



**JOINT ADVISORY OPINION ISSUED BY THE SOUTH CAROLINA STATE BOARDS  
OF MEDICAL EXAMINERS, NURSING AND PHARMACY REGARDING THE USE  
OF LOW DOSE KETAMINE INFUSIONS FOR THE MANAGEMENT OF PAIN  
THROUGHOUT THE GREENVILLE HEALTH SYSTEM<sup>1</sup>**

The Healthcare Collaborative Committee met on October 23, 2015, at which time a quorum of designated representatives from the South Carolina State Boards of Medical Examiners, Nursing and Pharmacy was present. The Healthcare Collaborative Committee reviewed materials submitted by Sue Beswick, APRN, MS, CCNS, CCRN Clinical Practice Specialist for Critical care for the Greenville Health System.

The Healthcare Collaborative Committee previously recommended, and the member Boards subsequently approved, a pilot program at Greenville Memorial in which low dose ketamine infusions were authorized for pain management within certain parameters. The pilot program at Greenville Memorial commenced in March of 2014 and has continued without any adverse event reports or safety concerns.

The Healthcare Collaborative Committee recommended that the pilot program initiated at Greenville Memorial be expanded throughout the Greenville Health System upon review of that system's policy and evidence-based success, as follows:

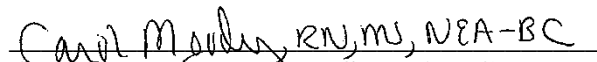
- (1) It is within the scope of practice for an RN to administer/monitor low dose Ketamine via continuous infusion with physician orders for specific cases of acute pain management for patients who are opioid-tolerant, intractable post-operative pain, poorly controlled chronic pain, palliative care or patients suffering from extreme opioid side effects in an acute care setting.
  - a. Orders and infusion rate adjustments **MUST** originate from a Licensed Independent Practitioner as designated by facility policy.
  - b. Facility policy will direct Nursing education and competency.
  - c. Policy will address specific patient populations and placement within the facility.
  
- (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.

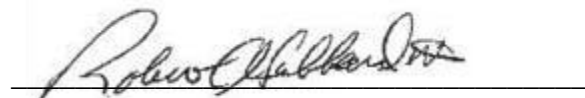
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<sup>1</sup>The State Board of Medical Examiners approved the Healthcare Collaborative Committee's recommendation for expansion throughout the Greenville Health System at its meeting on November 2, 2015. The State Board of Pharmacy approved the recommendation at its November 18, 2015 meeting. The State Board of Nursing approved the recommendation at its November 19, 2015 meeting.

- (3) Precautions must be taken, including:
- a. Identification and monitoring for known or suspected cardiovascular disease including angina, heart failure, or hypertension; CNS masses, abnormalities or hydrocephalus; glaucoma or acute globe injury; porphyria; and uncontrolled thyroid disorders.
  - b. Falls precautions and ambulation assistance required.
  - c. 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 of pulse oximetry, end tidal CO<sub>2</sub>, and sedation scale;
  - b. Parameters for provider notification;
  - c. Management of common side effects;
  - 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 identified by facility policy;
  - b. As ketamine is a controlled substance, follow state and facility policy on management;
  - c. Low-dose ketamine should be infused through port less IV tubing to avoid inadvertent blousing; and
  - d. 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.

The State Boards of Medical Examiners, Nursing and Pharmacy hereby approve this request, but emphasize that the approval of low dose Ketamine infusions for the management of pain applies **only** to the Greenville Health System. Any other provider interested in developing a similar program should submit a request for review and input from the Healthcare Collaborative Committee.

  
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**Carol A. Moody, RN, MS, NEA-BC**  
President, S.C. Board of Nursing

  
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**Robert C. Hubbard, RPh**  
Chair, S.C. Board of Pharmacy

  
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**Stephen R. Gardner, M.D.**  
President, S.C. State Board of Medical Examiners