



Arizona State Board of Nursing

1740 West Adams Street, Suite 2000
Phoenix, AZ 85007-2607
Phone (602) 771-7800
Home Page: <http://www.azbn.gov>

NOTE: An advisory opinion adopted by AZBN is an interpretation of what the law requires. While an advisory opinion is not law, it is more than a recommendation. In other words, an advisory opinion is an official opinion of AZBN regarding the practice of nursing as it relates to the functions of nursing. Facility policies may restrict practice further in their setting and/or require additional expectations related to competency, validation, training, and supervision to assure the safety of their patient population and or decrease risk.

OPINION: KETAMINE ADMINISTRATION
APPROVED: DATE: 11/15
REVISED DATE: 5/20, 7/21 1/25
ORIGINATING COMMITTEE:
SCOPE OF PRACTICE COMMITTEE

Within the Scope of Practice of ___ LPN X RN X APRN

ADVISORY OPINION: SUBANESTHETIC KETAMINE ADMINISTRATION

STATEMENT OF SCOPE

SCOPE OF PRACTICE:

It is within the Scope of Practice of a Registered Nurse (RN) to administer sub-anesthetic Ketamine (intravenous, intramuscular, oral, sublingual, subcutaneous, and intranasal). For use in sedation, refer to and follow the Sedation: Deep, Moderate, and Palliative Advisory Opinion.

The management of Ketamine in sub-anesthetic doses is within the Scope of Practice for an Advanced Practice Registered Nurse (APRN), based upon knowledge derived from the APRN's advanced education, evidence-based research, and/or established practice standards within an APRN's area of expertise, and in accordance with state rule R4-19-508F under A.R.S. § 32-1601(23). The APRN may perform additional acts that the APRN is qualified to perform and that are generally recognized as being within the role and population focus of certification.

It is not within the Advanced Practice Registered Nurse's scope of practice, who is not a Certified Registered Nurse Anesthetist, to manage Ketamine for the purpose of anesthesia.

It is NOT within the Scope of Practice of a Registered Nurse (non-CRNA) to administer IV Ketamine for the purposes of anesthesia. For ketamine given for sedation, refer to the Sedation: Deep, Moderate, and Palliative Advisory Opinion.

It is NOT within the Scope of Practice of a Registered Nurse (non-CRNA) to administer IV or intranasal Ketamine via bolus dose for analgesia, except in areas capable of monitoring and managing complications of unintended sedation as per the Sedation: Deep, Moderate, and Palliative Advisory Opinion.

I. GENERAL REQUIREMENTS:

1. Advanced Practice Registered Nurse
 - a. Written policies and procedures are developed and maintained by the employer/facility. These policies must include, but are not limited to:
 1. Low-dose (sub-anesthetic) Ketamine must be prescribed within applicable legal and policy constraints by a credentialed and privileged licensed practitioner (LP).
 - b. ACLS/PALS provider is readily available in the facility from the time the medication is initiated until completion of the continuous infusion, intranasal, or IV bolus. A validated sedation scale is used (e.g., Richmond Agitation Sedation Scale, Sedation Agitation Scale) to monitor for unintended sedation.
 - c. Guidelines and equipment for patient monitoring, drug administration, and addressing potential complications.
 - d. IV Ketamine infusion is prepared by pharmacy.
 - e. If utilizing IV Ketamine, infuse IV Ketamine via a dedicated IV line using an IV infusion pump preferably with smart pump technology.
 - f. Orders need to be individualized, and based upon the patient-specific needs with a medical rationale for the order. Issuing standing orders for Ketamine by an APRN for a nurse or other healthcare staff member to follow contradicts the Arizona State Board of Nursing's 2017 Advisory Opinion regarding standing orders, and does not satisfy the APRN's duties to the patient.
2. Registered Nurse
 - a. Only RNs who have completed an instructional program and have had supervised clinical practice can administer Ketamine.
 - b. Specific requirements related to route/purpose of administration:
 - i. RNs must follow the Sedation: Deep, Moderate, and Palliative advisory opinion.
 - ii. Specific orders for titration including dose and assessment via validated scale
 - iii. If utilizing IV Ketamine, RNs may adjust the rate of infusion per a patient-specific order only.sdf
 - c. Orders need to be individualized, and based upon the patient-specific needs with a medical rationale for the order. Issuing standing orders for Ketamine by an APRN for a nurse or other healthcare staff member to follow contradicts the Arizona State Board of Nursing's 2017 Advisory Opinion regarding standing orders, and does not satisfy the APRN's duties to the patient.
 - d. RNs have the right and obligation to refuse to administer continuous IV Ketamine infusion that may induce moderate or deep sedation or anesthesia when the intent is for chronic pain or depression.
 - e. Minimum monitoring requirements include pulse oximetry, vital signs and level of sedation, adverse reactions.

