Department of Health
Nursing Care Quality Assurance Commission

Advisory Opinion

The Nursing Care Quality Assurance Commission (NCQAC) issues this advisory opinion in accordance with WAC 246-840-800. An advisory opinion adopted by the NCQAC is an official opinion about safe nursing practice. The opinion is not legally binding and does not have the force and effect of a duly promulgated regulation or a declaratory ruling by the NCQAC. Institutional policies may restrict practice further in their setting and/or require additional expectations to assure the safety of their patient and//or decrease risk.

Title:	Administration of Sedating, Analgesic, and Anesthetic Agents *Number:* NCAO 7.1
References:	RCW 18.79 Nursing Care WAC 246-840 Practical and Registered Nursing Nursing Scope of Practice Decision Tree WAC 246-919-601 Safe and Effective Analgesia and Anesthesia Administration in Office-Based Surgical Settings WAC 246-853 Osteopathic Physicians and Surgeons RCW 70.41 Hospital Licensing and Regulation WAC 246-330 Ambulatory Surgical Facilities WAC 246-817 Dental Quality Assurance Commission WAC 246-887 Pharmacy-Regulations Implementing the Uniform Controlled Substances Act
Contact:	Deborah Carlson, MSN, RN
Phone:	360-236-4725
Email:	Debbie.carlson@doh.wa.gov
Effective Date:	3-13-15
Supersedes:	NCAO 7.0 Administration of Sedating, Analgesic, and Anesthetic Agents 9-12-14
Approved By:	Nursing Care Quality Assurance Commission

Conclusion Statement

The Nursing Care Quality Assurance Commission (NCQAC) concludes that registered nurses (RNs) may administer and maintain sedating, analgesic, anesthetic, and reversal agents prescribed by authorized providers (licensed physician and surgeons, dentists, osteopathic physicians and surgeons, naturopathic physicians, optometrists, podiatric physician and surgeons, physician assistants, osteopathic physician assistants, advanced registered nurse practitioners, or midwives). These medications include, (but are not limited to), diazepam, chloral hydrate, nitrous oxide, etomidate, propofol, ketamine, fentanyl, methohexital, bupivacaine, ropivacaine, succinylcholine, and midazolam. The NCQAC advises nurses to use the **Scope of Practice Decision Tree** to determine whether an activity is within the nurse's individual scope of practice. Nurses must have the training, skills, knowledge, and ability to administer these drugs safely and competently. Nurses must have the ability to assess, interpret, and intervene in the event of complications. Completion of formal certifications does not imply that a nurse has the competence to perform these or related activities. Due to the complexity of the activities and nursing judgment required, the NCQAC determines it is beyond the scope of a licensed practical nurse (LPN) to lead these activities. LPNs may be a member of the team and assist in performing individual activities up to their lawful and individual scope of practice based on the **Decision Tree**. This statement may not address the use of these medications in every setting or for every procedure. Nurses should refer to best practice standards policy specific to the procedure and setting.

Background and Analysis

The NCQAC has previously approved advisory opinions relevant to procedural sedation (2000 and 2005) and epidural analgesia (2003). There is an increasing trend among non-anesthesia providers to administer these agents to relieve anxiety, discomfort or pain, and/or to diminish memory in a variety of settings. Sedation and analgesia refers to a continuum of states ranging from minimal sedation through general anesthesia. There is no "bright line" that distinguishes when the pharmacologic properties bring about the physiologic transition from analgesic to anesthetic effects. It is not always possible to predict how an individual patient will respond. For some medications, pharmacological properties bring about the physiologic transition from analgesic to anesthetic effects. Moderate sedation is standard for gastrointestinal endoscopy. Deep sedation may be used for selected groups of patients undergoing diagnostic or therapeutic procedures. Drugs must be prepared and administered according to regulations and current standards of practice. Indications for monitored anesthesia care (MAC) depend on the procedure, patient condition, and/or the potential need to convert to general or regional anesthesia. It is recognized that these agents may be given in a variety of settings, such as operating rooms, obstetrical suites, emergency rooms, outpatient clinics, psychiatric clinics, pain clinics, special procedure areas, in-home, and hospice. It is accepted practice to use anesthetic drugs off-label (not cleared by the Food and Drug Administration in the indications for use). Examples include use in pediatric populations and for chronic pain, seizures, or other chronic conditions. Many of these agents are controlled substances.

