

STATE OF FLORIDA
BOARD OF NURSING

IN RE: PETITION FOR DECLARATORY STATEMENT OF:
KIMBERLY J. DIXON GODFREY, BSN, RN, CPAN

FINAL ORDER

THIS MATTER came before the Board of Nursing (Board) pursuant to Section 120.565, Florida Statutes and Rule 28-105, Florida Administrative Code, at a duly-noticed public teleconference meeting held on April 8, 2021, for the purpose of considering the Petition for Declaratory Statement (attached as Exhibit A), filed by Kimberly J. Dixon Godfrey, BSN, RN, CPAN (Petitioner). Petitioner was represented at the hearing by Jamie A. Klapholz and Cynthia A. Mikos, Attorneys at Law. The Board was represented by Deborah Bartholow Loucks, Senior Assistant Attorney General.

The Petition was filed with the Department of Health on March 17, 2021. Petitioner seeks the Board's opinion as to whether the intravenous administration of ketamine to patients in the Post-Anesthesia Care Unit (PACU) at the Mayo Clinic hospital in Jacksonville, Florida is within her scope of practice as a registered nurse under the circumstances described in her Petition.

Having considered the Petition, relevant statutes and rules, arguments submitted by counsel for Petitioner and being otherwise fully advised in the premises, the Board makes the following findings and conclusions:

FINDINGS OF FACT

1. The Petition was duly filed and noticed in the Florida Administrative Register; Volume 47 Number 54 published on March 19, 2021.

2. The Petition is attached hereto and incorporated herein by reference.

3. Petitioner, Kimberly J. Dixon Godfrey, BSN, RN, CPAN is a registered nurse licensed to practice nursing in the State of Florida, having been issued license number RN1800002. She has been licensed as a registered nurse in the State of Georgia since 2016.

4. Petitioner is the PACU RN Team Lead at the Mayo Clinic in Jacksonville, a position she has held since 2016. Additionally, she has over 22 years of experience as a PACU nurse.

5. Petitioner is certified in Advanced Cardiac Life Support. She is a Certified Post-Anesthesia Nurse (CPAN) through the American Board of Perianesthesia Nursing Certification.

6. The Mayo Clinic-Florida uses subanesthetic ketamine for postoperative analgesia and all registered nurse in the all clinical units are trained to monitor and care for patients receiving ketamine therapy. The pharmacy department prepares the ketamine infusions and “smart” pump infusion devices with “guardrail” technology to reduce the likelihood of programming and dosing errors.

7. Petitioner inquires if it is within her scope of practice as an RN at Mayo Clinic-Florida to administer ketamine to patients in a PACU under each of two circumstances:

a. to administer a continuous ketamine infusion intravenously in a dose of 0.05 to 0.25 mg/kg/hr. to a non-intubated patient in the PACU for the purpose of pain management pursuant to an Anesthesia Provider’s order when an Anesthesia Provider is present in the Integrated Unit and immediately available in accordance with Mayo Clinic approved treatment protocols.

b. to administer an initiating/loading dose of 0.25 to 0.5 mg/kg (not to exceed 35mg) of ketamine intravenously at the onset of a continuous ketamine infusion to a non-intubated patient in the PACU for the purpose of pain management pursuant to an Anesthesia Provider’s order

when an Anesthesia Provider is present in the Integrated Unit and immediately available in accordance with Mayo Clinic approved treatment protocols.

CONCLUSIONS OF LAW

8. The Board has jurisdiction over this matter pursuant to section 120.565, and Chapter 464, Florida Statutes.

9. The petition filed in this matter is in substantial compliance with the provisions of Section 120.565, Florida Statutes and Rule 28-105, Florida Administrative Code.

10. Section 464.003(19), Florida Statutes, defines the practice of professional nursing, in part, as

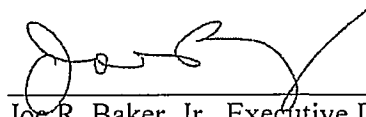
the performance of those acts requiring substantial specialized knowledge, judgment, and nursing skill based upon applied principles of psychological, biological, physical, and social sciences which shall include, but not be limited to:

b. The administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized by the laws of this state to prescribe such medications and treatments.

11. The Board found the under the specific facts of the petition, it is within the scope of Petitioner's specific and particular education, training and experience to administer ketamine in the two circumstances set forth above.

DONE AND ORDERED this 28th day of April, 2021.

BOARD OF NURSING



Joe R. Baker, Jr., Executive Director
for Deborah McKeen, CD-LPN, BS, Chair

NOTICE OF RIGHT TO JUDICIAL REVIEW

A party who is adversely affected by this Final Order is entitled to judicial review pursuant to Section 120.68, Florida Statutes. Review proceedings are governed by the Florida Rules of Appellate Procedure. Such proceedings are commenced by filing one copy of a Notice of Appeal with the Agency Clerk of the Department of Health and a second copy, accompanied by filing fees prescribed by law, with the District Court of Appeal, First District, or with the District Court of Appeal in the Florida Appellate District where the party resides. The Notice of Appeal must be filed within thirty (30) days of rendition of the order to be reviewed.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing was furnished to **Kimberly J. Dixon Godfrey, BSN, RN, CPAN** by sending same by electronic mail to: her attorneys of record, **Jamie A. Klapholz, jamiek@jpfirm.com**; and **Cynthia Mikos, cynthiam@jpfirm.com**; and **Deborah B. Loucks**, Senior Assistant Attorney General, deborah.loucks@myfloridalegal.com, and **Angela Southwell**, Paralegal Specialist, Office of the Attorney General, angela.southwell@myfloridalegal.com, on April 28, 2021.



