Wisconsin Department of Safety and Professional Services
Division of Policy Development
4822 Madison Yards Way
PO Box 8366
Madison WI 53705-8366

Phone: 608-266-2112
Web: http://dsps.wi.gov
Email: dsps@wisconsin.gov

Tony Evers, Governor
Dan Hereth, Secretary

VIRTUAL/TELECONFERENCE
INTERDISCIPLINARY ADVISORY COMMITTEE
Virtual, 4822 Madison Yards Way, Madison
Contact: Brad Wojciechowski (608) 266-2112
December 10, 2025

The following agenda describes the issues that the Committee plans to consider at the meeting. At the time of the meeting, items may be removed from the agenda. Please consult the meeting minutes for a record of the actions of the Committee.

AGENDA

9:30 A.M.

OPEN SESSION – CALL TO ORDER – ROLL CALL

A. Adoption of Agenda (1-2)

B. Approval of Minutes of October 22, 2025 (3-4)

C. Conflicts of Interest, Scheduling Concerns

D. Introductions, Announcements and Recognition

E. Administrative Matters – Discussion and Consideration

1. Department, Staff and Committee Updates
2. Committee Members – Committee Member Status
   a. Englebert, Doug – Controlled Substances Board Representative
   b. Kane, Amanda K. – Board of Nursing Representative
   c. Schmeling, Gregory – Medical Examining Board Representative
   d. Streit, Tara E. – Physician Assistant Affiliated Credentialing Board Representative
   e. Watkins, Alexis – Cosmetology Examining Board Representative
   f. Weitekamp, John G. – Pharmacy Examining Board Representative
3. Alternates
   a. Bloom, Alan – Controlled Substances Board Representative
   b. Edwards, Jacqueline K. – Physician Assistant Affiliated Credentialing Board Representative
   c. Malak, Jennifer L. – Board of Nursing Representative
   d. McIntosh, Dana – Cosmetology Examining Board Representative
   e. Wilson, Christa M. – Pharmacy Examining Board Representative
   f. Yu, Emily S. – Medical Examining Board Representative

F. Rules, Regulations and Guidance related to Ketamine Clinics in Other States – Discussion and Consideration (5-46)

G. Public Comments

ADJOURNMENT

NEXT MEETING: FEBRUARY 25, 2026

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MEETINGS AND HEARINGS ARE OPEN TO THE PUBLIC, AND MAY BE CANCELLED WITHOUT NOTICE.

Times listed for meeting items are approximate and depend on the length of discussion and voting. All meetings are held virtually unless otherwise indicated. In-person meetings are typically conducted at 4822 Madison Yards Way, Madison, Wisconsin, unless an alternative location is listed on the meeting notice. In order to confirm a meeting or to request a complete copy of the board's agenda, please visit the Department website at https:\\dsps.wi.gov. The board may also consider materials or items filed after the transmission of this notice. Times listed for the commencement of any agenda item may be changed by the board for the convenience of the parties. The person credentialed by the board has the right to demand that the meeting at which final action may be taken against the credential be held in open session. Requests for interpreters for the hard of hearing, or other accommodations, are considered upon request by contacting the Affirmative Action Officer or reach the Meeting Staff by calling 608-267-7213.

DRAFT

VIRTUAL/TELECONFERENCE
INTERDISCIPLINARY ADVISORY COMMITTEE
MEETING MINUTES
OCTOBER 22, 2025

PRESENT: Doug Englebert, Amanda Kane, Gregory Schmeling, Tara Streit, Alexis Watkins, John Weitekamp

STAFF: Brad Wojciechowski, Executive Director; Renee Parton, Assistant Deputy Chief Legal Counsel; Nilajah Hardin, Administrative Rule Coordinator; Tracy Drinkwater, Board Administration Specialist; and other DSPS Staff

CALL TO ORDER

Doug Englebert, Chairperson, called the meeting to order at 9:30 a.m. A quorum of six (6) members was confirmed.

ADOPTION OF AGENDA

MOTION: Tara Streit moved, seconded by Alexis Watkins, to adopt the Agenda as published. Motion carried unanimously.

APPROVAL OF MINUTES OF AUGUST 27, 2025

MOTION: Amanda Kane moved, seconded by Tara Streit, to approve the Minutes of August 27, 2025, as published. Motion carried unanimously.

Draft IV Hydration Guidance Documents

MOTION: Alexis Watkins moved, seconded by John Weitekamp, to acknowledge receipt of comments from the participating boards and the public. Motion carried unanimously.

MOTION: Gregory Schmeling moved, seconded by Amanda Kane, to adopt the IV Hydration Guidance Document as presented and finalize for publication. Motion carried unanimously.

FUTURE TOPICS

MOTION: Gregory Schmeling moved, seconded by Doug Englebert, to recommend IAC review the administration of Ketamine as the committee's next topic for consideration. Motion carried unanimously.

MOTION: Gregory Schmeling moved, seconded by John Weitekamp, to request the Wisconsin Pharmacy Examining Board consider drafting guidance on compounding pharmacies, Phar 15 and Semaglutides/Tirzepatide production. Motion carried unanimously.

ADJOURNMENT

MOTION: Tara Streit moved, seconded by Amanda Kane, to adjourn the meeting. Motion carried unanimously.

The meeting adjourned at 9:44 a.m.

State of Wisconsin
Department of Safety & Professional Services

AGENDA REQUEST FORM

1) Name and title of person submitting the request:	2) Date when request submitted:
Brad Wojciechowski, Executive Director	11/24/2025
	Items will be considered late if submitted after 12:00 p.m. on the deadline date which is 8 business days before the meeting

3) Name of Board, Committee, Council, Sections:

Choose an item. **Interdisciplinary Advisory Committee**

4) Meeting Date:	5) Attachments:	6) How should the item be titled on the agenda page?
12/10/2025	☒ Yes ☐ No	Rules, Regulations and Guidance related to Ketamine Clinics in Other States – Discussion and Consideration

7) Place Item in:	8) Is an appearance before the Board being scheduled? *(If yes, please complete Appearance Request for Non-DSPS Staff)*	9) Name of Case Advisor(s), if applicable:
☒ Open Session ☐ Closed Session	☐ Yes <Appearance Name(s)> ☐ No	<Click Here to Add Case Advisor Name or N/A>

10) Describe the issue and action that should be addressed:

Rules, Regulations and Guidance documents from the following jurisdictions:
Alabama Board of Medical Examiners
Alaska Board of Nursing
Arizona Board of Nursing
Arkansas Board of Nursing
Georgia Board of Nursing
Kentucky Board of Nursing
Louisianna Board of Medical Examiners
Minnesota Board of Nursing
Nebraska Board of Nursing
New Mexico Boards of Nursing and Medical Examiners and Medicine Reviewed by Board of Pharmacy (joint statement)
South Carolina Boards of Medical Examiners, Nursing, and Pharmacy (joint statement)

11) Authorization

Signature of person making this request	Date: 11/20/2025
Supervisor (Only required for post agenda deadline items)	Date
Executive Director signature (Indicates approval for post agenda deadline items)	Date

Directions for including supporting documents:

1. **This form should be saved with any other documents submitted to the Agenda Items folders.**
2. **Post Agenda Deadline items must be authorized by a Supervisor and the Policy Development Executive Director.**
3. **If necessary, provide original documents needing Board Chairperson signature to the Bureau Assistant prior to the start of a meeting.**

Alabama State Board of Medical Examiners

Position Statement on the Off-Label Use of Ketamine for the Treatment of Treatment-Resistant Depression in Outpatient Settings

The Alabama State Board of Medical Examiners ("the Board"), the licensing and regulatory agency for physicians and osteopaths, is charged with protecting the health and safety of Alabama patients. In furtherance of this duty, the Board attempts to ensure that only those physicians who hold a valid medical license practice medicine in the state. The practice of medicine means "[t]o diagnose, treat, correct, advise, or prescribe for any human disease, ailment, injury, infirmity, deformity, pain, or other condition, physical or mental, real or imaginary, by any means or instrumentality." Ala. Code § 34-24-50.

Recent national trends in the off-label use of ketamine have created situations in which non-physician healthcare providers are prescribing and administering ketamine in outpatient settings for the treatment of treatment-resistant depression ("TRD"). Ketamine is a Schedule III controlled substance approved by the United States Food and Drug Administration ("FDA") for the induction and maintenance of general anesthesia. Though research is showing efficacy, ketamine, with the exception of intranasal esketamine (SPRAVATO®), is not currently FDA approved for the treatment of any mental health condition, including TRD, post-traumatic stress disorder or severe suicidal ideation.

It is the position of the Board that the off-label use of ketamine in Alabama for TRD constitutes the practice of medicine. Prior to the administration of ketamine one must obtain written informed consent, conduct a comprehensive history and physical, determine whether a patient is an appropriate candidate for the drug, advise patients how to utilize the drug in treatment of TRD, prescribe and administer the drug, and monitor the patient for adverse reactions.

Only a licensed physician may prescribe ketamine due to the complexity and risks associated with use of the anesthetic agent. When a physician prescribes ketamine for TRD, other licensed professionals may assist in its administration as long as the prescribing physician remains onsite and the licensed professional is under the physician's supervision. The safety requirements governing the use of moderate sedation described in Ala. Admin. Code r. 540-X-10-.06 must be followed when administering ketamine outside of a hospital setting.

There is a substantial risk of harm to the patient whenever ketamine is used. Administration of the drug can lead to life-threatening consequences including respiratory failure, cardiac events and seizures. Physicians using the anesthetic agent for the treatment of TRD in outpatient settings should take all necessary precautions to avoid any untoward event and should consult the guidelines issued by the Board.

Alabama State Board of Medical Examiners

Guidelines for the Off-Label Use of Ketamine for the Treatment of Treatment-Resistant Depression[1] in Outpatient Settings[2]

Who Can Prescribe?

Ketamine must be prescribed by a physician who holds an active license to practice medicine in Alabama. The physician must be trained in the use of ketamine and the diagnosis and treatment of treatment-resistant depression ("TRD"). If the administering physician is not a psychiatrist, a diagnosis of TRD must be confirmed by a psychiatrist prior to initiating treatment.

Patient Selection[3]

Patients must have a current diagnosis of major depressive disorder as defined by The Diagnostic and Statistical Manual of Mental Illnesses (DSM-5-TR) OR have major depressive disorder with suicidal ideation for which a rapid treatment onset is important.

Ketamine should not be used as a first-line treatment for depression. Ketamine should only be considered after a failed response to an adequate trial of at least two antidepressants from at least two different antidepressant classes of adequate dose and duration. Whether ketamine is an appropriate treatment for a particular patient shall be determined by clinical interview or use of a standardized depression scale.

