an outpatient, the post-sedation evaluation must be conducted when the patient is substantially able to participate or has returned to baseline LOG.
3. The LIP will sign all orders given for the sedation medications and oxygen if administered.

patient's history and assessed need.

6. A hand-off report will be given to the receiving caregiver.
7. Outpatient discharge
   a. Outpatients may only be discharged if a responsible adult is available to drive the patient home.
   b. Discharge criteria as above must be met.

H. **Performance Improvement**

1. Moderate sedation practices will be reviewed, and data analyzed for improvement opportunities. The review plan will be incorporated into the Facility's overall Performance Improvement Plan.
   a. Indicators for review include but are not limited to the following
      i. All cases in which reversal of sedation medication is administered
      ii. All cases in which the patient required ventilatory or respiratory support post sedation.
      iii. All unanticipated hospital admissions after outpatient sedation procedures.
      iv. Post Anesthesia Recovery Scale consciousness score of zero within the first 15 minutes of post-sedation recovery.
      v. All resuscitation events related to moderate sedation.
      vi. All deaths in the immediate periprocedural period.
   b. Pediatric sedation reviews address events that would be considered minor in adult sedation. Suggested additional indicators for Pediatric sedation review include, but are not limited to, the following:
      i. Vomiting during the procedure
      ii. Waking before the procedure was completed
      iii. Paradoxical reaction to the sedation medications (rage response).

Appendix 1

American Society of Anesthesiologists Physical Classification Scale

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

Class II
A patient with mild to moderate systemic disturbance: may or may not be related to the reason for the procedure (e.g., controlled hypertension, diabetes, or chronic bronchitis).

Class III
A patient with severe systemic disease that is not incapacitating (e.g., poorly controlled hypertension, heart disease, insulin dependent diabetes, or pulmonary insufficiency).

Class IV
A patient with constant life-threatening systemic disturbance. (e.g., cardiac failure, major organ insufficiency).

Postoperative pain assessment

None or mild discomfort	2
Moderate to severe pain controlled with IV analgesics	1
Persistent severe pain	0

Postoperative emetic symptoms

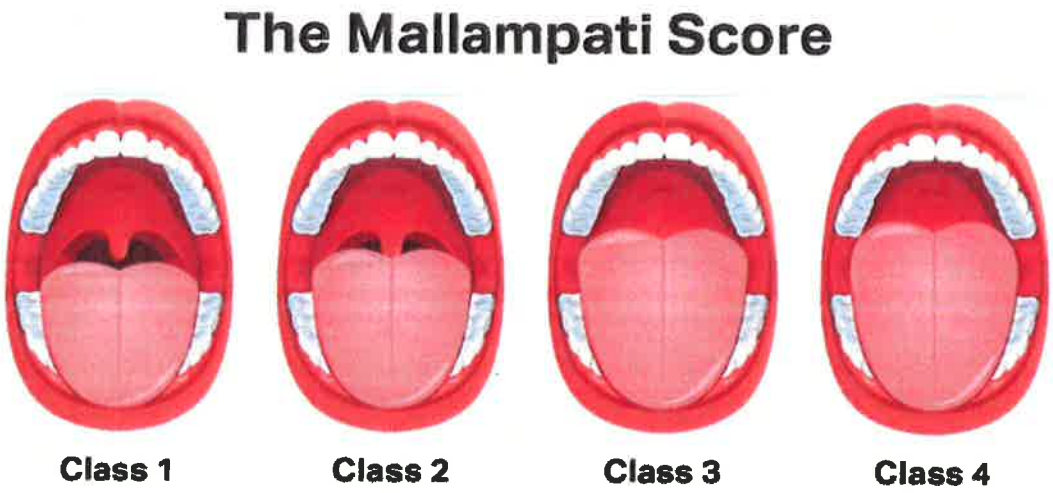
None or mild nausea with no active vomiting	2
Transient vomiting or retching	1
Persistent moderate to severe nausea and vomiting	0

Appendix 3

Mallampati Airway assessment

Have the patient sit upright with head tipped back, mouth opened, and tongue protruded. Compare your view of the posterior pharyngeal structures with the following Mallampati anatomical assessment descriptions:

Class 1: Can visualize soft palate, fauces, uvula, tonsillar pillars.
Class 2: Can visualize soft palate and fauces; tip of uvula is obscured.
Class 3: Can visualize soft palate.
Class 4: Can visualize hard palate only.