Deputy Agency Clerk

FILED
DEPARTMENT OF HEALTH
DEPUTY CLERK
CLERK: *Bridget Coates*
DATE: MAR 17 2021

FLORIDA DEPARTMENT OF HEALTH
BOARD OF NURSING

Petition for Declaratory Statement
Before the Board of Nursing

In re: Kimberly J. Dixon Godfrey, BSN, RN, CPAN
_____ /

Petitioner, Kimberly J. Dixon Godfrey, RN, by and through the undersigned attorneys and pursuant to section 120.565, Florida Statutes and Florida Administrative Code Rule 28-105.002, seeks the Florida Board of Nursing's ("Board") opinion as to whether the intravenous administration of ketamine to patients in the Post-Anesthesia Care Unit ("PACU") at the Mayo Clinic hospital in Jacksonville, Florida ("Mayo Clinic-Florida") is within her scope of practice as a registered nurse ("RN") under the circumstances described herein.

1. Petitioner, Kimberly J. Dixon Godfrey is a registered nurse ("RN") licensed by the Florida Board of Nursing pursuant to Florida Statutes Chapter 464 holding license number RN1800002 since 1987. Ms. Godfrey has also been licensed as an RN in the State of Georgia since 2016. She can be contacted through undersigned counsel.

2. Ms. Godfrey is currently employed at Mayo Clinic-Florida, where she has served as the PACU RN Team Lead since 2016. In this role, Ms. Godfrey is responsible for preoperative patient care, all PACU phases, and RN sedation. Ms. Godfrey has over 22 years of experience as a PACU nurse. Ms. Godfrey's curriculum vitae is enclosed as **Exhibit 1**.

3. Ms. Godfrey holds Advanced Cardiac Life Support ("ACLS") certification from the American Heart Association. In addition, she is a Certified Post-Anesthesia Nurse ("CPAN") through the American Board of Perianesthesia Nursing Certification, Inc. Ms. Godfrey currently serves as the president of the Florida Society of Perianesthesia Nurses. As an active member of

the American Society of Perianesthesia Nurses, she has devoted significant time and effort to the advancement of her profession for many years.

4. As detailed in an article published in the *Journal of PeriAnesthesia Nursing* in June of 2015, Mayo Clinic-Florida has successfully used subanesthetic ketamine for post-operative analgesia for many years.¹ Though RNs do not presently administer ketamine to non-intubated patients at Mayo Clinic-Florida, RNs in all clinical units are trained to monitor and care for patients receiving ketamine therapy.² The pharmacy department prepares the ketamine infusions and “smart” pump infusion devices with “guardrail” technology are used to administer the ketamine infusions to reduce the likelihood of programming and dosing errors.³

5. Mayo-Clinic Florida contains two PACUs that are each connected to a pre-operative area and operating rooms (collectively, the “Integrated Unit”). The First-Floor Integrated Unit consists of seven operating rooms and roughly 14 PACU beds. The Fourth Floor Integrated Unit currently consists of 19 operating rooms and 36 PACU beds but is being renovated for an expansion to 34 operating rooms and 50 PACU beds. An anesthesiologist, anesthesia resident physician, or certified registered nurse anesthetist (collectively, “Anesthesia Provider”) remains on duty in the Integrated Unit at all times when there is a patient in the Integrated Unit.

6. At Mayo Clinic-Florida, intubated patients in the PACU are extubated as soon as possible because prolonged intubation carries numerous risks. However, extubated patients in the PACU often remain in significant pain and require sufficient and timely pain relief to maintain stability. For this population of patients, Mayo Clinic-Florida’s Anesthesia Providers will often

¹ Porter, McClain, Howe, et al, *Perioperative Ketamine for Acute Postoperative Analgesia: The Mayo Clinic-Florida Experience*, 30 *Journal of PeriAnesthesia Nursing* 3, 189-195 (June 2015).

² *Id.* at 194.

³ *Id.* at 193.

order subanesthetic ketamine because of its ability to produce a state of analgesia without causing hypotension or respiratory depression.⁴

7. At Mayo Clinic-Florida, some patients arrive in the PACU from the operating room with low-dose ketamine infusions already in progress. When the ketamine infusion is established in the PACU, RNs (including Ms. Godfrey) will routinely “set up” the “smart” pump infusion devices by entering the patient’s weight and the ordered ketamine dose. Then, due to the lack of clarity about the RN’s ability to initiate the ketamine infusion, the patient must wait for a physician or advanced practice provider to come press the start button to begin to the ketamine infusion. Though an Anesthesia Provider is always on duty in the Integrated Unit when a patient is in the PACU, the Anesthesia Provider may be preparing another patient in the pre-operative area, administering anesthesia in the operating room, or evaluating another patient’s condition in the PACU. The Anesthesia Provider is immediately available to respond to an emergent event but may not be able to immediately initiate a low-dose ketamine infusion. This becomes especially problematic during the evening shift when fewer Anesthesia Providers are generally on duty.

8. The Mayo Clinic Health System maintains an order set titled *Ketamine Low Dose Infusion* that provides for continuous cardiac monitoring and pulse oximetry, as well as routine vital sign monitoring. This order set also provides for the supervising provider to be notified if a patient’s respiratory rate, Richmond Agitation and Sedation Scale (“RASS”) scores, or oxygenation saturation fall outside of specified parameters. The supervising provider is also to be notified if the patient experiences confusion, delirium, or hallucinations.

⁴ Brown and Tucker, *Ketamine for Acute Pain Management and Sedation*, 40 *Critical Care Nurse* 5, e26 (Oct. 2020).