Exclusion Criteria

Ketamine should not be administered to patients with a current diagnosis or history of schizophrenia, schizoaffective disorder, patients with current uncontrolled hypertension, patients who are pregnant, or patients who have had previous serious adverse effects to ketamine. Ketamine

[1] These guidelines apply only to the off-label use of racemic ketamine for treatment-resistant depression and not the administration of intranasal esketamine (SPRAVATO®) when used in accordance with FDA guidelines.

[2] These guidelines do not apply to anesthesiologists administering ketamine for the induction and maintenance of anesthesia in a hospital setting or to physicians administering ketamine for palliative care.

[3] The Board developed these guidelines after review and consideration of *Ketamine Infusion for Treatment Resistant Depression and Severe Suicidal Ideation*, the National Protocol Guidance published by the Department of Veterans Affairs in February 2022.

should not be used in individuals with previous or current ketamine use disorder. Physicians must use extreme caution when using ketamine in individuals with a history of or active substance use disorder. Physicians should not administer ketamine to patients who are acutely intoxicated.

Required Medical Screening

Physicians must obtain written informed consent, a complete history and physical, including a history of previous antidepressant use, conduct a physical examination, obtain a urine toxicology screen, and obtain informed consent prior to the administration of ketamine. Physicians should prescribe the minimum dose necessary to achieve the desired clinical effect.

Requirements for Location of Administration, Monitoring and Recovery

Ketamine should be administered in a space large enough to accommodate the patient and required personnel.

Ketamine should be administered in a facility which has the means to monitor a patient's heart rate, blood pressure, respiratory rate and oxygen saturation level. Oxygen and medications must be available in the event of sustained alterations in cardiovascular function or potentially dangerous behavioral symptoms by the patient during treatment.

A crash/code cart must be readily accessible.

The prescribing physician must be ACLS certified and trained to establish an airway if necessary.

When a physician prescribes ketamine for TRD, other licensed professionals may assist in the administration of ketamine and psychotherapy as long as the prescribing physician remains onsite and the licensed professional is under the physician's supervision. Licensed professionals who assist in the administration of ketamine must also be ACLS certified.

The prescribing physician or ACLS certified licensed professional must be present during the administration of ketamine. The patient should remain at the outpatient setting for monitoring. The physician must monitor the patient for at least two hours after the administration of ketamine. The physician must monitor the patient's blood oxygen saturation level, blood pressure and heart rate every five to fifteen minutes, and monitor the patient's level of consciousness / mental status by watching for signs of dissociation or distress. The monitoring of the patient can be delegated to other licensed professionals as long as the physician remains onsite.

The physician should have patients complete a questionnaire such as the Patient Health Questionnaire-9 in order to evaluate whether ketamine is providing the desired response. The physician should discontinue use of the anesthetic agent if the patient shows no improvement after a reasonable trial of four to six infusions.

Treatment by psychotherapy should be considered in tandem with ketamine administration.

Dosing and Titration

The physician must determine the appropriate dose for each patient. The most common dose is 0.5 mg/kg of body weight administered by IV infusion over 40 minutes. Higher doses may be more likely to result in adverse cardiovascular effects.

Ketamine infusions should not be given more than twice a week.

Safety Precautions

A physician should never allow the patient to administer ketamine for psychiatric reasons at home and should never allow a family member to monitor the patient.

The infusion should be discontinued if there is a significant increase in blood pressure or heart rate, the patient develops respiratory symptoms such as shortness of breath or wheezing, or if there is evidence of cardiac involvement.

After an infusion of ketamine, the patient should not drive or operate machinery for the remainder of the day.

The patient must be driven home by a caregiver.

Alaska State Board of Nursing Advisory Opinion

Explanatory Statement about Advisory Opinions

An advisory opinion adopted by the Alaska Board of Nursing 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 the Alaska Board of Nursing regarding the practice of nursing as it relates to the health and safety of the Alaska healthcare consumer. Facility policies may restrict practice further in their setting and/or require additional expectations related to competency, validation, training and supervision to assure safety of their patient.

IV Drug Administration of Ketamine for the Treatment of the Post-Operative, Opioid Tolerant Adult Patient by a Registered Nurse (RN).

This advisory opinion CAN NOT be construed as approval for the RN (non-CRNA) to administer an anesthetic agent for the purposes of anesthesia.

Background: Ketamine is identified by the Federal Drug Administration as an intravenous anesthetic agent. However, within the last 10 years, although not licensed for this purpose, low-dose Ketamine has also been found to aid in providing analgesia in the treatment of post-operative pain for the opioid tolerant patient. Recent clinical studies suggest that in the majority of opioid tolerant post-operative patients, the use of low-dose Ketamine is a useful adjunct to standard practice opioid analgesia. That is, the use of Ketamine concurrent with reduced levels of opioids results in a decrease in the total amount of opioid medication required to manage post-operative pain. As a result, the risk of respiratory depression secondary to increased opioid administration is reduced. [1, 2, 3, 4, 5, 6, 7, 8]

The intent of administering low-dose Ketamine is to provide analgesia for the treatment of post operative pain in the opioid tolerant adult patient. This procedure is performed by RN's with additional education, skills, and demonstrated competency.

The use of Ketamine in the post-operative, opioid tolerant adult patient does carry risks. Psychomimetic side effects may include out of body experiences, hallucinations, delusions, and delirium. Ketamine increases heart rate and blood pressure, and when given in anesthetic doses, can cause respiratory depression. Additionally, there are no effective reversal agents to counteract Ketamine. Therefore, the Board of Nursing for the State of Alaska finds it acceptable for an RN to administer low-dose ketamine post-operatively to opioid tolerant adult patients *only* if all of the following criteria are met:

I. Ketamine is ordered by an "Appropriate Provider". For the purposes of this advisory opinion, an "Appropriate Provider" is defined as either an anesthesia provider or an appropriately credentialed licensed independent practitioner (LIP). In order for an RN to be involved in the administration and monitoring of a low-dose Ketamine infusion on a post-operative, opioid tolerant adult patient, appropriate providers must:
    1. Evaluate (assess) the patient candidates for low-dose Ketamine prior to prescribing & initiating the infusion.
    2. Use a patient-specific order for the Ketamine infusion not to exceed a maximum dosage of 1.0 mg/kg/hr.
    3. Administer the initial low-dose Ketamine infusion, and the initial dose after an infusion rate increase.
    4. Not use "standing" orders, "verbal " orders, or "telephone" orders as a means of increasing infusion rates, and perform in-person assessments prior to any infusion rate increases. Providers from the same service may perform assessments, but only in cases of documented emergencies may providers from outside the service perform assessments.

5. Ensure the patient is re-evaluated by the prescribing provider (or a provider from the same service) at least every 24 hours for the duration of the Ketamine infusion.

II. Pharmacy: All low-dose Ketamine infusions will be prepared *only* by the pharmacy. Ketamine is a schedule III drug and will only be administered in a locked IV infusion control device.

III. Facility: The facility will develop a written policy and procedure specifying the RNs role in the administration of low-dose Ketamine. This policy must clearly define the difference between the pain management dose and the anesthetic dose and the policy and procedure must always be easily accessible to the RN. The facility will also provide RNs with competency education about the safe administration and monitoring of Ketamine and maintain records to show initial and ongoing competence.

IV. Registered Nurse: The following criteria must be followed whenever an RN is involved in the administration and monitoring of an opioid tolerant, post-operative adult patient receiving a Ketamine infusion. RNs must:

1. Demonstrate competency through completion of a competency course covering low-dose Ketamine administration and monitoring.
2. Be ACLS certified.
3. Have a patient/nurse ratio no greater than 3:1, where only one patient is receiving a Ketamine infusion.
4. Maintain continuous monitoring of the patient's respirations, heart rate & rhythm, and oxygen saturation.
5. Maintain intermittent monitoring of patient's blood pressure per unit policy.
6. Evaluate patients for alertness, orientation, and sedation (using an appropriate sedation scoring system) per unit policy.
7. Monitor patients for psychomimetic adverse effects such as: hallucinations, out of body experiences, delusions, and/or delirium per unit policy, immediately reporting any of these adverse effects to the ordering provider, or provider from the same service.
8. Infuse low-dose Ketamine through its own dedicated IV line or via the most proximal port of a carrier solution using port-less IV tubing (to avoid an inadvertent Ketamine bolus). RNs will NOT bolus low-dose Ketamine.

Adopted April 2014

References:

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

2. Barreveld, A.M., Correll, D.J., Xiaoxia, L, Bryan, M., McGowan, J.A., Shovel, L., Wasan, A.D., Nedeljkovic, S.S. (2013) Ketamine decreases postoperative pain scores in patients taking opioids for chronic pain:results ofa prospective, randomized, double-blind study. *Pain Medicine, 14(6)*, 925-934.

3. 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.

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

5. 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.

6Kim, S.H. Kim, S.L., Ok, S.Y., Kim, M.G., Lee, S.J., Noh, J.I., Chun, H.R. & Suh, H. (2013) Opioid sparing effect of low dose ketamine in patients with intravenous patient-controlled analgesia using fentanyl after lumbar spine fusion surgery. *Korean Journal of Anesthesiology, 64 (6),* 524-528.

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

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

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.

10. 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.

Katie Hobbs
Governor

Joey Ridenour
Executive Director

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 <u>not</u> 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 forMedicare 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:

Alaska Board of Nursing. (2023). *Advisory opinion: Registered nurse administration of sedating and anesthetic agents.* https://www.commerce.alaska.gov/web/portals/5/pub/nur1809.pdf

Arizona State Board of Nursing. (2023). *Advisory opinion: Sedation: Deep, moderate, and palliative.*

Ahern, T.L., Herring, A.A., Miller, S., & Frazee, B.W. (2015). Low-dose Ketamine infusion for emergency department patients with severe pain. Pain Medicine, 16(7), 1402-1409.

Ahern, T.L., Herring, A.A., Stone, M.B., & Frazee, B.W. (2013). Effective analgesia with low- dose Ketamine and reduced dose of hydromorphone in ED patients with severe pain. *American Journal of Emergency Medicine, 31,* 847-851

Beaudoin, F.L., Lin, C., Guan, W., & Merchant, R.C. (2014). Low-dose Ketamine improves pain relief in patients receiving intravenous opioids for acute pain in the emergency department: Results of a randomized, double-blind, clinical trial. *Academic Emergency Medicine, 21*(11), 1193-1202.

