Policy Guideline: Nursing Scope of Practice for the Use of Sedating and Anesthetic Agents

Statement of Purpose
The purpose of this policy is to provide scope of practice clarification for nurses who may be asked to administer sedating and anesthetic pharmacologic agents in order to achieve moderate and deep procedural sedation in non-intubated patients, and moderate and deep sedation in intubated/ventilated patients. It will also provide scope clarification for administration of sedating and anesthetic agents for other purposes.

Background Information
Nurses are increasingly involved in a variety of patient care settings where they receive orders to administer pharmacologic agents to sedate their patients. In 1997, the Oregon State Board of Nursing (OSBN) developed a policy to address the administration and management of pharmacologic agents for the purpose of "conscious sedation." The policy was reaffirmed in 1999. At that time, the concept of administration of pharmacologic agents for the purpose of deep sedation was not addressed in detail. Given the dynamic nature of nursing practice, more requirements have been placed on nurses to administer agents, particularly anesthetic agents, in a variety of practice situations. In addition, some facilities have begun to support the use and administration of anesthetic agents by nurses and by appropriately credentialed Licensed Independent Practitioners (LIP) for the purposes of moderate (formerly referred to as conscious) and deep sedation. Given the changing nature of these nursing practices, nurses need guidance in order to determine how they can safely practice within their scope.

Scope Statement
The administration of pharmacologic agents for sedation by a specifically trained nurse, other than a Certified Registered Nurse Anesthetist (CRNA), requires additional education and specific competency on the part of the nurse. One level of sedation can quickly change to a deeper level of sedation due to the unique characteristics of the drugs used, as well as the physical status and drug sensitivities of the individual patient. The administration of sedating agents requires ongoing assessment and monitoring of the patient and the ability to respond immediately to deviations from the norm. Sedation should only be provided by an individual who is competent in comprehensive patient assessment, is able to administer drugs through a variety of routes, is able to identify responses that are a deviation from the norm, and is able to intervene as necessary.

The Oregon State Board of Nursing affirms that it is within scope of practice for the Licensed Practical Nurse (LPN), Registered Nurse (RN), Nurse Practitioner (NP) and the Clinical Nurse Specialist (CNS) to administer sedating agents for the purpose of anxiolysis. In addition, it is not within the scope of practice of the LPN, RN, NP or CNS to administer anesthetic agents for the purpose of anxiolysis. If the patient receiving sedating/anesthetic agents for anxiolysis progresses to a deeper level of sedation, the nurse responsibility and requirements outlined in this policy guideline for procedural sedation must be followed.

Furthermore, the Oregon State Board of Nursing affirms that it is within the role and scope of practice for the RN, NP and CNS to administer sedating and anesthetic agents to produce moderate and deep procedural sedation and moderate and deep sedation for the non-intubated or intubated/ ventilated patient, under the direction of a LIP in accordance with the guidelines listed below. The RN, NP or CNS may also manage patients who are recovering from sedation. In addition, there are other special circumstances under which administration of anesthetic or sedating agents are within the scope of practice of the nurse. These circumstances are explained later within this policy guideline. The Board also believes the administration of sedating and anesthetic agents for the purposes of moderate or deep sedation expressed by this policy exceeds the scope of practice for the Licensed Practical Nurse (LPN) or unlicensed assistive personnel (UAP). These guidelines do not apply to Certified Registered Nurse Anesthetist (CRNA).

Scope relating to use of American Society of Anesthesiologists (ASA) Physical Status Classification:

Adult Patients
The nurse may administer procedural sedation to an adult patient with an ASA score of I, II, or III in an acute care, clinic or office setting if all of the criteria detailed in this policy guideline are met. They may NOT administer to a patient with an ASA score of IV unless the patient is in an acute care setting and all of the criteria specified within this policy guideline are met. In addition, for a patient with an ASA score of IV, a CRNA or LIP credentialed by the facility in procedural sedation, and competent in intubation and airway management, must be consulted to determine appropriate setting and personnel resources for the procedure.

Pediatric Patients
The nurse may administer procedural sedation to pediatric patients in an acute care, office or clinic setting with an ASA score of I or II if all of the criteria detailed in this policy guideline are met. The nurse may NOT administer to pediatric patients with an ASA score of III or IV unless the patient is in an acute care setting and all of the criteria specified within this policy guideline are met. In addition**,** for a patient with an ASA score of III or IV, a CRNA or LIP credentialed by the facility in procedural sedation and competent in intubation and airway management must be consulted to determine appropriate setting and personnel resources for the procedure.