9. At the Mayo Clinic Health System's campuses in Minnesota and Arizona, RNs are permitted to administer ketamine pursuant to guidance issued by the boards of nursing in those states and in accordance with the Mayo Clinic's Intravenous Administration Guidelines ("I-VAG"), a copy of which is enclosed as **Exhibit 2**. Mayo Clinic's Pharmacy & Therapeutics Executive Committee developed the I-VAG based on extensive review of data, clinical indications for ketamine, and the Minnesota Board of Nursing's *Statement of Accountability for Administration of Medications Classified as Anesthetics by the Registered Nurse* adopted in October 2005 and reaffirmed in October of 2016.

10. The Mayo Clinic Health System is attempting to standardize order sets and treatment protocols throughout its locations.

11. Ms. Godfrey seeks the Board's determination as to whether it is within her scope of practice as an RN at Mayo Clinic-Florida to administer ketamine to patients in the PACU under each of the following two circumstances:

- (a) Ms. Godfrey seeks the Board's determination as to whether it is within her scope of practice as an RN to administer a continuous ketamine infusion intravenously in a dose of 0.05 to 0.25 mg/kg/hr. to a non-intubated patient in the PACU for the purpose of pain management pursuant to an Anesthesia Provider's order when an Anesthesia Provider is present in the Integrated Unit and immediately available in accordance with Mayo Clinic approved treatment protocols.
- (b) Ms. Godfrey seeks the Board's determination as to whether it is within her scope of practice as an RN to administer an initiating/loading dose of 0.25 to 0.5 mg/kg (not to exceed 35 mg) of ketamine intravenously at the onset of a continuous ketamine infusion to a non-intubated patient in the PACU for the purpose of pain management pursuant to an Anesthesia Provider's order when an Anesthesia Provider is present in the Integrated Unit and immediately available in accordance with Mayo Clinic approved treatment protocols.

OVERVIEW OF RELEVANT MEDICAL LITERATURE

12. Ketamine is approved by the United States Food and Drug Administration as a nonbarbiturate anesthetic producing an anesthetic state characterized by profound analgesia,

normal pharyngeal-laryngeal reflexes, normal or slightly enhanced skeletal muscle tone, cardiovascular and respiratory stimulation, and occasionally a transient and minimal respiratory depression.⁵ Ketamine is noted for its ability to produce a state of anesthesia while preserving respiratory drive and protective airway reflexes.⁶

13. In low doses, ketamine has been shown to confer “potent, analgesic and amnestic effects that are accompanied by preservation of protective airway responses, spontaneous respiration and cardiopulmonary stability.”⁷ Low-dose ketamine is generally less than 1.0 mg/kg and sometimes referred to as a subanesthetic dose, subdissociative dose, or analgesic dose.⁸ In low doses, ketamine has shown opioid-sparing effects which have made it a useful agent in many situations, including for pain relief post-operatively, in palliative care settings, and for patients with a tolerance to opioids. It is especially helpful when seeking to avoid the respiratory depression associated with the use of opioids and benzodiazepines.

14. In the PACU setting, low-dose ketamine is often used as a postoperative analgesic, especially for patients with chronic preoperative pain.⁹ In the widely cited *Consensus Guidelines on the Use of Intravenous Ketamine Infusions for Acute Pain Management* (the “Consensus Guidelines”), the authors note that commonly reported dosing regimens during the perioperative period include an initiating/loading dose of 0.1 to 0.5 mg/kg followed by an infusion of 0.1 to 0.6 mg/kg per hour, concluding that ketamine infusions for acute pain should

⁵ U.S. Food and Drug Administration. Ketalar (ketamine hydrochloride) injection. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/016812Orig1s0461bl.pdf (last accessed March 6, 2021).

⁶ Brown and Tucker, *Ketamine for Acute Pain Management and Sedation*, 40 *Critical Care Nurse* 5, e26 (Oct. 2020).

⁷ Motov, Rockoff, Cohen, et al, *Intravenous Subdissociative-Dose Ketamine Versus Morphine for Analgesia in the Emergency Department: A Randomized Controlled Trial*, 66 *Annals of Emergency Medicine* 3, 222 (Sept. 2015).

⁸ *Id.*

⁹ Porter, McClain, Howe, et al, *Perioperative Ketamine for Acute Postoperative Analgesia: The Mayo Clinic-Florida Experience*, 30 *Journal of PeriAnesthesia Nursing* 3, 190 (June 2015).

generally not exceed 1 mg/kg per hour in settings without intensive monitoring.¹⁰ The Consensus Guidelines further recommend that subanesthetic ketamine be administered by an appropriately trained RN, who “can monitor the patient receiving ketamine infusions in subanesthetic doses and change the infusion rate based on directions from the responsible physician.”¹¹

15. In October 2020, two Florida pharmacists published a narrative review of medical literature concerning ketamine for the treatment of acute pain or facilitation of mechanical ventilation in the ICU.¹² In this narrative review, the authors discussed two studies in which patients received initiating/loading doses of 0.5 mg/kg of ketamine followed by continuous infusions of 0.12 to 0.36 mg/kg per hour of ketamine for 48 hours, resulting in reduced cumulative doses of morphine and decreased patient nausea.¹³

FLORIDA LAW AND PREVIOUS FLORIDA BOARD OF NURSING
DECLARATORY STATEMENTS ON RN ADMINISTRATION OF KETAMINE

16. Under Florida law, an RN’s scope of practice includes the practice of professional nursing. Section 464.003(19) of Florida Statutes defines the “practice of professional nursing” as follows:

“Practice of professional nursing” means the performance of those acts requiring substantial specialized knowledge, judgment, and nursing skill based upon applied principles of psychological, biological, physical, and social sciences which shall include, but not be limited to:

(a) The observation, assessment, nursing diagnosis, planning, intervention, and evaluation of care; health teaching and counseling of the ill, injured, or infirm; and the promotion of wellness, maintenance of health, and prevention of illness of others.