Ben-Paul U., Tekwani, K., Barounis, D., Kettaneh, N., & Kulstad, E. (2015) Ketamine for continuous sedation of mechanically ventilated patients. *Journal of Emergencies, Trauma, and Shock, 8*(1), 11-15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4335149/

Bouida, W., Bel Haj Ali, K., Ben Soltane, H., Msolli, M. A., Boubaker, H., Sekma, A., Beltaief, K., Grissa, M. H., Methamem, M., Boukef, R., Belguith, A., & Nouira, S. (2020). Effect on opioids requirement of early administration of intranasal Ketamine for acute traumatic pain. *The Clinical Journal of Pain*. Advance online publication. https://doi.org/10.1097/AJP.0000000000000821

Buchheit, J. L., Yeh, D. D., Eikermann, M., & Lin, H. (2019). Impact of low-dose Ketamine onthe usage of continuous opioid infusion for the treatment of pain in adult mechanically ventilated patients in surgical intensive care units. *Journal of Intensive Care Medicine, 34*(8), 646–651. https://doi.org/10.1177/0885066617706907

Caddy C., Giaroli G., White T. P., Shergill S. S., & Tracy D. K. (2014). Ketamine as the prototype

glutamatergic antidepressant: Pharmacodynamic actions, and systematic review and meta-analysis of efficacy. *Therapeutic Advances in Psychopharmacology, 4*(2), 75-99. https://doi.org/10.1177/2045125313507739

Certified Registered Nurse Anesthetist; Scope of Practice; Physician and Surgeon Immunity, Arizona Revised Statutes, § 32-1634.04. https://www.azleg.gov/ars/32/01634-04.htm

Jouguelet-Lacoste, J., LaColla, L., Shilling, D., & Chelly, J.E. (2015). The use of intravenous infusion or single dose of low-dose Ketamine for postoperative analgesia: A review of the current literature. *Pain Medicine, 16*(2), 383-403.

Merelman, A., Perlmutter, M., & Strayer, R. (2019). Alternatives to rapid sequence intubation: Contemporary airway management with Ketamine. *Western Journal of Emergency Medicine, 20*(3), 466–471. https://doi.org/10.5811/westjem.2019.4.42753

Miller, J.P., Schauer, S.G., Ganem, V.J., & Bebarta, V.S. (2015). Low-dose Ketamine vs morphine for acute pain in the ED: A randomized controlled trial. *American Journal of Emergency Medicine, 33*(3), 402-408.

Mo, H., Campbell, M., Fertel, B., Lam, S., Wells, E., Casserly, E., & Meldon, S. (2020). Ketamine safety and use in the emergency department for pain and agitation/delirium: A health system experience. *Western Journal of Emergency Medicine, 21*(2), 272–281 https://doi.org/10.5811/westjem.2019.10.43067

Minnesota Board of Nursing. (2016, October). *Statement of accountability by the registered nurse for administration of medications classified as anesthetics* https://mn.gov/boards/nursing/practice/nursing- practice-topics/rn-admin-anesthetics.jsp

New York State Office of the Professions-Nursing. (2011, June). *IV drug administration of Ketamine for the treatment of intractable pain*. http://www.op.nysed.gov/prof/nurse/nurse-iv- ketamine.

Washington State Department of Health Nursing Care Quality Assurance Commission. (2015 March 13). *Advisory opinion 7.1: Administration of sedating, analgesic, and anesthetic agents*. https://www.doh.wa.gov/Portals/1/Documents/6000/NCAO7.pdf

Wyoming State Board of Nursing. (2019, July). *Advisory opinion*: *Ketamine* https://drive.google.com/file/d/1Q-WU9HF5FZi-2sYobOh1r3UQ20aDnAKs/view

ARKANSAS STATE BOARD OF NURSING
1123 S. University Ave., Suite 800
Little Rock, AR 72204
501.686.2700

Arkansas Department of Health
Division of Healthcare Related Boards & Commissions

POSITION STATEMENT
94-1
Role of the Registered Nurse in the Management of Patients Receiving Moderate Sedation, Anesthetic Agents or Neuromuscular Blocking (paralytic) Agents For Therapeutic or Diagnostic Procedures

The Arkansas State Board of Nursing has determined that it is within the scope of practice of a registered nurse (RN) who has demonstrated competency to administer pharmacologic agents under direct supervision of a physician or advanced practice registered nurse (APRN) to produce moderate sedation and to assist in rapid sequence intubation (RSI). Air and surface transport RNs in the field may administer pharmacologic agents under the direction of the physician or APRN. Consistent with state law, the attending physician, APRN, or a qualified provider must order the drugs, dosages, and concentrations of medications to be administered to the patient. Optimal anesthesia care is best provided by anesthesiologists and certified registered nurse anesthetists (CRNAs). The Board recognizes that the demand in the practice setting necessitates non-APRN RNs to administer anesthetic agents or neuromuscular blocking (paralytic) agents in specific circumstances. **The RN shall have the educational preparation and clinical competence to administer anesthetic agents or neuromuscular blocking (paralytic) agents** to assist in moderate sedation, RSI, therapeutic, or diagnostic procedures.

These specific circumstances include:

1. The RN administering a continuous infusion of an anesthetic agent or neuromuscular blocking (paralytic) agent to a hospitalized patient who is intubated and ventilated in an acute care setting for the purposes of maintaining comfort, stable oxygenation and ventilation, and a viable airway. A physician qualified in the administration of anesthetics or an APRN shall determine the continuous infusion dosage. Dose titrations and boluses of subsequent anesthetic agents or neuromuscular blocking (paralytic) agents to be administered to the intubated and ventilated patient may be administered by the RN upon specific orders or protocols by a physician or APRN.
2. The RN administering sedation for comfort care in the final hours of life under the direction of a physician or APRN.
3. The RN administering sedation for procedure where the physician or APRN is present but unable to personally inject the agents because the physician or APRN is performing the critical procedure of emergent intubation.
4. The air and surface transport RN administering sedation for a procedure in the field setting under the direction of a physician or APRN.
5. The RN administering anesthetic agents in placement of peripheral nerve blocks that may require the use of both hands of the physician or APRN to not compromise patient safety.
6. The RN administering anesthetic agents for therapeutic care including pain management or treatment of agitated delirium.

As with all areas of nursing practice, the RN shall apply the *Nurse Practice Act* and *Rules* to the specific practice setting, and shall utilize good professional judgment in determining whether to engage in a given patient-care related activity.

Employing facilities shall have policies and procedures to guide the RN. The Arkansas State Board of Nursing has adopted the attached guidelines.

Adopted November 1994
Revised September 17, 2009
Revised September 12, 2014
Revised May 11, 2017

POSITION STATEMENT 94-1 GUIDELINES

Position Statement on the Role of the Registered Nurse (RN) in the Management of Patients Receiving Moderate Sedation, Anesthetic Agents or Neuromuscular Blocking (paralytic) agents For Therapeutic or Diagnostic Procedures

A. Definition of Moderate Sedation.

The American Society of Anesthesiologists (ASA) defines the various levels of sedation and anesthesia that are now incorporated into this statement. (ASA Statement on Granting Privileges for Administration of Moderate Sedation to Practitioners Who are not Anesthesia Professionals, approved by ASA House of Delegates on October 25, 2005, and amended on October 19, 2011).

"Moderate Sedation/Analgesia" 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. Also, note that procedural sedation involves the use of sedative and analgesic agents to reduce the anxiety and pain suffered by patients during procedures (American College of Emergency Physicians [ACEP] Policy Statement, Sedation in the Emergency Department, Approved by the ACEP Board January 13, 2011).

"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.

Rescue of a patient from a deeper level of sedation than intended is an intervention by a practitioner proficient in anesthesia care, proficient in airway management, and trained in advanced life support. The qualified anesthesia 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.

"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.

B. Position Statement 94-1 Guidelines for Management and Monitoring

It is within the scope of practice of a registered nurse to manage the care of patients receiving moderate sedation during therapeutic or diagnostic procedures provided the following criteria are met:

1. Administration of moderate sedation medications by non-anesthetist RNs is allowed by state laws and institutional policy, procedures, and protocol.
2. An anesthesia provider or attending physician selects and orders the medications to induce moderate sedation.
3. Guidelines for patient monitoring, drug administration, and protocols for dealing with potential complications or emergency situations are available and have been developed in accordance with accepted standards of anesthesia practice.
4. The RN managing the care of the patient receiving moderate sedation shall have no other responsibilities that would leave the patient unattended or compromise continuous monitoring.
5. The RN managing the care of the patient receiving moderate sedation is able to:
    a. Demonstrate the acquired knowledge of anatomy, physiology, pharmacology, cardiac dysrhythmia recognition and complications related to moderate sedation and medications.

b. Assess total patient care requirements during moderate sedation and recovery. Physiologic measurements should include, but not be limited to, respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm, and patient's level of consciousness.
c. Understand the principles of oxygen delivery, respiratory physiology, transport and uptake, and demonstrate the ability to use oxygen delivery devices.
d. Anticipate and recognize potential complications of moderate sedation in relation to the type of medication being administered.
e. Possess the requisite knowledge and skills to assess, identify and intervene in the event of complications or undesired outcomes and to institute nursing interventions in compliance with orders (including standing orders) or institutional protocols or guidelines.
f. Demonstrate skill in airway management resuscitation.
g. Demonstrate knowledge of the legal ramifications of administering moderate sedation or monitoring patients receiving moderate sedation, including the RN's responsibility and liability in the event of an untoward reaction or life threatening complication.

6. The institution or practice setting has in place an education and competency validation mechanism that includes a process for evaluating and documenting the RNs demonstration of the knowledge, skills, and abilities related to the management of patients receiving moderate sedation. Evaluation and documentation of competence occurs on a periodic basis according to institutional policy.

C. Additional Guidelines

1. Intravenous access must be continuously maintained in the patient receiving moderate sedation.
2. All patients receiving moderate sedation will be continuously monitored throughout the procedure as well as the recovery phase by physiologic measurements including, but not limited to, respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm, and patient's level of consciousness.
3. Supplemental oxygen will be immediately available to all patients receiving moderate sedation and administered per order (including standing orders).
4. An emergency cart with a defibrillator must be immediately accessible to every location where moderate sedation is administered. Suction and a positive pressure breathing device, oxygen, and appropriate airways must be in each room where moderate sedation is administered.
5. Provisions must be in place for back-up personnel who are experts in airway management, emergency intubation, and advanced cardiopulmonary resuscitation if complications arise.

D. Definitions/Implications for Rapid Sequence Intubation

The American College of Emergency Physicians (ACEP) defines Rapid Sequence Intubation (RSI) as an airway management technique in which a potent sedative or anesthetic induction agent is administered simultaneously with a paralyzing dose of a neuromuscular blocking agent to facilitate rapid tracheal intubation. The technique includes specific protection against aspiration of gastric contents, provides access to the airway for intubation, and permits pharmacologic control of adverse responses to illness, injury, and the intubation itself.