II. COURSE OF INSTRUCTION

1. Only the RNs who have the knowledge and have demonstrated competency may administer (sub-anesthetic) Ketamine The instructional program includes but is not limited to
 - a. Anatomy and physiology of the respiratory system including principles of oxygen delivery, gas exchange, transport and uptake.

- b. Use of specialized monitoring equipment, validated assessment scale, sedation scale, pain scale, and IV infusion pump with smart pump technology
 - c. Ketamine: Drug classification (general anesthetic), controlled substance preparation, onset, duration, desired effect, sub-anesthetic dose range, indications, contraindications, medication interactions, side effects, and adverse reactions
 - d. Recognition of potential clinical complications and appropriate nursing interventions including unintended sedation.
 - e. Levels of sedation (minimal, moderate, deep, and anesthesia)
 - f. Nursing care responsibilities including but not limited to assessment, frequency of vital signs, monitoring, documentation and emergency management.
2. Completion of education and supervised clinical practice competency is available on file with the employer.

III. RATIONALE:

Clinical studies have shown that Ketamine has become a treatment modality for a variety of conditions. A Registered Nurse may acquire the knowledge and skill required to safely administer Ketamine (an anesthetic agent) at sub-anesthetic doses.

The ultimate responsibility of the RN is to assure patient safety and this independent obligation under his or her licensure supersedes any LP order or facility policy.

IV. DEFINITIONS:

Anesthetic agents are medications which cause partial or complete loss of sensation with or without loss of consciousness.

Immediately available is defined as being present in the facility and not otherwise engaged in any other uninterruptable procedure or task.

IV bolus is a small volume of medication or large volume solution that is given rapidly intravenously (IV) to hasten or magnify the response.

Minimal sedation (anxiolysis) is a drug-induced state during which patients respond normally to verbal commands, may have impaired cognitive function or coordination but respiratory and cardiovascular functions remain stable.

Moderate sedation (procedural or conscious sedation) is defined as “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. Centers for Medicare and Medicaid Services (CMS) consistent with American Society of Anesthesiologist (ASA) guidelines, does not define moderate or conscious sedation as anesthesia” (CMS, 2011).

Deep sedation is a drug-induced depression of consciousness during, which patient cannot be easily aroused but responds purposefully, following repeated or painful stimulation. While, cardiovascular function is usually maintained, the ability to independently maintain respiratory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate, therefore the patient must be intubated and mechanically ventilated.

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

General anesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. General anesthesia affects the patient’s ability to maintain an adequate

airway and respiratory function and may impair cardiovascular function.

Palliative sedation is the monitored use of medications at end of life *intended to provide relief of intolerable and refractory symptoms but not to intentionally hasten death*. This distinction separates it from euthanasia and/or assisted suicide where the intent is solely to end life. A refractory symptom is one that cannot be controlled in a tolerable time frame despite use of therapies and seems unlikely to be controlled by further therapies without excessive or intolerable acute or chronic side effects/complications.

Rapid sequence intubation (RSI) or drug assisted intubation (DAI) is an airway management technique in which a powerful sedative or anesthetic induction agent is administered virtually simultaneously with a paralytic agent.

V. REFERENCES:

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