¹⁰ Schwenk ES, Viscusi ER, Buvanendran A, et al, *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*, 43 *Regional Anesthesia and Pain Medicine* 5, 460 (July 2018).

¹¹ *Id.* at 461, 463.

¹² Brown and Tucker, *Ketamine for Acute Pain Management and Sedation*, 40 *Critical Care Nurse* 5, e26-e33 (Oct. 2020).

¹³ *Id.* at e26.

(b) **The administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized by the laws of this state to prescribe such medications and treatments.**

(c) The supervision and teaching of other personnel in the theory and performance of any of the acts described in this subsection.

A professional nurse is responsible and accountable for making decisions that are based upon the individual's educational preparation and experience in nursing.

(emphasis added).

17. An RN's administration of ketamine is not directly addressed in Florida's Nurse Practice Act or associated regulations. In 2012, the Board proposed a regulation to govern the circumstances under which an RN may administer conscious sedation, including the use of ketamine, but this proposed regulation was invalidated by an administrative law judge ("ALJ") in a rule challenge proceeding.¹⁴ The ALJ reasoned, among other things, that the Board did not have authority to impose additional education/training requirements or otherwise limit the RN's ability to administer any medication ordered by a duly licensed practitioner because no such limitation is included in the Nurse Practice Act.¹⁵

18. In a similar case a few years later, an ALJ reasoned that the Board's blanket statement prohibiting RNs from injecting Botox was contrary to the expressed statutory policy allowing RNs to administer medications within their scope of practice (the ALJ explained that "Botox is a medication" and "injection is one of the methods of administration of a medication.").¹⁶

19. Upon information and belief, the Board first addressed whether an RN may administer ketamine nearly 20 years ago in its April 29, 2003 Final Order regarding *In Re: The Petition for Declaratory Statement of Linda C. Noelke, RN*. The Board ruled that it was not in

¹⁴ *Florida Med. Ass'n v. Dep't of Health, Bd. of Nursing*, Case No. 12-1545RP (Fla. DOAH Nov. 2, 2012), *aff'd*, 132 So. 3d 225 (Fla. 1st DCA 2014).

¹⁵ *Id.*

¹⁶ *Hill v. Dep't of Health, Bd. of Nursing*, No. 14-4511RU (Fla. DOAH Mar. 10, 2015).

Ms. Noelke's scope of practice as an RN trained in basic cardiac life support to administer intravenous ketamine pursuant to a written or verbal order by a surgeon in an ambulatory surgery center setting where the patient is not intubated, for the purpose of rendering the patient insensible to pain for the injection of local anesthetic and surgical procedures, or where there is no anesthesiologist on staff. Notably, Ms. Noelke's Petition did not specify the ketamine doses, the level of supervision, or whether the administration of ketamine would be pursuant to facility approved treatment protocols.

20. In the Amended Final Order dated February 28, 2014 in *In Re Petition for Declaratory Statement of Lancia L. Simmons, RN*, this Board approved Ms. Simmons' administration of intravenous ketamine at low doses (up to 50 mcg/kg/min¹⁷ but generally 25 mcg/kg/min or less) to mechanically ventilated patients in an ICU for purposes of sedation or pain control. This Board also approved Ms. Simmons' administration of intravenous ketamine at analgesic doses (up to 5 mcg/kg/min)¹⁸ to burn patients, some of whom may not be intubated, for pain control during certain time limited procedures such as dressing changes in the burn unit of Tampa General Hospital.

21. In its Amended Final Order dated August 7, 2017 in *In Re: The Petition for Declaratory Statement of Amberly L. Porto, RN*, this Board approved Ms. Porto's administration of ketamine intravenously or intramuscularly at a dose of 0.5 mg/kg or less, pursuant to an order by a licensed physician or advanced registered nurse practitioner (n/k/a advanced practice registered nurse) under policies and procedures established by an interdisciplinary team at Tampa General Hospital, for analgesia to end-stage patients receiving palliative care who suffer

¹⁷ There are 1,000 micrograms (mcg) in one milligram (mg), and 60 minutes in an hour. Therefore, 50 mcg/kg/min = 3.0 mg/kg per hour.

¹⁸ 5 mcg/kg/min = 0.3 mg/kg per hour.

from pain that is chronic, intractable, or difficult to control as an alternative to, or adjunct to, opioids.

22. Similarly, in the Final Order dated July 7, 2017 in *In Re: The Petition for Declaratory Statement of Richard P. Pearson, RN*, this Board approved Mr. Pearson's administration of ketamine intravenously or intramuscularly at a dose of .05 mg/kg or less, no more frequently than once every four hours, pursuant to policies and procedures established by an interdisciplinary team at Tampa General Hospital, for pain control to patients in the emergency department. However, the Board found that it was not within Mr. Pearson's scope of practice to administer ketamine to patients in the emergency department for purposes of moderate sedation or sedation/analgesia during time limited procedures. Notably, Mr. Pearson's Petition did not specify the ketamine doses that would be administered during these time limited procedures.