Additionally, the American College of Emergency Physician claims the licensed provider who is managing the patient's airway is to have no other responsibilities or duties at that time. To require the licensed provider to leave the patient's airway in order to administer medications for the purpose of RSI compromises patient safety (ACEP, 2006)

E. Guidelines for Management and Monitoring of RSI

It is within the scope of practice of a RN who has completed special education and demonstrated evidence of competency and skill to administer anesthetic agents or neuromuscular blocking (paralytic) agents to the non-intubated patient for the purpose of RSI, as well as manage and monitor the patient receiving RSI, provided specific criteria are met.

POSITION STATEMENT 94-1 GUIDELINES

1. Administration of anesthetic agents or neuromuscular blocking (paralytic) agents by non-anesthetist RN is allowed by state laws and institutional policy, procedure, and protocol.
2. Medications for RSI are ordered by a physician or APRN.
3. The RN managing the care of the patient receiving RSI shall have no other responsibilities that would leave the patient unattended or compromise continuous patient monitoring.
4. The RN managing the care of the patient receiving RSI shall be able to:
    a. Demonstrate knowledge of airway management, arrhythmia recognition, and emergency resuscitation appropriate to the age of the patient, utilizing Advanced Cardiopulmonary Life Support (ACLS), Pediatric Advanced Life Support (PALS), and/or Neonatal Resuscitation Program (NRP) guidelines.
    b. Understand principles of pharmacology related to sedation, anesthetic induction, and neuromuscular blocking (paralytic) agents, including drug actions, side effects, and reversal agents.
    c. Demonstrate knowledge of physiologic parameters that are to be monitored during medication administration and RSI such as respiratory rate, oxygen saturation, blood pressure, cardiac rhythm, heart rate, and patient's level of consciousness.
    d. Assess the total patient care requirements before and during the administration of anesthetic agents or neuromuscular blocking (paralytic) agents, including the recovery phase.
    e. Demonstrate knowledge of the appropriate nursing interventions in the event of a complication, unsuccessful RSI, or untoward outcome.
    f. Demonstrate knowledge of the legal ramifications of administering medications for the purpose of RSI and patient monitoring, including the RNs responsibility and liability in the event of an untoward reaction or life threatening complication.

F. Practice Setting/Agency Responsibilities for RSI

Based on agency standards, regulations, accreditation requirements, personnel, and equipment, each employing agency may determine if medication administration by RNs for the purpose of RSI is authorized in their setting. If medication administration by non-anesthetist RNs for the purpose of RSI is permitted, the following shall be in place:

1. Written policy and procedure to address RSI.
2. Credentialing requirements for non-anesthesiologist physicians.
3. Documentation of required and ongoing education and competency for RNs administering medications for the purpose of RSI.
4. Requirement that the physician or APRN be physically present at the bedside throughout the time RSI medications are being administered by a RN to ensure the physician or APRN performs the intubation and is readily available in the event of an emergency, except when administration occurs in the field by air and surface transport RNs. In the field setting, a second provider who will perform intubation must be physically present and ready to intubate as soon as possible once the medications have been administered.
5. Emergency Equipment
    a. Age and size appropriate emergency supplies must be immediately accessible at every location where RSI is performed. Required supplies include emergency resuscitative drugs, basic and advanced airway and ventilator adjunct equipment, cardiac monitor and defibrillator, and source for 100% oxygen administration.
    b. Suction devices
    c. Positive pressure breathing device/bag-valve mask (BVM)
    d. Supplemental oxygen
    e. Blood pressure cuff(s)
    f. Stethoscope
    g. Pulse oximetry

References

American Nurses Association. (2007) Procedural Sedation and Rapid Sequence Intubation (RSI) Consensus Statement. Retrieved March 2016 from: http://nursingworld.org/MainMenuCategories/Policy-Advocacy/Positions-and-Resolutions/ANAPositionStatements/Position-Statements-Alphabetically/Procedural-Sedation-Consensus-Statement.html

American Association of Nurse Anesthetists. (2010). Position statement number 2.2: Qualified providers of sedation and analgesia. Retrieved from http://www.aana.com/resources2/professionalpractice/Documents/PPM%20PS%202.2%20Qualified%20Providers%20of%20Sedation%20and%20Analgesia.pdf

American Association of Nurse Anesthetists. (2010). Considerations for policy development number 4.2: Registered nurses engaged in the administration of sedation and analgesia. Retrieved from http://www.aana.com/resources2/professionalpractice/Documents/PPM%20Consid%204.2%20RNs%20Engaged%20in%20Sedation%20Analgesia.pdf

American College of Emergency Physicians (ACEP). (2012). Rapid Sequence Intubation

Approved by the ACEP Board of Directors September 1996. Reaffirmed by ACEP Board of Directors October 2000; October 2006; April 2012. Retrieved March 2016 from: http://www.acep.org/content.aspx?id=29662Emergency Nurses Association (ENA). Procedural sedation and analgesia in the emergency department. [Position Statement]. (Developed 1992; revised and approved by the ENA Board of Directors in July 2005). Retrieved from http://www.ena.org/SiteCollectionDocuments/Position%20Statements/ProceduralSedation.pdf

Arizona State Board of Nursing. (2003, January). Advisory Opinion: Anesthetic Agents Administered by Registered Nurses for Limited Purpose: Airway Management Or Peripheral Nerve Block

Georgia Board of Nursing. (2015, April). Position Statement: Administration of Propofol, Etomidate, and Neuromuscular Blocking Agents. Retrieved March 16 from http://sos.ga.gov/PLB/acrobat/Forms/38%20Reference%20-%20Position%20Statement%20-%20Administration%20of%20Propofol,%20Etomidate%20and%20Neuromuscular%20Blocking%20Agents.pdf

Oklahoma Board of Nursing.(2012, November). Rapid Sequence Intubation Guidelines-Medication Administration by Registered Nurses, West Virginia Board of Examiners for Registered Professional Nurse. (2010, October). Position Statement: Administration of Anesthetic Agents Revised October 22, 2010

American Association of Critical-Care Nurses
American Association of Neuroscience Nurses
American Association of Nurse Anesthetists
American Association of Spinal Cord Injury Nurses
American Association of Occupational Health Nurses
American Nephrology Nurses Association
American Nurses Association
American Radiological Nurses Association
American Society of Pain Management Nurses
American Society of Plastic and Reconstructive Surgical Nurses
American Society of Post Anesthesia Nurses
American Urological Association, Allied
Association of Operating Room Nurses
Association of Pediatric Oncology Nurses
Association of Rehabilitation Nurses
Dermatology Nurses Association
NAACOG, The Organization for Obstetric, Gynecologic, and Neonatal Nurses
National Association of Orthopaedic Nurses
National Flight Nurses Association
National Student Nurses Association
Nurse Consultants Association, Inc.
Nurses Organization of Veterans Affairs
Nursing Pain Association

Adopted November 1994
Revised September 17, 2009
Revised September 12, 2014
Revised May 11, 2017

Georgia
Board Of Nursing

Position Statement: Administration of Ketamine

The RN may administer low-dose or sub-anesthetic Ketamine, or its derivatives, for the following medical conditions: pain/analgesia, palliative care, or the treatment of mental health disorders. This will be done under the supervision of and with an order from a licensed provider. The nurse is responsible for following the facility's policy and procedures related to Ketamine.

July 2025

AOS # 43 – Ketamine
(Issued: 2/2024)

KENTUCKY BOARD OF NURSING
312 Whittington Parkway, Suite 300
Louisville, Kentucky 40222-5172
http://kbn.ky.gov

ADVISORY OPINION STATEMENT

Roles of Nurses in the Administration of Subanesthetic Dosing Ketamine for Psychiatric Disorders and Chronic Pain

The Kentucky Board of Nursing is authorized by Kentucky Revised Statutes (KRS) Chapter 314 to regulate nurses, nursing education and practice, promulgate regulations and to issue advisory opinions on nursing practice, in order to assure that safe and effective nursing care is provided by nurses to the citizens of the Commonwealth.

The Kentucky Board of Nursing issues advisory opinions as to what constitutes safe nursing practice. As such, an opinion is not a regulation of the Board and does not have the force and effect of law. It is issued as a guideline to licensees who wish to engage in safe nursing practice, and to facilitate the delivery of safe, effective nursing care to the public.

Opinion: Role of Nurses in the Administration of Subanesthetic Dosing Ketamine for Psychiatric Disorders and Chronic Pain

Issued: 2/2024
Editorial Revision: 11/2024; 5/2025

Accountability and Responsibility of Nurses

In accordance with KRS 314.021(2), nurses are responsible and accountable for making decisions that are based upon the individuals' educational preparation and current clinical competence in nursing and requires licensees to practice nursing with reasonable skill and safety. Nursing practice should be consistent with the *Kentucky Nursing Laws*, established standards of practice, and be evidence based.

Rationale for Advisory Opinion

The Board of Nursing received several inquiries requesting information on the subanesthetic dosing of Ketamine infusions. In recent years, there has been a growing interest in the use of Ketamine for a variety of conditions, including pain, depression and in palliative care. Certified Registered Nurse Anesthetists (CRNAs) are educated and trained to administer Ketamine for the purpose of sedation and general anesthesia, as well as subanesthetic dosing Ketamine infusion therapy for psychiatric disorders and chronic pain management.

This advisory opinion addresses:

1) The Advanced Practice Registered Nurse (APRN) who prescribes and administers subanesthetic dose Ketamine for chronic pain and psychiatric disorders.
2) The collaborative approach to the prescribing and administration of subanesthetic dose Ketamine between the Psychiatric Mental Health Nurse Practitioner (PMHNP) and the CRNA for psychiatric disorders.
3) The role of the registered nurse (RN) who administers Ketamine in the acute and non-acute care settings.
4) This advisory opinion CANNOT be construed as approval for the RN (non-CRNA) to administer an anesthetic agent for the purposes of anesthesia.

Educational Preparation and Clinical Competency

Pursuant to KRS 314.021(2) all nurses are held responsible and accountable for making decisions that are based upon the individual's educational preparation and current clinical competence. One method for demonstrating educational preparation and clinical competence is through obtaining relevant certifications within a specialty area. Another method would be to create a portfolio of trainings, workshops, and continuing education that demonstrates the acquisition of additional knowledge and clinical competency in the specialty area.

Advisory Opinion

It is within the scope of practice of the APRN, CRNA, to order and administer subanesthetic dose Ketamine for psychiatric disorders and chronic pain.