Continuum of Depth of Sedation: Definition of General Anesthesia & Levels of Sedation/Analgesia

Criteria	Topical/Local Anesthesia	Minimal Sedation/ Anxiolysis	Regional Analgesia	Moderate Sedation/ Analgesia	Deep Sedation/ Analgesia (MAC)	General Anesthesia (MAC)
Responsiveness	Normal response to verbal stimuli	Normal response to verbal stimuli	Normal response to verbal stimuli	Purposeful response to verbal or tactile stimuli	Purposeful response following repeated or painful stimuli	Unarousable even with painful stimuli
Airway	Unaffected	Unaffected	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous Ventilation	Unaffected	Unaffected	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular Function	Unaffected	Unaffected	Unaffected	Usually maintained	Usually maintained	May be impaired

Adapted from ASA (2009) and CMS (2011)

Nurse-administered propofol sedation (NAPS) and non-anesthesiologist-administered propofol (NAAP) describe the administration of propofol under the direction of medical providers other than anesthesia professionals. The Society of Gastroenterology Nurses and Associates™ (SGNA), the American College of Gastroenterology, the American Gastroenterology Association, and the American Society for Gastrointestinal Endoscopy (ASGE) support RNs administering and maintaining moderate sedation, analgesia, and reversal agents for gastroenterology endoscopic procedures. It is common to combine propofol with other drugs (such as a benzodiazepine and an opioid) to achieve sedation to extend propofol's therapeutic window and help mitigate the risk of deep sedation. Advanced technology is being used to assist in administering propofol. Recently the computer-assisted personalized sedation (CAPS) system has been recently approved by the Food and Drug Administration (FDA). The ASA provides guidance for using these devices. The ASGE reviewed CAPS and conclude that these systems offer possibility of safe and effective sedation given by health care professionals who are not trained in general anesthesia.

Management of acute and chronic pain via continuous epidural, intrathecal, and peripheral nerve catheter techniques is safe and effective. The American Society for Pain Management (ASPMN), ASA, and the American College of Obstetricians and Gynecologists supports the role of RNs in management and care of patients

receiving analgesia by catheter techniques, including, but not limited to, analgesia by epidural, intrathecal, interpleural, and perineural routes of administration in patients of all ages, and in all care settings.

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. The use of these drugs to achieve analgesia is dose-dependent.

Palliative sedation is the monitored use of medications intended to induce varying degrees of unconsciousness, but not death, for relief of refractory and unendurable symptoms in imminently dying patients, such as in hospice settings. The Hospice and Palliative Nurses Association (HPNA) supports palliative sedation. Low-dose ketamine provides analgesia for the treatment of post-operative pain, neuropathic pain, and chronic pain, especially related to patients with opioid tolerance. Studies suggest that the use of low-dose ketamine is a useful adjunct to standard practice opioid analgesia, resulting in a decrease in opioid requirements in surgical and non-surgical patients; fewer interventions to manage severe pain; a positive impact on knee mobilization after total knee arthroplasty; a decrease in post-operative nausea and vomiting; and reduced pain scores for as long as one-year after surgery.

Laws and Rules

Washington State nursing law and rules do not explicitly permit or prohibit the administration and maintenance of analgesic, sedating, anesthetic, and reversal agents. The law and rules also do not address nurses administering medications that are prescribed for off-label use. RNs and LPNs are accountable and responsible for their individual practices (RCW 18.79, WAC 246-840). RNs may perform acts requiring substantial specialized knowledge, judgment, and skill; and they may execute medical regimens prescribed by authorized providers (RCW 18.79.040). These acts include the administration of medication, treatments, tests, and injections; whether or not piercing of tissues is involved and whether or not a degree of independent judgment and skill is required. RNs may also perform minor surgery (RCW 18.79.240). LPNs may execute medical regimens under the direction and supervision of an authorized provider or under the direction and supervision of an RN. LPNs may perform acts requiring knowledge, skill, and judgment in routine situations (WAC 246-840-705). In complex care situations, the LPN functions as an assistant to the RN or other authorized provider (WAC 246-840-705). WAC 246-919 defines analgesia and anesthesia requirements in office-based surgical settings; WAC 246-330 defines analgesia and anesthesia requirements in ambulatory surgical facilities; WAC 246-853 defines analgesia and anesthesia requirements for osteopathic physicians and surgeons; WAC 246-320 defines analgesia and anesthesia services in hospitals; and WAC 246-817 defines the requirements for administration of nitrous oxide for dental procedures.

The Centers for Medicare and Medicaid Services (CMS) requires that monitored anesthesia care (MAC) be administered by an anesthesia provider (2009). CMS defines an anesthesia provider as a practitioner qualified to administer anesthesia including an anesthesiologist, medical physician or doctor of osteopath, or certified registered nurse anesthetist (CRNA). CMS requires hospitals to have procedures for rescuing patients whose level of sedation become deeper than intended. Rescue requires intervention(s) by a practitioner with expertise in airway management and advanced life support. CMS requires a pre-anesthesia evaluation for each patient who receives general, regional or MAC. The pre-anesthesia evaluation may only be performed by an anesthesiologist; doctor of medicine or osteopathy; CRNA; and dentist, oral surgeon or podiatrist (following State law). While current practices dictate that patients receiving moderate sedation be monitored and evaluated before, during, and after the procedure, it is not required because moderate sedation is not considered to be anesthesia.