23. In 2019, this Board considered three substantially similar petitions¹⁹ in which the RNs sought to administer ketamine intravenously in doses of 0.4 mg/kg or less, no more frequently than once every four hours, under the supervision of a credentialed physician or authorized practitioner, to patients being treated for treatment resistant depression in an area of the Centerstone Behavioral Hospital and Addiction Center where practitioners trained in airway management are readily available to support the patient. The Board concluded that ketamine administration was not within the RNs' scope of practice under these circumstances, noting that the petitioners failed to elaborate on the level of supervision or the qualifications of the supervising practitioners. The petitioners also failed to describe their level of training or

¹⁹ *In Re: The Petition for Declaratory Statement of Terrence Meneely, RN*, Final Order No. DOH-19-0651-DS-MQA (Apr. 23, 2019); *In Re: The Petition for Declaratory Statement of Michelle Percival, RN*, Final Order No. DOH-19-0652-DS-MQA (Apr. 23, 2019); *In Re: The Petition for Declaratory Statement of Misty Barrere, RN*, Final Order No. DOH-19-0650-DS-MQA (Apr. 23, 2019).

certification beyond RN education. The Board further concluded that “[k]etamine by intravenous administration is not approved for use in the treatment of treatment resistant depression” and “[t]he safe administration of intravenous ketamine without direct supervision by a physician or practitioner qualified to provide emergency airway management including intubation and resuscitation is not within the scope of practice for Registered Nurses in Florida.”

24. Here, Ms. Godfrey seeks to administer low dose ketamine for pain control *with* direct supervision by a physician or practitioner qualified to provide emergency airway management including intubation and resuscitation.

BOARDS OF NURSING IN OTHER STATES THAT
HAVE ADDRESSED RN ADMINISTRATION OF KETAMINE

25. The administration of ketamine by RNs has come before boards of nursing in other states where licensees have sought regulatory guidance. Selected examples of boards approving RN administration of ketamine under circumstances consistent with the those set forth in paragraph 11(a)-(b) herein are described below in alphabetical order.

26. In 2014, the Alaska Board of Nursing issued an Advisory Opinion specifying that RNs may administer low-dose ketamine to provide analgesia for the treatment of post-operative pain in the opioid tolerant adult patient under circumstances similar to those described in paragraph 11(a) herein.²⁰

27. The Arizona State Board of Nursing issued an Advisory Opinion in November of 2015, revised in May of 2020, stating that “[i]t is within the Scope of Practice of a Registered Nurse (RN) to administer low-dose (sub- anesthetic) IV or intranasal Ketamine for the purposes of pain control (analgesia), depression, and sedation.”²¹

²⁰ *Advisory Opinion: IV Administration of Ketamine for the Treatment of Post-Operative, Opioid Tolerant Adult Patient by a Registered Nurse (RN)*, Alaska Board of Nursing (April 2014).

²¹ *Advisory Opinion: Ketamine Administration*, Arizona State Board of Nursing (rev. May 2020).

28. The Arkansas State Board of Nursing takes the position that it is within the scope of practice of an RN with demonstrated competency to administer pharmacologic agents under direct supervision of a physician or advanced practice registered nurse to produce moderate sedation.²²

29. The California Board of Registered Nursing has published a statement indicating that “[i]t is within the scope of practice of registered nurses to administer medications for the purpose of induction of conscious sedation for short-term therapeutic, diagnostic or surgical procedures[,]” noting that California’s Nursing Practice Act “places no limits on the type of medication or route of administration; there is only a requirement that the drug be ordered by one lawfully authorized to prescribe.”²³ The same is true of the Florida’s Nurse Practice Act’s definition of the “practice of professional nursing.”²⁴

30. The Kansas State Board of Nursing takes the position that it is within the scope of practice for an RN “to administer pharmacologic agents via the intravenous route to produce moderate sedation/analgesia, also referred to as IV ‘conscious sedation.’” The Kansas State Board of Nursing has noted that Kansas statutes authorize an RN to “execute a medical regimen as prescribed by someone licensed to practice medicine and surgery” and “[r]eceiving an order and administering an IV med is the execution of a medical regimen and is allowed when following a lawful physician’s order.”²⁵

31. The Kentucky Board of Nursing’s Advisory Opinion Statement #32, revised in October of 2020, states that “[i]t is within the scope of registered nursing practice for the RN

²² *Position Statement 94-1: Role of the Registered Nurse in the Management of Patient’s Receiving Moderate Sedation, Anesthetic Agents or Neuromuscular Blocking (paralytic) Agents For Therapeutic or Diagnostic Procedures*, Arkansas State Board of Nursing (rev. May 11, 2017).

²³ Publication on *Conscious Sedation/Moderate Sedation*, California Board of Registered Nursing (rev. Aug. 7, 2013).

²⁴ See § 464.003(19)(b), Fla. Stat.

²⁵ *Position Statement: Administration of IV Conscious Sedation (Moderate Sedation/Analgesia) By the Registered Professional Nurse*, Kansas State Board of Nursing (March 25, 2014).

who is educationally prepared and currently clinically competent to administer medications for procedural sedation and analgesia.”²⁶

32. The Maine State Board of Nursing takes the position that an RN “may administer anesthetic agents for the purpose of analgesia, muscle relaxation, or sedation provided that the nurse has received the appropriate documented training based on the facility’s established policies and procedures.”²⁷

33. On May 28, 2002, the Maryland Board of Nursing issued a Declaratory Ruling as follows: “The Board has determined that the administration of medication classified as an anesthetic agent is within the scope of practice of the registered nurse in an ACUTE CARE SETTING when administered for purposes other than anesthesia or non-procedural sedation, such as clinical circumstances requiring sedation, and/or rapid sequence intubation.”²⁸

34. The Massachusetts Board of Registration in Nursing takes the position that an “RN may administer medications intended for deep sedation to a non-intubated patient as ordered by a duly authorized prescriber” under specified conditions.²⁹

35. The Minnesota Board of Nursing in its *Statement of Accountability for Administration of Medications Classified as Anesthetics by the Registered Nurse* expressed its belief that RNs “may administer medications classified as anesthetics provided the RN has acquired the knowledge and skill to administer these medications safely.”³⁰

²⁶ *Advisory Opinion Statement #32: The Role of Nurses in Procedural Sedation, Analgesia, Airway Management, and Chest Tube Removal*, Kentucky Board of Nursing (rev. Oct. 2020).