It is within the scope of practice of the APRN, PMHNP, to prescribe Ketamine in subanesthetic doses for psychiatric disorders. The independent administration of subanesthetic doses for psychiatric disorders is within the scope of practice for the APRN, PMHNP, provided they are educationally prepared and clinically competent.

It is within the scope of practice of the APRN, in the relevant role and population foci, to prescribe Ketamine in subanesthetic doses for chronic pain. The independent administration of subanesthetic doses for chronic pain is within the scope of practice for the APRN provided they are educationally prepared and clinically competent.

It is within the scope of the RN who is educationally prepared and currently clinically competent to administer subanesthetic dose Ketamine, and medications for procedural sedation and analgesia. It is NOT within the scope of registered nursing practice to administer medications for the purpose of anesthesia.

It is NOT within the scope of a licensed practical nursing practice to administer medications for the purpose of anesthesia or to administer subanesthetic dose Ketamine.

Introduction

Ketamine is Federal Drug Administration (FDA) approved as an intravenous anesthetic agent administered by anesthesia providers and has been used for decades. Ketamine has been incorporated into the treatment and is being used "off label" to treat depression, chronic pain, and PTSD. Ketamine is not considered first-line therapy for psychiatric or chronic pain management; however, it may be considered after failure of standard treatment. In 2019, the FDA approved S-enantiomer of Ketamine, Esketamine for treatment resistant depression. The drug is administered as

a nasal spray. Esketamine can only be administered under the supervision of a healthcare provider at a treatment center that is certified in the Spravato Risk Evaluation and Mitigation Strategy (REMS) Program. The FDA does not recommend use of compounded Ketamine nasal formulations at home and issued a statement regarding this in February 2022 (FDA Alerts Health Care Professionals of Potential Risks Associated with Compounded Ketamine Nasal Spray, 2022, retrieved at https://www.fda.gov/drugs/human-drug-compounding/fda-alerts-health-care-professionals-potential-risks-associated-compounded-ketamine-nasal-spray).

Ketamine is a scheduled III controlled substance regulated by the Drug Enforcement Agency (DEA) requiring a DEA registration for prescribing. APRNs prescribing Ketamine are required to practice according to their scope of practice and prescriptive authority in accordance with KRS 314.011, and 201 KAR 20:057.

General Requirements

The setting in which Ketamine is administered should have the equipment and personnel to safely administer the medication and monitor the patient. The administration and management of adverse events should be clearly delineated in facility policies and procedures. Appropriate patient screening should be conducted, and caution taken when administering subanesthetic dose Ketamine infusions due to the potential risk of abuse, addiction, or complications of long-term use. Proper drug disposal measures are important in the prevention of subanesthetic dose Ketamine from being obtained illicitly. It is recommended that a collaborative approach regarding assessment, diagnosis, referral, and treatment plans between psychiatric clinicians or pain specialists and Ketamine infusion providers occur.

Scope of Practice

Advanced Practice Registered Nurse (APRN)

1. The comprehensive APRN scope of practice is determined by their respective national certifications. The prescribing and administration of Ketamine is within the scope of practice for the APRN, CRNA. The prescribing of Ketamine in a subanesthetic dose for psychiatric disorders is within the scope of practice for the APRN, PMHNP. The independent administration of subanesthetic doses is within the scope of practice for the APRN, PMHNP provided they are educationally prepared and clinically competent.
2. The prescribing of Ketamine in subanesthetic dose for chronic pain may be in the scope of practice for the APRN, in the relevant role and population foci and the independent administration may be within the scope of practice for the APRN, in the relevant role and population foci, if educationally prepared and clinically competent in subanesthetic dosing of Ketamine.
3. Prescribing of subanesthetic dose Ketamine should include an interdisciplinary team as appropriate and be patient-centered.
4. Close collaboration regarding assessment, diagnosis, referral, and treatment between psychiatric clinicians or pain specialist and Ketamine providers is highly recommended.
5. Informed consent should be obtained before treatment and include a clear description of the potential risks, benefits, and alternative treatments.
6. Coordination/Communication regarding screening, management, monitoring, management of adverse reactions, and follow-up throughout the treatment course.
7. Patients should be engaged as part of the care team in shared decision making.
8. Efforts should be made to minimize the potential for adverse events through consideration of premedication, individualized patient therapy, and appropriate monitoring during the peri-infusion period.

9. Consider basing dosage on ideal body weight when body mass index exceeds 30. Frequency and length of treatment should be individualized for each patient as determined by the interdisciplinary team.
10. It is recommended that those who are administering or who supervise the administration of subanesthetic Ketamine be ACLS certified and, if applicable, PALS certified.

Certified Registered Nurse Anesthetist (CRNA)

1. The CRNA is educated and qualified to administer Ketamine for sedation and general anesthesia as well as subanesthetic dosing Ketamine for psychiatric disorders and chronic pain management. It is recommended that CRNAs involved in this practice demonstrate interdisciplinary relationships with psychiatric and pain specialists (as applicable) when incorporating administration of subanesthetic dose Ketamine for chronic pain or psychiatric disorders into their practice.
2. When prescribing and/or administering subanesthetic dose Ketamine for the treatment of psychiatric disorders, it is recommended that CRNAs collaborate with providers who focus on diagnosing and treating psychiatric disorders to receive referral, psychiatric history, medication list, and the appropriate recent psychiatric diagnosis to provide subanesthetic Ketamine treatment. The CRNA's role may include but is not limited to reviewing healthcare records; obtaining a health history; conducting a pre-assessment and evaluation; ordering and evaluating diagnostic tests; ordering or prescribing medications; initiating, maintaining, dose titration monitoring the patient; and completion of treatment session; conducting post-assessment and evaluation, and managing adverse events or complications.

General Recommendations for the Safe Administration of Subanesthetic Dose Ketamine Infusions

1. Intravenous Ketamine subanesthetic dosing may be delivered in the inpatient, outpatient, emergency department, and office-based setting provided that the administration location has the equipment and personnel to safely administer the medication.
    a. Facilities providing subanesthetic dosing Ketamine infusions should maintain written policies and procedures; including policies/protocols in the event of an adverse reaction.
    b. Administration of subanesthetic dose Ketamine should occur by or under the direct supervision of a qualified healthcare provider pursuant to KRS 314.011 (6)* who has adequate training and experience to provide this care.
    c. The facility should have emergency equipment/medication available to stabilize the patient should an adverse event occur.
    d. Policies and procedures should be established by the organization addressing the procedures for obtaining, storing, wasting, and disposing of Ketamine (abuse/diversion protection) – This policy should adhere to all applicable state and federal laws.
    e. Discharge criteria should also be clearly delineated in policy (i.e., how long patients should be monitored after infusions before releasing them from care).

2. An ACLS certified provider is available in the facility throughout the infusion and until discharge – all staff will have current BLS certification.

3. Continuous monitoring includes electrocardiogram (for patients at increased risk of cardiovascular events or with higher dosing), oxygen saturation, blood pressure, respiratory rate, temperature (when appropriate) and level of sedation immediately prior to, during and

following the infusion until the patient returns to pre-infusion baseline and meets discharge criteria.

4. Manage any adverse outcomes while patient is receiving the infusion, including advanced level of care or consulting with psychiatric and pain specialists as applicable.
5. APRN prescribing subanesthetic dose Ketamine infusion – those specializing in chronic pain management or psychiatric disorders
    a. Evaluate, diagnose, and develop patient treatment plan for subanesthetic dose Ketamine infusion as recommended in the literature.
    b. Should be readily available for consultation with administering for adverse events specifically related to patients underlying disorder (e.g., psychotic, or manic thoughts during treatment, emergence or worsening of suicidal thoughts, or emotional distress) and other potential adverse outcomes related to the infusion. Collaborative relationship with psychiatric experts in management of these events during infusions and follow-up strategies are highly recommended.

Register Nurse (RN)

The RN's role in the administration of subanesthetic dose Ketamine:

1. Understand the basic pharmacology of subanesthetic dose Ketamine, including proper dosing, proper patient selection (including identifying patients requiring a higher level of monitoring), and proper patient monitoring (including identifying and treating adverse effects that include hypoxia, apnea, hypotension, dysphoria, and dysrhythmia).
2. Demonstrates clinical competency to administer and monitor the patient receiving subanesthetic dose Ketamine.
3. The RN works under the direct supervision of a qualified healthcare provider as defined in KRS 314.011(6).

Licensed Practical Nurse (LPN)

It is not within the scope of practice for the (LPN) to administer subanesthetic dose Ketamine.

Determining Scope of Practice

KRS 314.021(2) holds all nurses individually responsible and accountable for the individual's acts based upon the nurse's education and experience. Each nurse must exercise professional and prudent judgment in determining whether the performance of a given act is within the scope of practice for which the nurse is both licensed and clinically competent to perform. In addition to this advisory opinion statement, the Kentucky Board of Nursing issued Advisory Opinion Statement #41 RN/LPN/APRN Scope of Practice Determination Guidelines which contains the KBN Decision-Making Model for Determining Scope of Practice for RNs/LPNs/APRNs providing guidance to nurses in determining whether a selected act is within an individual nurse's scope of practice now or in the future.

The following grid provides information on the use of Ketamine in the treatment of chronic pain and psychiatric disorders as outlined in the AOS, and the scope of practice of the nurse who is educationally prepared and clinically competent to provide care as described above.

Performance of:	LPN	RN	APRN
			
Subanesthetic Dosing of Ketamine for Chronic Pain		May administer only with a Qualified Healthcare Provider* order and under the direct supervision of a Qualified Healthcare Provider*	CRNA may order and administer for chronic pain. If Prescribing, CRNA must meet requirements** APRN (in the relevant role and population foci) may prescribe and if educationally prepared and clinically competent may independently administer for chronic pain.
Subanesthetic dosing of Ketamine in psychiatric disorders		May administer only with a Qualified Healthcare Provider* order and under the direct supervision of a Qualified Healthcare Provider*	CRNA may order and administer for psychiatric disorders. If Prescribing, CRNA must meet requirements** and it is recommended to collaborate with providers who focus on diagnosing and treating psychiatric disorders. PMHNP may prescribe and, if educationally prepared and clinically competent, may independently administer for psychiatric disorders.
Esketamine for psychiatric disorders under the Risk Evaluation and Mitigation Strategies (REMS) protocol		May administer only with a Qualified Healthcare Provider* Order and Under the Direct Supervision of a Qualified Healthcare Provider*	APRN (in the relevant role and population foci) may prescribe and administer per REMS protocol
**Qualified Healthcare Providers include MD, PA, APRN, and/or Dentist AOS #14 Roles of Nurses in the Implementation of Patient Care Orders*			

** Pursuant to KRS 314.042(12) CRNAs are not required to enter into a collaborative agreement with a physician … in order to deliver anesthesia care. CRNA's should refer to KRS 312.042(11) for requirements to obtain prescriptive authority to prescribe controlled substances outside of the delivery of anesthesia.