I. Nurse Responsibility and Requirements Relating to Procedural Sedation:

It is within the scope of practice for the RN, NP or CNS to administer sedation, including the administration of anesthetic agents for procedural sedation given that the following requirements are met.

A. Knowledge and Skills

It is the expectation that the following knowledge and skills are gained and demonstrated prior to administration of sedating and anesthetic agents. Education, training, experience and ongoing competency appropriate to responsibilities, treatment provided and the patient/population served is evidenced in personnel files and/or individual portfolios.

The nurse must possess knowledge of and be able to apply in practice:

1. Anatomy and physiology, including principles of oxygen delivery, transport and uptake;
2. Pharmacology for sedating agent/s, including drug actions, side effects, contraindications, reversal agents and untoward effects;
3. Appropriate physiologic measurements for evaluation of respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm and the patient's level of consciousness;
4. Appropriate nursing interventions in the event of complications or untoward outcomes;
5. Airway management, arrhythmia recognition and emergency resuscitation appropriate to the age of the patient through Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) or equivalent training;
6. Ability to assess the total patient care requirements before and during the administration of sedation and analgesia, including the recovery phase; and
7. ASA Physical Status Classification.

B. Potential Risk Factors

The nurse is expected to consider potential risk factors that may increase the chance of complications associated with procedural sedation. It is also the nurse's responsibility to use that information during additional assessment and care planning,

and to communicate that information as needed to other members of the health care team. Factors that should be considered include, but are not limited to:

1. Clinical status of the patient;
2. ASA score;
3. Extremes of age;
4. Developmental delay;
5. History of sleep apnea;
6. Morbid obesity;
7. History of drug or alcohol abuse or dependence;
8. Smoking history;
9. Pregnancy;
10. Airway anomalies;
11. Previous adverse experience with sedation, analgesia or anesthesia;
12. Hypoxia;
13. Diseases: cardiovascular, respiratory, central nervous system, renal, and endocrine; and
14. Prescribed, over the counter and herbal medications.

C. Practice Setting

It is not the Board's role to develop policy for the practice setting. However, any nurse who is going to administer sedating or anesthetic agents for the purposes expressed in this policy guideline has the responsibility to ensure that the following requirements are met prior to participating in procedural sedation.

1. Written policies and protocols, which are readily available and are medically approved. These policies and protocols should also be consistent with current practice, and include (but are not limited to) information on patient selection criteria, patient monitoring, definitions of levels of sedation, availability and responsibility of physician and CRNA (if applicable), drug administration and directions for dealing with potential complications or emergency situations; and
2. Written risk management and quality improvement plan in place.

D. Personnel and Equipment

In order for the nurse to administer sedation as described by this policy, the personnel in the practice setting must have the capability to rescue the patient at one level deeper than the planned sedation. The nurse must work under the direction of an appropriate credentialed LIP who is responsible for directing the procedure, prescribing the medication/s, and is immediately available to respond throughout the course of sedation (initiation through immediate post-procedure recovery as defined by institutional policy). A plan and mechanism to activate qualified health professionals in the event of an emergency must be in place. Appropriate emergency equipment must be immediately available to the nurse in the procedural area and includes, but is not limited to:

1. Bag mask device and source for 100% oxygen;
2. Suction equipment and machine;
3. Airways (Age and size appropriate) and intubation equipment;
4. Cardiac monitor and defibrillation equipment; and
5. Reversal agents and resuscitation medications.

E. Patient Monitoring

When the nurse is monitoring the patient, he/she may not leave the patient unattended or perform other tasks that would compromise patient monitoring, including performance of the procedure itself. In addition, the nurse must ensure:

1. All patients must have patent intravenous access from the time of intravenous medication administration until recovery from sedation.
2. All patients must be continuously monitored throughout the procedure and recovery phase. Monitoring must include:

    a. Airway patency and ventilatory effort;
    b. Pulse oximetry;
    c. Intermittent blood pressure, heart rate and respiratory rate;
    d. Cardiac monitoring for deep sedation;
    e. Patient's pain response to medication using an age or population-specific pain scale; and
    f. Level of consciousness or response to stimuli.

II. Nurse Responsibility and Requirements Relating to the Intubated/Ventilated Patient

Given that the following criteria are met, it is within the scope of practice for the RN, NP or CNS to administer sedation, including the administration of anesthetic agents to the intubated/ventilated patient in continuous and bolus dosing, for ongoing sedation.