²⁷ *Practice Questions*, Maine State Board of Nursing, available at <https://www.maine.gov/boardofnursing/practice/rpn-questions.html> (last accessed March 3, 2021).

²⁸ *Declaratory Ruling 2002-1 Re: Registered Nurse Administration of Medications Classified as Anesthetic Agents*, Maryland Board of Nursing (May 28, 2002).

²⁹ *Advisory Ruling on Nursing Practice: Administration of Medications for Sedation/Analgesia*, Massachusetts Board of Registration in Nursing (rev. June 14, 2017).

³⁰ *Statement of Accountability for Administration of Medications Classified as Anesthetics by the Registered Nurse*, Minnesota Board of Nursing (reaffirmed Oct. 2016).

36. The Nebraska Board of Nursing reaffirmed an Advisory Opinion in August of 2020 approving the appropriately trained RN to administer and monitor low-dose ketamine infusions for pain control.³¹

37. In 2018, the New Hampshire Board of Nursing published a Position Statement stating that “[i]f prescribed by physician/provider at sub-anesthetic doses, RN may monitor patient and administer [ketamine for pain control].”³² On January 29, 2020, the New Hampshire Board of Nursing further specified that a “[f]ixed dose of sub anesthetic infusion of Ketamine is within the scope of practice of an RN” when a licensed independent practitioner evaluates the patient, orders the ketamine, and is readily available in the facility during the infusion.³³

38. The New York State Board of Nursing has ruled that “[w]ithin the first 24 hours of initiation of low-dose ketamine administration, RNs, with demonstrated competence, can administer and monitor patients on this regimen only to patients in recovery rooms, critical care, hospice, step-down or palliative care areas, that is, in patientcare units with low patient to nurse ratios. Following this time period, and with no evidence of untoward side effects, such patients can be cared for by RNs, with demonstrated competence, on general patient units.”³⁴

39. The North Carolina Board of Nursing takes the position that it is within an RN’s scope of practice to administer ketamine to a non-intubated patient for moderate sedation/analgesia.³⁵

40. The Ohio Board of Nursing takes the position that an appropriately trained and credentialed RN may administer an anesthetic agent for the purpose of moderate sedation with a

³¹ *Advisory Opinion: Sub-Anesthetic Ketamine*, Nebraska Board of Nursing (reaffirmed Aug. 2020).

³² *Position Statement, Definitions, and Clinical Practice Advisories Regarding the Role of the RN and LPN in the Administration of Anesthesia, Sedation, and Analgesia*, New Hampshire Board of Nursing (June 26, 2018).

³³ *NH Board of Nursing RN Scope of Practice Advisories*, New Hampshire Board of Nursing (rev. March 9, 2020).

³⁴ *Practice Information: IV Drug Administration of Ketamine for the Treatment of Intractable Pain*, New York State Board of Nursing (June 2011).

³⁵ *Position Statement: Procedural Sedation/Analgesia*, North Carolina Board of Nursing (rev. September 2018).

valid authorized provider order in the presence of an authorized provider.³⁶ Further, on May 6, 2020, the Ohio Board of Nursing specifically stated that “qualified RNs may, pursuant to an order, and in appropriate clinical circumstances, administer ketamine to pediatric patients to achieve dissociative sedation[.]”³⁷

41. The Oklahoma Board of Nursing maintains Guidelines that allow an RN to administer agents to achieve moderate sedation upon the order of an authorized prescriber.³⁸

42. The Oregon State Board of Nursing takes the position that “[t]here may be circumstances in which a [registered] nurse, under the direction of a [Licensed Independent Practitioner], may use Ketamine in non-intubated patients. Evidence-based practice supports the use of Ketamine in the adult population as an adjunct for pain management, and in the pediatric population for pain and respiratory management.”³⁹

43. On October 7, 2020, the Pennsylvania Department of Health’s Safe and Effective Prescribing Practices Task Force published *Guidelines for Safe Administration of Low-Dose Ketamine*, which states that “Ketamine administration (infusion initiation and infusion dose changes) may be provided by any licensed practitioner, such as a registered nurse who has competence in administration of low-dose ketamine, under supervision of a physician or a CRNA.”⁴⁰

44. In 2019, South Carolina’s State Board of Medical Examiners, the State Board of Pharmacy, and the State Board of Nursing for South Carolina issued a Joint Advisory Opinion acknowledging that it is within the role and scope of the responsibilities for the RN to administer

³⁶ *Interpretive Guideline: Registered Nurse Care of Patients Receiving Intravenous Moderate Sedation for Medical and/or Surgical Procedures*, Ohio Board of Nursing (reapproved March 18, 2020).

³⁷ *Memorandum re Interpretive Guideline*, Ohio Board of Nursing (May 6, 2020).

³⁸ *Moderate (Conscious) Sedation Guidelines for Registered Nurse Managing and Monitoring Patients*, #P-06, Oklahoma Board of Nursing (rev. September 24, 2019).

³⁹ *Policy Guideline: Nursing Scope of Practice for the Use of Sedating and Anesthetic Agents*, Oregon State Board of Nursing (Feb. 2006).