References:

1. https://www.commerce.alaska.gov/web/portals/5/pub/NUR_AO_LOW_DOSE_KETAMINE_INFUSIONS_2021.pdf
2. https://www.apna.org/wp-content/uploads/2021/03/APNA-AANA-Joint-Statement-on-Ketamine-Scope-of-Practice.pdf
3. https://doi.org/10.4037/ccn2020419
4. https://www.azbn.gov/sites/default/files/2021-11/AO-Ketamine-revised-7-2021_1.pdf
5. https://www.llr.sc.gov/nurse/pdf/Low%20Dose%20Ketamine%20Joint%20Advisory%20Opinion%20Approved.pdf
6. https://www.floridahealth.gov/licensing-and-regulation/declaratory/_documents/nursing/DOH-21-0486-DS-1701-662455-1.pdf
7. https://www.health.pa.gov/topics/Documents/Opioids/Ketamine%20Guidelines.pdf
8. https://www.bon.texas.gov/practice_bon_position_statements_content.asp
9. Jelen LA, Stone JM. Ketamine for depression. Int Rev Psychiatry. 2021 May;33(3):207-228. doi: 10.1080/09540261.2020.1854194. Epub 2021 Feb 11. PMID: 33569971.
10. *Ketamine Hydrochloride: Package Insert and Label Information. http://druginserts.com/lib/rx/meds/ketamine-hydrochloride-1/.* Accessed May 5, 2022.
11. *Orhurhu V, Orhurhu MS, Bhatia A, Cohen SP. Ketamine Infusions for* Chronic Pain: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Anesth Analg. 2019 Jul;129(1):241-254. doi: 10.1213/ANE.0000000000004185. PMID: 31082965.
12. Rosenbaum SB, Gupta V, Patel P, et al. Ketamine. [Updated 2023 May 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK470357/
13. Shin C, Kim YK. Ketamine in Major Depressive Disorder: Mechanisms and Future Perspectives. Psychiatry Investig. 2020 Mar;17(3):181-192. doi: 10.30773/pi.2019.0236. Epub 2020 Mar 23. PMID: 32209965; PMCID: PMC7113176.
14. Yavi, M., Lee, H., Henter, I. D., Park, L. T., & Zarate, C. A., Jr (2022). Ketamine treatment for depression: a review. *Discover mental health*, *2*(1), 9. https://doi.org/10.1007/s44192-022-00012-3
15. https://www.aana.com/docs/default-source/practice-aana-com-web-documents-(all)/professional-practice-manual/ketamine-infusion-therapy-for-psychiatric-disorders-and-chronic-pain-management.pdf?sfvrsn=950049b1_14
16. https://www.spravatorems.com/
17. https://doi.org/10.4037/ccn2020419
18. FDA Alerts Health Care Professionals of Potential Risks Associated with Compounded Ketamine Nasal Spray, 2022, retrieved at https://www.fda.gov/drugs/human-drug-compounding/fda-alerts-health-care-professionals-potential-risks-associated-compounded-ketamine-nasal-spray

Applicable Statutes From the *Kentucky Nursing Laws*

KRS 314.011(8) defines "advanced practice registered nursing practice" as:
"Advanced practice registered nursing" means the performance of additional acts by registered nurses who have gained advanced clinical knowledge and skills through an accredited education program that prepares the registered nurse for one (1) of the four (4) APRN roles; who are certified by the American Nurses' Association or other nationally established organizations or agencies recognized by the board to certify registered nurses for advanced practice registered nursing as a certified nurse practitioner, certified registered nurse anesthetist, certified nurse midwife, or clinical nurse specialist; and who certified in at least one (1) population focus. The additional acts shall, subject to approval of the board, include but not be limited to prescribing treatment, drugs, devices, and ordering diagnostic tests. Advanced

practice registered nurses who engage in these additional acts shall be authorized to issue prescriptions for and dispense nonscheduled legend drugs as defined in KRS 217.905 and to issue prescriptions for but not to dispense Schedules II through V controlled substances as classified in KRS 218A.060, 218A.070, 218A.080, 218A.090, 218A.100, 218A.110, 218A.120, and 218A.130, under the conditions set forth in KRS 314.042 and regulations promulgated by the Kentucky Board of Nursing on or before August 15, 2006. …(c) The performance of these additional acts shall be consistent with the certifying organization or agencies' scopes and standards of practice recognized by the board by administrative regulation; …

…..Nothing in this chapter shall be construed as requiring an advanced practice registered nurse designated by the board as a certified registered nurse anesthetist to obtain prescriptive authority pursuant to this chapter or any other provision of law in order to deliver anesthesia care. The performance of these additional acts shall be consistent with the certifying organization or agencies' scopes and standards of practice recognized by the board by administrative regulation The certified registered nurse anesthetist as noted in KRS 314.011 would need to obtain prescriptive authority (CAPA-NS) when independently ordering to administer either nonscheduled legend drugs or controlled substances outside delivering anesthesia care.

KRS 314.021(2) states:
All individuals licensed under provisions of this chapter shall be responsible and accountable for making decisions that are based upon the individuals' educational preparation and experience in nursing and shall practice nursing with reasonable skill and safety.

KRS 314.042 (12) states:
Nothing in this chapter shall be construed as requiring an advanced practice registered nurse designated by the board as a certified registered nurse anesthetist to enter into a collaborative agreement with a physician, pursuant to this chapter or any other provision of law, in order to deliver anesthesia care.

LOUISIANA STATE BOARD
OF MEDICAL EXAMINERS
(La. Rev. Stat. §§37:1261-92)

Advisory Opinion

The Off-Label Use of Ketamine for the Treatment of Mental Disorders and Chronic Pain

October 10, 2016
(Revised: May 13, 2019)

Summary. It is the opinion of the Louisiana State Board of Medical Examiners that the off-label use of Ketamine for the treatment of severe depression and other mental disorders and chronic pain is ill-advised in routine clinical practice settings and such use should be considered investigational. Physicians are urged to proceed with caution in its use for the treatment of such conditions until the drug has been approved by the FDA or is supported by appropriate treatment guidelines.

Background. The Louisiana State Board of Medical Examiners (the "Board") was asked to consider a request for guidance concerning the use of Ketamine in the treatment of severe depression and chronic pain. In furtherance of this request, the Board directed its staff to conduct a review of the literature, confer with experts, and gather other information on the subject. With the benefit of such literature, consultations and information, the Board gave further consideration to the issue at its August and September 2016 meetings. Its findings and advice follows.

Findings. Ketamine is a dissociative anesthetic agent and short acting analgesic. It produces profound analgesia and amnesia and is commonly used for patients undergoing minor surgical procedures. In the past few years, Ketamine has been touted as a potential treatment for severe depression and other mental disorders and chronic pain. More recently, "Ketamine clinics" have opened across the country, and anecdotal positive outcomes are noted in the lay press, as is costs of treatments ranging up to $3,000 for six sessions. However, the drug has not been approved for the treatment of these conditions by the U.S. Food and Drug Administration (FDA). Furthermore, although the treatment of such conditions require ongoing and repeated therapy, the long term psychogenic effects of Ketamine are unknown and there is no clear guidance on the optimal mode of drug administration, including appropriate dosing information.[1]

In addition to the known potential for abuse, hepatotoxicity and bladder dysfunction have been reported after repeated dosing and its use requires close central nervous system and hemodynamic monitoring. Finally, while there are some reports of short-term benefit associated with the use of Ketamine for severe depression, the results are not lasting in most instances and patient mood may rapidly decline after initial improvement, which may actually increase the patient's depressive symptoms.

[1]A task force convened by the American Psychiatric Association (APA) to review the clinical evidence supporting the effectiveness of Ketamine in the treatment of depression reported in the October 1, 2015, edition of the *American Journal of Psychiatry* that current data revealed the effects of the drug were rapid, robust but transient and that more research is needed to establish both the risks associated with the long term use of the drug and the development of treatment guidelines. The Task Force has apparently begun work on the project.

Advice. Given the short term nature of the therapeutic benefit of Ketamine; potential for abuse and neurotoxicity; known harm associated with its use; lack of clinical studies demonstrating the safety and efficacy of repeated dosing; and the absence of appropriate treatment guidelines, the administration of Ketamine for the treatment of severe depression, other mental disorders and chronic pain is ill-advised in the clinical setting and should be viewed as investigational.

Consistent with these views, the Board suggests that Ketamine not be used for the treatment of severe depression, other mental disorders and chronic pain until it is approved by the FDA[2] for such use in accord with an FDA approved research protocol or, at the very least, until clear guidelines for appropriate use in the treatment of psychological disorders are developed by the APA or another nationally recognized professional organization.

As in all instances, utilizing Ketamine or any other drug in a manner that has not been shown to be safe and effective is inconsistent with good medical practices.

LOUISIANA STATE BOARD
OF MEDICAL EXAMINERS

[2]In 2019, the FDA approved eskatamine (the s-enantiomer of Ketamine) spray in conjunction with oral antidepressants for adult treatment-resistant depression. In so doing, the FDA noted that due to the risk of serious adverse reaction from sedation and dissociation caused by the drug, and the potential for abuse and misuse, the drug is only available through a restricted distribution system in a certified medical office where the physician can monitor the patient for at least 2 hours after administration. *See:* FDA news release, Mar. 5, 2019: *FDA approves new nasal spray medication for treatment-resistant depression; available only at a certified doctor's office or clini*c. As an FDA approved product, physicians may conformably utilize this particular drug for the treatment of adults suffering from treatment-resistant depression, in accordance with FDA protocols. Otherwise, the views expressed herein as to the off-label use of Ketamine for the treatment of severe depression, other mental disorders and chronic pain, remain unchanged.

MINNESOTA BOARD OF NURSING

Statement of Accountability by the Registered Nurse for Administration of Medications Classified as Anesthetics

The administration of medications is within the scope of practice of registered nurses and licensed practical nurses in the State of Minnesota as a delegated medical function. (See Minn. Stat. Sec. 148.171, subd. 14 and 15 (2017). Since nurses frequently administer medications, it may appear to be a routine activity. However, many medications have significant effects, even if administered correctly and within normal dose ranges. Therefore, it is the expectation of the Minnesota Board of Nursing that nurses give careful consideration to each instance of medication administration and make a nursing judgment regarding whether the nurse may safely accept the delegation of medication administration under the given circumstances and specific setting.