A. Knowledge and Skills

It is the expectation that the following knowledge and skills are gained and demonstrated prior to administration of sedating and anesthetic agents. Education, training, experience and ongoing competency appropriate to responsibilities, treatment provided and the patient/population served is evidenced in personnel files and/or individual portfolios.

The nurse must possess knowledge of and be able to apply in practice:

1. Anatomy and physiology, including principles of oxygen delivery, transport and uptake;
2. Pharmacology for sedating agent/s, including drug actions, side effects, contraindications, reversal agents and untoward effects;
3. Appropriate physiologic measurements for evaluation of respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm and the patient's level of consciousness;
4. Appropriate nursing interventions in the event of complications or untoward outcomes;
5. Airway management, arrhythmia recognition and emergency resuscitation appropriate to the age of the patient through Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) or equivalent training; and
6. Ability to assess the total patient care requirements before and during the administration of sedation and analgesia, including the recovery phase.

B. Practice Setting

It is not the Board's role to develop policy for the practice setting. However, any nurse who is going to administer sedating or anesthetic agents for the purposes expressed in this policy has the responsibility to ensure that the following criteria are met prior to participating in sedation for the intubated/ventilated patient.

1. Written policies and protocols that are readily available and medically approved. These policies and protocols should also be consistent with current practice, and include (but not limited to) information on patient selection criteria, patient monitoring, definitions of levels of sedation, drug administration and directions for dealing with potential complications or emergency situations; and
2. Written risk management and quality improvement plan in place.

C. Personnel and Equipment

In order for the nurse to administer sedation as described by this policy guideline, the personnel in the practice setting must have the capability to rescue the patient should the airway or hemodynamic status be compromised. The nurse must work under the direction of an appropriate credentialed LIP who is responsible for prescribing the medication/s. A plan and mechanism to activate qualified health professionals in the event of an emergency must be in place. Appropriate emergency equipment must be immediately available to the nurse in the work area and includes, but is not limited to:

1. Bag mask device and source for 100% oxygen;
2. Suction equipment and machine;
3. Airways (Age and size appropriate) and intubation equipment;
4. Cardiac monitor and defibrillation equipment; and
5. Reversal agents and resuscitation medications.

D. Patient Monitoring

Patient monitoring will be established by facility policy and specified by patient need.

III. Special Circumstances

A. Use of Ketamine as an Adjunct to Clinical Therapy in the Acute Care Setting

There may be circumstances in which a nurse, under the direction of a LIP, may use Ketamine in non-intubated patients. Evidence-based practice supports the use of Ketamine in the adult population as an adjunct for pain management, and in the pediatric population for pain and respiratory management. Therefore, it is within the scope of practice for a nurse to administer Ketamine for these purposes provided that the criteria (Knowledge and Skills Requirements 1-4, Practice Setting, Personnel and Equipment, and Patient Monitoring) identified for the intubated/ventilated patient are met.

B. Emergency Intubation

It is within the scope of practice for a nurse to administer sedation, including the administration of anesthetic agents, under the direction of a credentialed LIP, for sedation of a patient during an emergency intubation provided that the criteria (Knowledge and Skills Requirements 1-6, Practice Setting, Personnel and Equipment) identified for the intubated/ventilated patient are met. In addition, the following Patient Monitoring criteria will be followed:

1. The nurse may not leave the patient unattended or perform other tasks that would compromise patient monitoring;
2. Airway patency and ventilatory excursion must be monitored; and
3. Pulse oximetry must be monitored.

C. End of Life Care

It is within the scope of practice for the RN, NP and CNS to administer sedating and anesthetic agents as a palliative care intervention at the end of a patient's life in order to decrease the patient's level of consciousness to mitigate the experience of suffering, but not to hasten the end of life.

The nurse will possess knowledge of and be able to apply in practice:

1. Pharmacology for sedating and anesthetic agents, including drug actions, side effects and contraindications;
2. Process of death and dying;

3. Pain assessment, and proper end of life management of pain; and
4. End of life symptom assessment and management.

IV. Appendix

A. Definitions

1. **"Anesthetic Agent."** A drug that, when administered, causes partial or complete loss of sensation, with or without loss of consciousness.