⁴⁰ *Guidelines for Safe Administration of Low-Dose Ketamine*, Pennsylvania Department of Health (Oct. 7, 2020).

low dose ketamine infusions and intravenous push in specified patient care areas and for use in patients with high opioid requirements or pain/side effects refractory to traditional modalities in the ICU, PACU, or on a general floor.⁴¹

45. The Virginia Board of Nursing's *Guideline Document 90-63*, adopted in 2015, provides that an RN "may administer mild to moderate sedation under certain conditions."⁴²

46. The State of Washington's Nursing Care Quality Assurance Commission in an Advisory Opinion dated March 12, 2015 found that low-dose ketamine provides effective analgesia for the treatment of post-operative pain, neuropathic pain, and chronic pain, especially related to patients with opioid tolerance. After discussion of various studies supporting the efficacy of ketamine in treating pain, the Commission concluded that an RN may administer analgesic, sedating, and anesthetic agents for acute and chronic pain using low-dose anesthetics.⁴³

47. In March of 2020, the West Virginia Board of Examiners for Registered Professional Nurses issued a revision to its *Position Statement on Administration of Anesthetic Agents* stating that "[t]he administration of Ketamine, as prescribed by a licensed healthcare provider with appropriate prescriptive authority as a palliative care intervention is within the scope of practice of the RN."⁴⁴

48. The Wyoming State Board of Nursing in its Advisory Opinion on Ketamine published in July of 2019 found that it is within the scope of practice of the appropriately trained

⁴¹ *Joint Advisory Opinion regarding The Administration of Low Dose Ketamine Infusions in Hospital Settings, Including Acute-Care, by Nurses, South Carolina State Boards of Medical Examiners, Nursing, and Pharmacy* (April 12, 2019).

⁴² *Guideline Document 90-63: Registered Nurses and Procedural Sedation, Virginia Board of Nursing* (Nov. 17, 2015).

⁴³ *Advisory Opinion 7.1: Administration of Sedating, Analgesic, and Anesthetic Agents, Washington Department of Health, Nursing Care Quality Assurance Commission* (March 13, 2015).

⁴⁴ *Position Statement: Administration of Anesthetic Agents, West Virginia Board of Examiners for Registered Professional Nurses* (rev. March 2020).

and competent RN to administer ketamine in accordance with the Consensus Guidelines discussed herein.⁴⁵

ARGUMENT

49. If a Petition for Declaratory Statement sets forth the required elements under section 120.565 of Florida Statutes and Florida Administrative Code Rule 28-105.002, the Board must consider and rule upon the merits of the Petition.⁴⁶ This Petition sets forth the required elements by stating with particularity that Ms. Godfrey is an RN who practices in the PACU at Mayo Clinic-Florida and needs the Board to state whether administration of ketamine is within her scope of practice as an RN under section 464.003(19)(b) of Florida Statutes in the circumstances described herein. Hence, Ms. Godfrey seeks the Board's response to this Petition.

50. Ms. Godfrey's scope of practice as a Florida-licensed RN includes "the administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized by the laws of this state to prescribe such medications and treatments."⁴⁷ Ketamine is a medication and injection is one of the methods of administration of a medication. In the facts presented herein, Ms. Godfrey would administer ketamine pursuant to the order of a duly authorized and licensed practitioner in accordance with Florida's Nurse Practice Act.

51. As a Florida-licensed RN, Ms. Godfrey is "responsible and accountable for making decisions that are based upon [her] educational preparation and experience in nursing."⁴⁸ As described above, Ms. Godfrey has been practicing as an RN for roughly 34 years, the last 22

⁴⁵ *Advisory Opinion: Ketamine*, Wyoming State Board of Nursing (July 2019) (citing Schwenk ES, Viscusi ER, Buvanendran A, et al, *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*, 43 *Regional Anesthesia and Pain Medicine* 5, 460 (July 2018)).

⁴⁶ *1000 Friends of Fla., Inc. v. State, Dep't of Cmty. Affs.*, 760 So. 2d 154 (Fla. 1st DCA 2000), *as clarified* (Apr. 20, 2000).

⁴⁷ § 464.003(19)(b), Fla. Stat.

⁴⁸ § 464.003(19), Fla. Stat.

years of which have been in the PACU setting. She holds ACLS and CPAN certifications, and currently serves as president of the Florida Society of Perianesthesia Nurses. Ms. Godfrey has extensive experience setting up the “smart” pump infusion devices to administer low dose ketamine in the PACU and monitoring PACU patients during ketamine infusions.

52. In the states where RNs are specifically authorized to administer low-dose ketamine, the boards of nursing frequently describe one or more of the following criteria to ensure patient safety:⁴⁹

- (a) The facility must establish policies and procedures addressing RN competency, ketamine dosing, and patient monitoring.
- (b) The RN must be ACLS certified and appropriately trained in accordance with facility policies and procedures regarding RN competency to administer low-dose ketamine.
- (c) The ketamine should be ordered by an appropriately credentialed physician, advanced practice registered nurse, or physician assistant.
- (d) The ketamine dose should be prepared by the pharmacy.
- (e) The ketamine should be administered via an infusion pump with “guardrail” technology.
- (f) During the RN’s administration of low-dose ketamine, an appropriately credentialed physician, advanced practice registered nurse, or physician assistant should be physically present in the facility and immediately available to respond and implement emergency protocols if needed.
- (g) Appropriate emergency equipment and supplies must be immediately available in the unit (e.g., intubation equipment, cardiac monitor and defibrillation equipment, reversal agents, and resuscitation medications).