The administration of medications classified as anesthetics, used for the purpose of procedural sedation and analgesia, requires particular attention.[1] The Institute for Safe Medication Practices has identified anesthetic agents and moderate sedation agents as "High Alert" medications that "bear a heightened risk of causing significant patient harm when they are used in error." High alert medications may be population-specific.

Sedation is a continuum, and it is not always possible to predict how an individual patient will respond to anesthetics. Nurses and providers administering sedation or monitoring sedated patients should be prepared to appropriately respond to patients whose level of sedation becomes deeper than initially intended.

American Society of Anesthesiologist Sedation Level Definitions

Level of sedation	Definition
Minimal sedation (anxiolysis)	A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and physical coordination may be impaired, ventilatory and cardiovascular functions are unaffected.
Moderate sedation/Analgesia (formerly conscious sedation)	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.

[1] Utilizing appropriate, descriptive terminology is complicated by the properties of some medications and their effects. Medications may provide varying levels of sedation (minimal, moderate, or deep sedation to anesthesia), depending on the dose. While the phrase "medications classified as anesthetics" is used in this document, it should be understood that classification of medications may change, and new medications may be developed. The accountability statement applies to other medications with anesthesia inducing properties, even if not classified as anesthetics. "Procedural sedation" includes moderate and deep sedation. This statement is not intended to apply to continuous infusion of medications to ventilated patients.

Deep sedation/Analgesia	A drug-induced depression of consciousness during which patients cannot be aroused easily 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.
Anesthesia	A drug-induced loss of consciousness during which patients are not arousable, even with 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.

Currently, there is no uniformly accepted training or core competency for registered nurses[2] to administer sedation. Additionally, there are numerous sedation guidelines and statements but no widely accepted, national standards of practice.

The Minnesota Board of Nursing believes that registered nurses may administer medications classified as anesthetics provided that the registered nurse has acquired the knowledge and skills to administer these medications safely.[2] Registered nurses who administer medications classified as anesthetics are accountable to the following:

- Verifying the policies and procedures of the employing facility or organization permit administration of medications for sedation by a registered nurse.
- Ensuring guidelines for patient monitoring, drug administration, and protocols for managing potential complications or emergency situations are available and have been updated in accordance with accepted standards of anesthesia and nursing practice.
- Providing clear and complete information to the patient or responsible party prior to, during, and following sedation.
- Adequately assessing the patient prior to, during, and after administration of the medications. A baseline assessment will include, at a minimum, respiratory rate, oxygen saturation, blood pressure, cardiac rate and rhythm, and the patient's level of consciousness. The components of the ongoing assessment of the patient will depend on the medications being administered and the condition of the patient in consideration with the assessments identified above.
- Personally possessing specialized nursing knowledge, judgment, skills, and current clinical competence to manage the nursing care of the patient including:
    - Appropriate judgment in patient selection and screening.
    - Knowledge of anatomy, physiology, pharmacology, cardiac arrhythmia recognition, oxygen delivery, respiratory physiology, transport, and uptake.

[2] Because of the degree of assessment and clinical skill required to administer anesthetics, this is not within the licensed practical nurse scope.

    - Skill in utilization of oxygen delivery devices and airway management.
    - Familiarity with the medications to be administered, including the onset and duration of action, desired effects, normal dose range, route of administration, indications, contraindications, interactions with other medications, possible side effects, and adverse reactions.
    - The nurse must also be familiar with reversal agents, if any, for the medications administered. Reversal agents should be readily available to administer, if indicated.
    - Competent and safe administration of the medication(s) by the specified route.
    - Ability to anticipate and recognize potential complications of the medications being administered.
    - Ability to recognize emergency situations and institute emergency procedures as appropriate to the patient condition and circumstance.
- Possessing knowledge of the desired outcome of sedation.
- Monitoring the patient as indicated by the patient's condition and the medications administered. This includes the patient's appearance, airway patency, ability to spontaneously ventilate, and response to verbal commands and physical stimuli.
    - ECG monitoring should be considered for high-risk patients, during prolonged procedures, or during deep sedation.
    - Continuous pulse oximetry and Capnography should be considered for patients with comorbidities affecting respiratory or circulatory functioning, or when the medications administered may depress respirations.
- Excluding any other duties or responsibilities while administering medications for moderate or deep sedation. Excluding other duties that would require leaving the patient unattended or compromise continuous monitoring of the patient by the nurse while the patient is sedated.
- Ensuring device alarms are set to alert the care team to critical changes in patient status.
- Ensuring immediate availability of emergency and resuscitation personnel and appropriate equipment based on the medications being administered and patient's the age and condition.
- Declining to administer medications classified as anesthetics or other medications if the registered nurse perceives the administration would be unsafe under the circumstances.
- Maintaining safeguards for the appropriate management and accountability of controlled or abusable substances.
- Refraining from the administration of sedating medications as a form of chemical restraints, as defined by Minn. Stat. Sec. 245d.02 subd. 3b.
- Complying with all applicable Federal and state laws and rules.

Adopted: October 2005
Reaffirmed: December 2009
Reaffirmed: October 2016
Revised: October 2024

References

1. American Academy of Emergency Medicine. (2008). Procedural Sedation Consensus Statement. AAEM Website. Retrieved 4/8/24, from https://www.aaem.org/statements/procedural-sedation-consensus-statement/

2. American Association of Moderate Sedation Nurses. (2016). Retrieved 4/8/24, from http://aamsn.org/

3. American Association of Moderate Sedation Nurses. (2016). Retrieved 4/8/24, from http://aamsn.org/resources/pdfs/sedation-related-pdfs/registered-nurse-csrn-scope-of-practice

4. American Association of Nurse Anesthetists (AANA), & American Society of Anesthesiologists (ASA). (2014). AANA-ASA Joint statement regarding propofol administration. American Society of Anesthesiologists. Retrieved 4/7/24, from https://www.asahq.org/standards-and-practice-parameters/statement-on-safe-use-of-propofol

5. American Association of Nurse Anesthetists (AANA). (2022). AANA Practice Manual – Non-anesthesia Provider Procedural Sedation and Analgesia. Position Statements. Retrieved 4/15/24, from https://www.asahq.org/standards-and-practice-parameters/statement-on-continuum-of-depth-of-sedation-definition-of-general-anesthesia-and-levels-of-sedation-analgesia

6. American Nurses Association. (2008). Procedural sedation consensus statement. Retrieved 4/15/24, from https://www.nursingworld.org/practice-policy/nursing-excellence/official-position-statements/id/procedural-sedation-consensus-statement/

7. American Society of Anesthesiologists (ASA). (2014). Retrieved 4/16/24, from http:///statement-on-safe-use-of-propofol%20(3).pdf

8. American Society of Anesthesiologists (ASA). (2019). Retrieved 4/20/24, from http:///continuum-of depth-of-sedation-definition-of-general-anesthesia-and-levels-of-sedation-analgesia%20(1).pdf

9. Association of perioperative Registered Nurses (AORN). (2015) Moderate sedation/analgesia. Retrieved 4/20/24, from https://www.aorn.org/guidelines/clinical-resources/clinical-faqs/moderate-sedation-analgesia

10. Crego, N. (2015). Procedural sedation practice: A review of current nursing standards. Journal of Nursing Regulation, 6, 50-56.

11. Institute for Safe Medication Practices (ISMP). ISMP List of High-Alert Medications in Acute Care Settings. ISMP; 2024. Retrieved 4/20/24, https://home.ecri.org/blogs/ismp-resources/tagged/recommendations

12. eMedicine Specialties. (2015). Procedural sedation. Retrieved 4/24/24, from http://emedicine.medscape.com/article/109695-overview

13. Emergency Nurses Association Joint Position Statement. (2008). Procedural sedation consensus statement. Retrieved 4/25/24, from https://www.ena.org/SiteCollectionDocuments/Position%20Statements/Archived/Procedural_Sedation_Consensus_Statement.pdf

14. Emergency Nurses Association. (2015). Statewide RN procedural sedation rules. Retrieved 4/25/24, from https://www.ena.org/government/State/Documents/RNProceduralSedationRules.pdf

15. Saunders, R., Struys, M. M. R. F., Pollock, R. F., Mestek, M., & Lightdale, J. R. (2017). Patient safety during procedural sedation using capnography monitoring: a systematic review and meta analysis. Retrieved 4/30/24, from https://doi.org/10.1136/bmjopen-2016-013402

NEBRASKA
Good Life. Great Mission.
DEPT. OF HEALTH AND HUMAN SERVICES

Nebraska Board of Nursing

ADVISORY OPINION

OPINION: Sub-Anesthetic Ketamine
ADOPTED: 6/2014
REVISED: 2/2018, 4/2019
TEMPLATE REVISED: 8/2016
REAFFIRMED: 8/20, 8/21, 5/22

This Nebraska Board of Nursing advisory opinion is issued in accordance with the Nebraska Nurse Practice Act, Neb. Rev. Stat. 38-2216 (2). As such, this advisory opinion is for informational purposes only and is non-binding. The advisory opinions define acts, which in the opinion of the board, are or are not permitted in the practice of nursing.

Sub-Anesthetic Ketamine

Ketamine is a surgical anesthetic agent used off-label in sub-anesthetic doses for the management of acute and chronic pain conditions. Ketamine is an opioid-sparing option for analgesia with comparatively limited hemodynamic and respiratory suppressive effects. Potential side effects can be anticipated and managed to prevent adverse patient events.

This advisory opinion does not include the administration of Ketamine IV bolus. The reader is referred to the Nebraska Board of Nursing Advisory Opinion for Sedation and Analgesia (2021).

The Board of Nursing recommends the following for standardizing nursing care and optimizing patient safety in acute care practice settings when Ketamine is administered for pain management:

1. Nursing education and competency requirements are defined, including, but not limited to, pharmacologic properties of the medication, patient contraindications and cautions for use, and recognition and management of side effects;

2. There are clearly defined facility policies and protocols including, but not limited to dosing parameters, adjunct medications, patient safety and monitoring, infusion equipment with “guardrail” technology, documentation and patient hand-off between nursing caregivers; and

3. Qualified personnel and equipment are available for resuscitation at all times.

References:

Allen, C.A. & Ivester, Jr. J.R. (2018). Low-dose Ketamine for postoperative pain management. *Journal of PeriAnesthesia Nursing 33*(4): 389-396.

Allen, C.A. & Ivester, Jr. J.R. (2017). Ketamine for pain management—Side effects & potential adverse events. *Pain Management Nursing, 19*(6): 372-377.