Appendix 5

Drug Dosage Guidelines-Adult

Agent	Route	Dose	Onset	Duration	Frequency	Usual dose range	Precautions (P) Contraindications(C) Side Effects (S)
Diazepam	IV	2.5-20mg	1-5 mins	15min-1 hour	Every 10-15 min	5-15 mg	P. Inject slowly, elderly. C. Hypersensitivity to benzodiazepine, narrow angle glaucoma, psychosis, do not mix with other agents. S. Pain at injection site, thrombophlebitis, respiratory depression, hypotension (especially with rapid injection), dizziness, bradycardia, N&V
Etomidate	IV	0.1-0.2mg/kg bolus, then 0.05 mg /kg q 3 to 5 mins prn	immediate	4-10 mins	Every 5 to 10 min	0.1-0.05mg/kg	P. Elderly, renal impairment C. Hypersensitivity to etomidate S. Pain at injection site

Hydromorphone	IV	0.5-2mg	15 mins	4-5 hours	Every 2-5 mins	0.5-2mg	P. Lower dose in hepatic insufficiency and elderly patients C. Sedation, dizziness, agitation, hypotension, respiratory depression S. Slight yellowish discoloration does not affect potency
Ketamine	IV	1-2mg/kg over 1 to 2 mins, followed by 0.25 to 0.5 mg/kg IV every 5-10 min pm	immediate	5-10 mins	Every 5 to 10 mins	80-160mg	P. Must be properly diluted prior to injection. C. Hypersensitivity S. Bradycardia, increases in blood pressure
Lorazepam	IV	0.044mg/kg or 2mg whichever is less. Max dose is 0.05 mg/kg or 4 mg whichever is less	1-5 mins	12-24 hours	Every 15-30 mins	2-4mg	P. Inject slowly, lower doses for patients greater than 50 years old. C. Hypersensitivity, narrow angle glaucoma, psychosis S. Dizziness, apnea, hypotension, bradycardia, N&V
Morphine	IV	2-1 Omg	1-3 mins	4-5 hours	Every 5-10 mins	4-1 Omg	P. CNS changes, elderly C. Hypersensitivity, head injury S. Apnea, hypotension, N&V, dizziness, mental clouding, pupil constriction

Appendix 4, page 2

Drug Dosage Guidelines-Pediatric

These guidelines will be present in the procedure room and available for reference. The goal is to use the optimum dose based on the patient's assessed needs and desired safe level of sedation.

Agent	Route	Dose	Onset	Duration	Frequency	Usual dose range	Precautions (P) Contraindications(C' Side Effects (S)
Diazepam	IV	0.15mg/kg - 0.5mg kg (max dose 10 mg)	1-5 min	15 min-1 hr	Every 2 to 10 min	Variable, depending on weight	P. Inject slowly C. Hypersensitivity to benzodiazepine; narrow angle glaucoma; psychosis; DO NOT MIX WITH OTHER AGENTS. S. Pain at injection site; thrombophlebitis; respiratory depression; hypotension (especially with rapid injection); dizziness; bradycardia; nausea/vomiting.
Etomidate	IV	0.1-0.4 mg/kg	10-20 sec	4-10 min	Every 3-5 min	Variable, depending on weight	P. Not recommended in children less than 10y. ©.Seizure disorder C. Hypersensitivity S. Pain at injection site; nausea/vomiting: hiccoughs.

Agent	Route	Dose	Onset	Duration	Frequency	Usual dose range	Precautions (P) Contraindications(C) Side Effects (S)
Ketamine	IV	0.5-2 mg/kg over 1 to2 mins. Repeat 0.25-1 mg/kg q 10-15mins	Rapid (30-40 sec)	5-10 min	10-15 min	Variable, depending. on weight	P. Inject slowly. C. Pregnancy; hyperthyroidism; uncontrolled HTN; increased intracranial or intraocular pressure. S. Emergence phenomenon; hypertension; tachycardia; hypersalivation.
Morphine	IV	0.05-1 mg/kg injected slowly. Max 10mg per dose	5 min	2-4 hr	Every 2-4 hr	Variable, depending. on weight	P. CNS changes C. Hypersensitivity; head injury S. Apnea; hypotension: nausea/vomiting; dizziness; mental clouding; pupil constriction.
Propofol	IV	1 mg/kg followed by 0.5 mg/kg q 3 to 5 mins	10-50 sec	3-10 min	Every 3-5 min	Variable, depending. on weight	P. Anaphylactic reactions, upper respiratory tract infections C. Hypersensitivity; allergy to eggs; allergies to soy or peanuts. S. Hypotension; congenital heart defect.