2. **"ASA Physical Status Classification."**
   a. Class I: A normally healthy patient
   b. Class II: A patient with mild systemic disease
   c. Class III: A patient with severe systemic disease
   d. Class IV: A patient with severe systemic disease that is a constant threat to life
   e. Class V: A moribund patient who is not expected to survive 24 hours with or without the procedure.

3. **"Credentialed Licensed Independent Practitioner (LIP)."** An individual permitted by law and the individual's employer to independently provide care, treatment and services that are within the individual's scope of practice and consistent with clinical privileges granted by his/her employer.

4. **"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 maintain ventilatory function independently may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

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

5. **"General Anesthesia"** is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to maintain ventilatory function independently 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.

6. **"Immediately available***."* Present on site in the unit of care and not otherwise engaged in any other uninterruptible procedure or task.

7. **"Minimal Sedation (Anxiolysis)"** 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*.*

8. **"Moderate Sedation/Analgesia" ("Conscious Sedation")** is 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.

9. **"Rescuing**." Possessing the competency to manage a compromised airway, provide adequate oxygenation and ventilations, and administer emergency medications and/or reversal agents.

10. **"Procedural Sedation."** Anesthetic or sedating agents administered in order to achieve moderate or deep sedation during diagnostic, therapeutic, or surgical testing or treatment.

11. **"Sedating Agent**." A drug that, when administered, causes calmness, relaxation, reduced anxiety, and sleepiness.

B. Questions & Answers

Q: I am a RN and the physician has just written an order for a Ketamine infusion for pain management for my critical care ventilated patient. I have never given this drug before and we do not have a policy about administration of Ketamine for this purpose. Is it within my scope of practice to follow the order?
A: Although it is within the scope of practice to administer Ketamine for this purpose, you would not have yet fulfilled the knowledge requirement regarding pharmacology for a sedating agent. In addition, the requirement for your practice setting to have written policies and protocols that are readily available and medically approved has also not been fulfilled. You would need to ensure that you and the nursing staff administering the Ketamine had the required competencies, and that your unit or hospital had a policy in place that is consistent with current practice.

Q: I am a RN. Can I give an ordered bolus dose of Propofol to sedate an agitated, ventilated ICU patient?
A: Yes, it is within the scope of practice for the RN, NP or CNS to administer sedation, including the administration of anesthetic agents (Propofol), in continuous and bolus dosing, to the mechanically ventilated patient. Again, it is also the responsibility of the nurse to ensure that the requirements for knowledge and skills, practice setting, personnel and equipment, and patient monitoring are met.

Q: During an emergent intubation, the emergency physician asked me to give Etomidate. Is it within the scope of practice of the RN to do so?
A: Yes, it is within the scope of practice for a RN, NP or CNS to administer Etomidate, an anesthetic agent, under the direction of a credentialed LIP, for sedation of a patient during an emergency intubation provided that the requirements (Knowledge & Skills 1-6, Practice Setting, Personnel and Equipment) identified for the intubated/ventilated patient are met.

Q: I have been offered a job as a RN in a free standing Endoscopy Suite. They want to train me to administer Propofol to sedate patients for procedures. Is it within my scope of practice to administer this drug?
A: It is within your scope of practice as long as the patient's ASA's physical status classification is I, I or III (adult) or I or II (pediatric) and the nurse responsibility and requirements relating to procedural sedation are met.

Q: I am a LPN. The physician has written an order for Ketamine via IV bolus to be given to a non-ventilated patient on my acute care inpatient unit for the purpose of pain management for a dressing change (anxiolysis). Is it within my scope of practice to administer this?
A: This is not within the LPN's scope of practice since Ketamine is classified as an anesthetic.

Q: Sometimes as a RN, I am asked to care for a non-ventilated patient in the intensive care unit who is receiving intermittent IV medications or via continuous drip in order to manage their agitation. Is this all right?
A: If this medication is a non-anesthetic drug that is being given for anxiolysis, you may administer it. If the patient progresses to a deeper level of sedation, the nurse responsibility and requirements outlined in this policy for procedural sedation must be followed.

Q. I have received an order for Propofol that is to be given for anxiolysis for a non-ventilated patient. As a RN, can I administer this?
A. No, the RN may not administer anesthetic agents for anxiolysis.

Q: In my emergency department, our physicians sometimes want me to give Ketamine IM for procedural sedation. Can I as a RN administer this?
A: The policy guideline does not specify route of administration, so it is within your scope to administer this as long as the requirements for procedural sedation are followed.

C. References

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