Cohen, S.P, Bhatia, A., Buvanendran, A., Schewnk, E.S., Wasan, A.D., Hurley, R.W., Viscusi E.R., Narouze S, Davis F.N., Ritchie E.C., Lubenow T.R., & Hooten W.M. (2008). Consensus guidelines on the use of intravenous Ketamine infusion for chronic pain from the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists. *Regional Anesthesia and Pain Medicine, 43*(5): 521-546.

Crumb, M.W., Bryant, C. & Atkinson, T.J., (2018). Emerging trends in pain medication management: Back to the future: A focus on Ketamine. *The American Journal of Medicine,131*(8): 883-886.

Nebraska Board of Nursing. (2021). *Sedation and analgesia.* Advisory Opinion. https://dhhs.ne.gov/licensure/Documents/ProceduralSedationAndAnalgesia.pdf

Schwenk, E.S., Viscusi, E.R., Buranendran, A., Hurley, R.W., Wasan, A.D., Narouze, S., Bhatia, A., Davis F.N., Hooten, W.H. & Cohen, S.P. (2018). Consensus guidelines on the use of intravenous Ketamine infusions for acute pain management from the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists. *Regional Anesthesia and Pain Medicine, 43*(5): 456-466.

New Mexico Board of Nursing Advisory: Ketamine

A Joint Advisory from New Mexico Boards of Nursing and Medicine
Review by Board of Pharmacy

Over the past decade, the use of Ketamine has expanded beyond anesthesia and pain management in surgical, hospital and emergency departments. There is some evidence that this medication, as well as an enantiomer, esketamine, may be effective in the treatment of certain psychiatric disorders. See selected research at the conclusion of this advisory, particularly the well-done documents adopted by Texas and Pennsylvania.

The use of these medications in the treatment of severe resistant unipolar depression and possibly other mental illnesses is evolving, but usually entails using significantly lower doses (aka "VLD" Ketamine, "Very Low Dose") administered by intravenous, intramuscular, subcutaneous, oral, and intranasal routes. Guidelines for the use of these medications have been published but still indicate some variability and the need to establish effective treatment, dosing and delivery methods and plans.

While Ketamine is an approved medication for anesthesia, its subanesthetic use for mental health treatment is **off label**, so it is subject to additional caution and review, including clinical and ethical guidelines.

Ketamine is also a controlled substance and therefore subject to additional state and federal laws and requirements. There is risk for abuse, misuse, diversion, and drug seeking, therefore extra care in its procurement, storage, security, records, and use is necessary. It is required to be reported in the Prescription Monitoring Program.

It is becoming apparent from the national press and health care publications that Ketamine is being provided by health care providers across the country for reasons outside of the legitimate treatment of medical illnesses as well as for illnesses outside their area of expertise.

This is a concern of the Board, as we are compelled by the Medical Practice Act to "Protect the public". This includes protecting the public from improper, unprofessional, incompetent, and unlawful practice. Ketamine for mental health diagnosis requires the provider, to have education and certification in the diagnosis and management of this population.

Therefore, in the interest of promoting the safe, effective, and ethical practice of medicine, the NMMB offers the following guidance in the use of Ketamine.

1. If Ketamine is being offered as a treatment, it must be for the treatment of a legitimate, medically recognized illness. This includes a valid provider-patient relationship, including a full history and physical, a complete medical record, a full treatment plan, ongoing monitoring, and documentation of patient response by the provider.

2. Ketamine must be offered as a treatment only if there is a valid scientific basis, such as recognized evidence-based standards for its use for a particular diagnosis and it is administered as outlined per protocols developed by the relevant professional society.
3. Before being considered as a candidate for Ketamine treatment, the patient must be evaluated and diagnosed by a provider with documented and validated educational expertise in the diagnosis and treatment of the patient's condition, and the provider is certified as such.
4. Ketamine, if utilized, must be part of a complete ongoing treatment plan for the patient's condition, which includes a safety plan and appropriate concomitant therapy, such as anti-psychotic and anti-depressant medications.
5. Ketamine must be administered only by a provider that has been trained in its clinical indications, effect monitoring, and outcomes evaluation; including appropriate safety measures (for example, safety response equipment and trained staff, including Advanced or Basic Cardiac Life Support, as recommended by relevant treatment protocols).
6. Safety measures for the use of this medication must be in place for managing both immediate, short-term, and long-term side effects, to include on-going follow-up once ketamine treatment ends.

Using ketamine outside these guidelines may subject licensees to investigation for violations of the Medical Practice Act and its regulations.

References:

Ashburn, M. et al. (2020). Guidelines for the safe administration of low dose ketamine: Prescribing Guidelines for Pennsylvania, *The Commonwealth of Pennsylvania*.

Hall, C. (2018). Ketamine, a monograph, Texas Department of Health & Human Services.

Sanacora, G., et al. (2017). A Consensus Statement on the Use of Ketamine in the Treatment of Mood Disorders. *JAMA Psychiatry*. 2017;74(4):399-405. doi: 10.1001/jamapsychiatry.2017.0080 Published online March 1, 2017.

Shiroma et al. (2020) A randomized, double-blind, active placebo-controlled study of efficacy, safety, and durability of repeated vs single subanesthetic ketamine for treatment-resistant depression, *Translational Psychiatry*, 10:206. https://doi.org/10.1038/s41398-020-00897-0

UpToDate (2023). Ketamine and esketamine for treating unipolar depression in adults: Administration, efficacy, and adverse effects – *UpToDate*. https://www.uptodate.com/contents/ketamine-and-esketamine-for-treating-unipolar-depression-in-adults-administration-efficacy-and-adverse-effects/print 1/20

American Society of Ketamine Physicians, Standards of Practice in the Therapeutic Use of Subanesthetic Ketamine. Revised July 30, 2020. https://www.askp.org/wp-content/uploads/2021/07/A-M-E-R-I-C-A-N-S-O-C-I-E-T-Y-O-F-K-E-T-A-M-I-N-E-P-H-Y-S-I-C-I-A-N-S-2.pdf

JOINT ADVISORY OPINION ISSUED BY THE SOUTH CAROLINA STATE BOARDS OF MEDICAL EXAMINERS, NURSING AND PHARMACY REGARDING THE ADMINISTRATION OF LOW DOSE KETAMINE INFUSIONS IN HOSPITAL SETTINGS, INCLUDING ACUTE-CARE, BY NURSES

Formulated: April 12, 2019

Revised: December 6, 2019; July 10, 2020[1]

Reviewed:

Question: Is it within the role and scope of a registered nurse (RN) to administer low dose ketamine infusions and intravenous push for pain control in a hospital (acute care) setting?

The South Carolina State Board of Medical Examiners, the South Carolina State Board of Pharmacy, and the South Carolina State Board of Nursing acknowledge that:

It is within the scope of practice for an RN to administer/monitor low dose Ketamine via continuous infusion and intravenous push (in ED and PACU ONLY) with physician orders for specific cases of acute pain management in patients who with opioid-tolerance, intractable post-operative pain, poorly controlled chronic pain, palliative care, or patients suffering from extreme opioid side effects in an acute care setting.

THIS ADVISORY OPINION DOES NOT APPLY TO THE ADMINISTRATION OF AGENTS FOR THE PURPOSE OF SEDATION OR ANESTHESIA.

Ketamine infusions are contraindicated for the following patients: those with increased intracranial pressure, conditions with uncontrolled seizures, concurrent or recent us of MAO-Is, or delirium, known or suspected cardio vascular disease including angina, heart failure, or hypertension; CNS masses, abnormalities or hydrocephalus; glaucoma or acute globe injury; porphyria; uncontrolled thyroid disorders, and known or suspected schizophrenia even if controlled with medications.

(1) General provisions.

a) Orders and infusion rate adjustments MUST originate from an approved and credentialed attending physician. Advanced practice practitioners or physician delegates (upper level residents and fellows with permanent South Carolina licenses) operating under the supervision of the approved attending physician (as designated by facility policy) may adjust, but not initiate, low dose ketamine infusions. Interns are unable to order low dose ketamine infusions. It is recommended that Anesthesia and Critical Care Credentialed providers be included in the decision making process to determine which physicians/providers are approved to order low dose ketamine infusions for pain management.

b) Facility policy will direct required nursing education and competency.

c) Facility policy will address specific patient populations, required monitoring, and bed placement with an approved unit within the facility for administration of low dose ketamine infusions for pain management.

[1] The Healthcare Collaborative Committee met and made revisions on July 10, 2020. The revisions were adopted by the Board of Nursing on September 24, 2020; the Board of Medical Examiners on November 4, 2020; and the Board of Pharmacy on November 17, 2020.

(2) Each patient must be evaluated for contraindications, including:

(a) Hypersensitivity to Ketamine;

(b) Known or suspected schizophrenia, even if controlled with medications; or

(c) In patients with conditions associated with increased intracranial pressure, uncontrolled seizures, concurrent or recent use of MAO-Is, or delirium.

(3) Precautions must be taken, including:

a) Falls precautions and ambulation assistance required; and

b) Hourly rounding is suggested for this patient population.

(4) Monitoring: Facility policy should include the following parameters:

a) Vital sign assessment frequency and parameters assessed. Recommend inclusion at the minimum pulse oximetry and sedation scale;

b) Parameters for provider notification;

c) Management of common side effects; and

d) Turn off infusion if the following significant side effects are suspected and notify appropriate ordering service: Respiratory Depression; Unresponsiveness; Hallucinations; Nystagmus

(5) Clinical Practice Points:

a) The recommended duration of therapy for continuous ketamine infusion should be defined by facility policy;

b) As ketamine is a controlled substance, follow state and facility policy on management;

c) A locked rate controlled infusion pump will be used for all ketamine infusions using appropriate guardrail settings;

d) Low dose ketamine should be infused through its own dedicated IV line (when possible) or via the most proximal port of a carrier solution;

e) Low-dose ketamine should be infused through portless IV tubing to avoid inadvertent blousing;

f) Ketamine dosing should be based on the patient's ideal body weight;

g) The occurrence of ketamine-related psycho-cognitive effects (e.g. altered mental status, restlessness, disorientation, and vivid dreams) appears to be dose-related and minimal at infusion rates less than 4 micrograms/kg/min;

h) A defined stop infusion period of either forty-eight (48) or seventy-two (72) hours should be utilized. If the patient requires an extended period, the approved provider is to write an order to continue infusion for another set period. The maximum rate of infusion for pain management will not exceed (5mcg/kg/min) or twenty-four (24) mg/hr maximum infusion rate; and

i) No specific monitoring is required for IV push dosing of low dose ketamine for pain management if following the 10 mg per dose (30 mg maximum total) beyond watching for side effects and routine vital signs.