

NEVADA STATE BOARD OF NURSING
Practice Decision

Low-Dose Continuous IV Ketamine Administration for Treatment of Chronic Pain or Depression

The Nevada State Board of Nursing (NSBN) finds that a qualified registered nurse (RN) who has completed appropriate training and competency defined by the institution, may administer low-dose IV ketamine in certain situations:

- Analgesia for postoperative, chronic, and palliative/cancer pain
- Anti-depressive and specific treatment outcomes for currently accepted psychiatric diagnoses.

Rationale

The guiding principle for this opinion is to allow RNs in certain situations to administer low-dose IV ketamine to patients for treatment of acute/chronic pain in opioid tolerant adult patients or to patients suffering from depression. Low-dose IV ketamine is not intended to induce deep sedation or general anesthesia. Generally, ketamine infusions are no more than 1 mg/kg/hr.

The NSBN recognizes that this is an evolving practice in the field of mental health and that the list of accepted diagnosis that may benefit from low-dose ketamine infusions may enlarge as new applications emerge.

Determination if the patient is age appropriate for the procedure is at the discretion of the ordering provider and/or facility policy.

Requirements:

1. The agency/employer maintains written policies and procedures. Intravenous ketamine at low doses may be delivered in the inpatient, outpatient, emergency department, etc. setting if the administration location has the equipment and personnel to safely administer the medication. There must be immediate access to resuscitation equipment and supplies to address potentially serious adverse events related to ketamine administration.
2. A Licensed Independent Practitioner (LIP):
 - a. Evaluates the patient.
 - b. Places the written order for the low dose IV ketamine.
 - c. Is readily available in the facility from the time the medication is initiated until completion of the infusion.
 - d. NO Bolus of ketamine may be administered by the RN.
 - e. Review Prescription Monitoring Program (PMP)
 - f. Must have facility privileges and competency in ACLS/PALS and advanced airway management.
3. A validated sedation scale is used to monitor level of sedation (Ramsay Sedation Scale, Richmond Agitation Sedation Scale, etc.)
4. Low-dose IV ketamine infused via an IV infusion pump is prepared by a pharmacist.

5. Ketamine should be infused via a dedicated IV line.
6. RNs (with specific practitioner order) may adjust the rate of infusion per patient specific order. Standing orders or protocols are not used.
7. Resuscitation readily available in facility
8. Continuous patient monitoring must include ECG, oxygenation, vital signs and level of sedation is maintained during and following infusion.

Training:

1. The RN must have current ACLS/PALS dependent on patient population.
2. The RN must have a minimum of 2 years critical care experience (PACU, OR, ICU, ER, etc.)
3. Demonstrated understanding of ketamine pharmacology
4. Demonstration and maintenance of competency and education consistent with NAC 632.225 regarding administration of IV ketamine
5. Facilities must have policies and procedures based on current standards of practice and regulations.
6. Recommend that RN has training in pain management (national certification recommended)

Resources

Arizona State Board of Nursing Advisory Opinion. Palliative Sedation at End of Life: retrieved from: https://www.azbn.gov/Documents/advisory_opinion/AO%20PALLIATIVE%20SEDATION%20AT%20END%20OF%20LIFE.pdf

Arizona State Board of Nursing Advisory Opinion (2015). Low-Dose Continuous IV Ketamine Administration for Treatment of Intractable or Chronic Pain, or Depression. Retrieved from: <https://www.azbn.gov/sites/default/files/advisory-opinions/ao-low-dose-continuous-iv-ketamine-administration-for-treatment-of-intractable-or-chronic-pain-or-depression-112015.pdf>

Ahern, T., Herring, A., Miller, S. and Frazee, B. (2015). Low-Dose Ketamine infusion for Emergency Department Patients with Severe Pain. *Pain Medicine*, 16: 1402-1409.

Commonwealth of Pennsylvania (2020). Guidelines for Safe Administration of low- Dose Ketamine. Retrieved from: <https://health.pa.gov/topics/Documents/Opioids/Ketamine%20Guidelines.pdf>

Riccardi, A., et. Al. (2023). Narrative review: Low Dose Ketamine for Pain Management. *Journal of Clinical Medicine*. 12:9

Alaska State Board of Nursing Advisory Opinion (2014). IV Drug administration of Ketamine for the treatment of the post-operative, opioid tolerant adult patient by a registered nurse (RN). Retrieved from: https://www.commerce.alaska.gov/web/portals/5/pub/nur_advisory_ketamine_administration.pdf

Nebraska Board of Nursing Advisory Opinion (2019). Sub-Anesthetic Ketamine. Retrieved from: <https://dhhs.ne.gov/licensure/Documents/SubAnestheticKetamine.pdf>

Rosenbaum, S., Gupta, V., Patel, P. and Palacios, J. (2022). Ketamine. National Library of Medicine. Retrieved from: <https://www.ncbi.nlm.nih.gov/books/NBK470357/>

Reviewed by Nursing Practice Advisory Committee: November 7, 2023.

Reviewed by the APRN Advisory Committee: November 14, 2023.

Approved by the Nevada State Board of Nursing: November 16-17, 2023.