Recommendations

RNs and LPNs may administer topical (local) and minimal sedating agents for the purpose of anxiolysis. Because of the complexity of the activity, LPNs may not lead the activities involved in administering sedating or analgesic agents for regional, moderate, or deep sedation but may assist RNs in performing these activities. It may be within the RN's scope of practice to:

- Administer analgesic, sedating, and anesthetic agents for the purpose of regional and moderate sedation for non-intubated or intubated ventilated-patients.
- Administer analgesic, sedating, and anesthetic agents for regional, moderate, and deep sedation in intubated ventilated patients.
- Administer analgesic, sedating agents, and anesthetic agents for deep sedation for non-intubated patients as long an anesthesia professional is immediately available (as defined by the institution).
- Administer analgesic, sedating, and anesthetic agents using CAPS systems.
- Assist an anesthesia professional in administering sedating, analgesic, and anesthetic agents for general anesthesia as long the anesthesia professional is on the premises.
- Administer analgesic, sedating, and anesthetic agents for acute and chronic pain using low-dose anesthetics.
- Administer analgesic, sedating, and anesthetic agents for palliative sedation.
- Administer analgesic, sedating, and anesthetic agents for emergency care, including rapid sequence intubation.

Competencies

Institutions should have an educational and/or credentialing mechanism that includes a process for evaluating and documenting the nurse's competency on an initial and periodic basis (defined by the institution). Nurses managing and monitoring the care of patients receiving sedation and analgesia should demonstrate competency specific to the procedure, setting, and patient care needs.

Policies, Procedures and Clinical Guidelines

Policies and procedures should be based on current standards of practice, accreditation standards, regulations, or CMS requirements. These should be developed considering the purpose and setting (such as procedural care, palliative, care, emergency room care, acute care, and chronic pain management). Institutional policies and procedures may be more stringent.

Nursing Assessment and Documentation

It is not within the RN's or LPN's scope of practice to perform a medical pre-anesthesia assessment as required by CMS or accrediting organizations. It is expected that RNs would complete an appropriate age-specific nursing assessment and nursing plan of care; LPNs may assist in carrying out the assessment process and carrying out these plans. Frequency of assessment may be determined by institutional policy, patient condition, CMS requirements, and accreditation standards. The nurse should follow assessment and documentation standards and guidelines from the Association of periOperative Registered Nurses®, SGNA and/or HPNA.

Patient Monitoring

In some settings, the nurse administering the medication or monitoring the patient should not leave the patient unattended or perform other tasks that would compromise patient monitoring, including performance of the procedure itself. However, for patients receiving these medications for palliative care or chronic pain management, this level of monitoring may not be appropriate. The level of monitoring should be defined by institutional policy and/or in the nursing care plan based on current standards of care. Use of CAPS or other technological monitoring devices should be consistent with the manufacturer's recommendations and Food and Drug Administration (FDA) labeling requirements and ACA guidelines.

Resuscitation Equipment and Supplies

Resuscitation equipment and supplies should be age-appropriate, readily available, and appropriate for the setting and individual patient. These may include oxygen and oxygen delivery systems; suction devices and suction sources; cardiac and pulse oximetry; capnometry equipment, CAPS, infusion equipment; defibrillator; airways, intubation equipment, alternative airway systems and equipment; reversal agents, and ACLS medications.

However, for patients receiving these medications for palliative care or chronic pain management in non-traditional settings, these may not be appropriate.

Medication Preparation, Administration, and Security of Controlled Substances

Drugs must be prepared and administered following safe clinical practice standards. Nurses must follow federal and state regulations regarding security, storage, and inventory control for legend drugs and controlled substances.

Standards of Practice

The NCQAC recommends nurses follow best practice standards specific to the procedure, setting, and patient care needs. While this may not be inclusive, current resources include:

- ASPMN Position Statements, Standards, Guidelines, and Evidence-Based Research and Practice
  - Optimizing the Treatment of Pain in Patients with Acute Presentations
  - Use of "As-Needed" Range Orders for Opioid Analgesics in the Management of Pain: Consensus Statement of the American Society of Pain Management
  - Guidelines on Monitoring for Opioid-Induced Sedation and Respiratory Depression
  - Procedural Sedation Consensus Statement in Emergency Care Settings
  - RN Management and Monitoring of Analgesia by Catheter Techniques Position Statement
  - Procedural Pain Management: Position Statement with Clinical Practice Recommendations
  - Pain Management at End of Life Position Statement
  - Pain Management in Patients with Substance Abuse Disorders Position Statement
  - Optimizing the Treatment of Pain in Patients with Acute Presentations
- HPNA Position Statements
  - Palliative Sedation
- ASA Standards, Guidelines, Statements, and Other Documents
  - Statement on Regional Anesthesia
- SGNA Position Statments, Standards, Guidelines, and Evidence-Based Research and Practice
  - Role of GI RNs in the Management of Patients Undergoing Sedated Procedures
  - Guidelines for Documentation in the Gastrointestinal Endoscopy Setting
- ASGE Standards of Practice
  - Position Statement: Nonanesthesiologist Administration of Propofol for GI Endoscopy
  - Computer-Assisted Personalized Sedation
- American Association of Nurse Anesthetists (2005): RNs Engaged in the Administration of Sedation and Analgesia

Conclusion

The NCQAC concludes that RNs may administer these medications, monitor patients, administer rescue medications, and provide emergency care within their individual and legal scope of practice. LPNs may assist RNs in administering, monitoring, and providing care for the purpose of sedation and anesthesia within their individual and legal scope of practice. Nurses should be knowledgeable and familiar with their institution's policies and procedures, accreditation standards, and regulations that may apply in their facility.

References

Adam F. (2005). Small-Dose Ketamine Infusion Improves Postoperative Analgesia and Rehabilitation After Total Knee Arthroplasty. Anesth Analg: 100:475–80.

Akporehwe, N. A, (2006). Ketamine: a misunderstood analgesic? BMJ: 332:1466.

American College of Emergency Physicians. Procedural Sedation.

Bell RF, Dahl JB, Moore RA, Kalso E. (2005). Peri-Operative Ketamine for Acute Post-Operative Pain: A Quantitative and Qualitative Systematic Review (Cochrane Review Acta Anaesthesiol Scand: 49:1405—1428.

California Board of Registered Nursing: Conscious Sedation (1997).

CMS Manual System: Summary of Changes: Clarification of Anesthesia Services Pub. 100-07.

de Graeff A., Dean, M. (2007). Palliative Sedation Therapy in the Last Weeks of Life: A Literature Review and Recommendations for Standards, Journal of Palliative Medicine.

Elia N, & Tramer MR. [2005] Ketamine and postoperative pain – a quantitative systematic review of randomised trials. Pain: 113: 61–70.

Grande LA, et al. [2008] Ultra-Low Dose Ketamine and Memantine Treatment for Pain in an Opioid- Tolerant Oncology Patient. Anesth Analg: 107:1380 –3.

Fine, P.G. (2003). AAHPM: Ketamine: From Anesthesia to Palliative Care.

Guillou N, et al. [2003] The Effects of Small-Dose Ketamine on Morphine Consumption in Surgical Intensive Care Unit Patients After Major Abdominal Surgery. Anesth Analg: 97:843–7.

Joint Commission FAQ - Pre-Induction Assessment for Sedation and Anesthesia - CAMAC/Ambulatory Health Care

Kast, S. Spinal Block Versus Epidural Block: RN Journal.

Lahtinen, P. (2004). Ketamine as an Analgesic Adjunct Reduces Opioid Consumption After Cardiac Surgery. Anesth Analg: 99:1295-1301.

New England Journal of Medicine: Regulating Off-Label Drug Use - Rethinking the Role of the FDA.

Oregon State Board of Nursing: Policy Guideline: Nursing Scope of Practice for the Use of Sedating and Anesthetic Agents (2006).

Rakie, A. & Golumbiewski, J. [2009] Low-Dose Ketamine Infusion for Postoperatice Pain Management. J. of PeriAnesthesia Nursing: 24, 4:254-257.

Slatkin, N & Rhiner, M. [2003] Ketamine in the Treatment of Refractory Caner Pain: Case Report, Rationale, and Methodology. Journal of Supportive Oncology: 1.4:287-293.

Subramaniam K, Subramaniam B, Steinbrook RA. [2004] Ketamine as Adjuvant Analgesic to Opioids: A Quantitative and Qualitative Systematic Review. Anesth Analg: 99:482–95.

Suzuki M, et al. [2006] Low-dose Intravenous Ketamine Potentiates Epidural Analgesia after Thoracotomy. Anesthesiology: 105:111–9.

Webb AR, et al. [2007] The Addition of a Small-Dose Ketamine Infusion to Tramadol for Postoperative Analgesia: A Double-Blinded, Placebo-Controlled, Randomized Trial After Abdominal Surgery. Anesth Analg: 104:912–7.

Wolf, M.T. (2013). AANA Journal. Palliative Sedation in Nursing Anesthesia. 81(2).

Yamauchi M, et al. [2008] Continuous Low-Dose Ketamine Improves the Analgesic Effects of Fentanyl Patient-Controlled Analgesia After Cervical Spine Surgery. Anesth Analg: 107:1041–4.