⁴⁹ See, e.g., *Advisory Opinion: Ketamine Administration*, Arizona State Board of Nursing (rev. May 2020); *Advisory Opinion: Sub-Anesthetic Ketamine*, Nebraska Board of Nursing (reaffirmed Aug. 2020); *Position Statement: Procedural Sedation/Analgesia*, North Carolina Board of Nursing (rev. September 2018); *Policy Guideline: Nursing Scope of Practice for the Use of Sedating and Anesthetic Agents*, Oregon State Board of Nursing (Feb. 2006); *Joint Advisory Opinion regarding The Administration of Low Dose Ketamine Infusions in Hospital Settings, Including Acute-Care, by Nurses*, South Carolina State Boards of Medical Examiners, Nursing, and Pharmacy (April 12, 2019); *Advisory Opinion 7.1: Administration of Sedating, Analgesic, and Anesthetic Agents*, Washington Department of Health, Nursing Care Quality Assurance Commission (March 13, 2015).

53. Ms. Godfrey would administer low-dose ketamine in accordance with all the above criteria. Ms. Godfrey has been informed that Mayo Clinic-Florida would develop policies and procedures approved by a multidisciplinary team including representatives from pharmacy, medicine, and nursing, whereby ketamine may be administered in the PACU under conditions with which Ms. Godfrey would comply. As detailed herein, the Mayo Clinic Health System has extensive experience with developing and implementing such policies and procedures.

54. As previously noted, the “practice of professional nursing” is defined in Florida law to include “[t]he administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized by the laws of this state to prescribe such medications and treatments.”⁵⁰ Ms. Godfrey’s administration of low-dose ketamine as set forth in paragraphs 11(a) and 11(b) falls within this definition. Ms. Godfrey’s training and experience make her qualified to administer low-dose ketamine in the PACU at Mayo Clinic-Florida. Accordingly, this Board should find that the acts described in paragraphs 11(a) and 11(b) are within her scope of practice as an RN.

WHEREFORE, Ms. Godfrey respectfully requests that the Board issue a declaratory statement opining that her administration of ketamine to patients in the Mayo Clinic-Florida PACU under the circumstances set forth in paragraphs 11(a) and 11(b) is within her scope of practice as a registered nurse.

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⁵⁰ § 464.003(19)(b), Fla. Stat.

Respectfully submitted this 17th day of March, 2021.

Respectfully submitted,

/s/ Jamie A. Klapholz

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the fully executed foregoing has been furnished via e-mail to Deborah B. Loucks, Esq., Senior Assistant Attorney General, at deborah.loucks@myfloridalegal.com; via e-mail to David D. Flynn, Esq., Senior Assistant Attorney General, at david.flynn@myfloridalegal.com; and via facsimile to 850-413-8743 and U.S. Mail to the Florida Department of Health, Agency Clerk, 4052 Bald Cypress Way, Bin A-02, Tallahassee, FL 32399 on this 17th day of March, 2021.

/s/ Jamie A. Klapholz

Attorney

cc: Joe Baker, Jr., Executive Director, Florida Board of Nursing (*via email*)

Petition for Declaratory Statement
Before the Board of Nursing

In re: Kimberly J. Dixon Godfrey, BSN, RN, CPAN

EXHIBIT 1

Kimberly Jean Godfrey RN, BSN, CPAN

Professional Summary

Registered nurse with 34 years' experience in acute care. 12 years in the Emergency Department and 21 years in Perianesthesia.

Licenses

- Florida RN
- Georgia RN
- Virginia RN
- CPAN (Certified Post Anesthesia Nurse)

Professional Experience

Team Lead RN Perianesthesia (Covers Pre-op, All phases PACU, RN Sedation)

Mayo Clinic Jacksonville, FL

May 2016-current

PRN PACU RN

July 2016 - current

Southeast Georgia Medical Center- Brunswick, GA

PRN INFUSION RN

Metro Infusion Center Jacksonville, FL

July 2019-current

Manager PAT/Pre-op/PACU/ENDO

November 2014 to March 2016

St. Vincent's Clay County – Middleburg, FL

Promoted to manager of Department with the additional responsibility of the Endoscopy Unit. Hospital attained JCAHO accreditation in November 2014. Currently supervise 33 associates.

Clinical Specialty Coordinator PAT/Preop/PACU

September 2013 to October 2014

St. Vincent's Clay County — Middleburg, FL

Chosen for this position to open a new hospital. Responsible for hiring staff, education, set up, budget, developing policies and procedures. 3 PAT bays, 6 OR suites, 19 Pre-op/Phase 2 bays, 9 PACU 1 Bays. Facility opened in October 2013. Hospital outpatient satisfaction scores were number 1 in Ascension Health. Prepared for JCAHO accreditation that occurs 1 year after new facility opens. Developed process for new service for outpatient infusion.

Clinical Specialty Coordinator

August 2011 to September 2013

St. Vincent's Medical Center Riverside Campus — Jacksonville, FL

Supervision of 47 employees in the PACU and Holding area. Hospital with 24 Operating rooms and 30 PACU/Holding Bays. Responsible for all scheduling, education, and operation of the unit.

Charge Nurse PACU

July 1998 to July 2011

Orange Park Medical Center — Jacksonville, FL

Supervise 18 employees in the PACU with 6 OR's and 12 PACU bays. Achieved award for having 12 of the 14 RN's in the Department Certified. Department with highest employee engagement and satisfaction scores for 3 years.

Charge Nurse Emergency Department

July 1988 to July 1998

Orange Park Medical Center — Orange Park, FL

Responsible for the day to day running of the Emergency Department to include triage, staff assignments, coordination of patient care and treatments. Grew from 20,000 visits per year up to 36,000 visits per year.

RN- Emergency Department

December 1986 to June 1988

Westside Regional Medical Center — Plantation, FL

Responsible the care of a diverse emergency population from pediatrics to the elderly

Education and Training

Associate: Nursing, December 1986

Miami Dade Community College — Miami, FL, Unites States

Bachelor of Science: Nursing, 2013

Grand Canyon University — Phoenix, AZ, USA

Completed 15-month RN-BSN with GPA of 3.9.

BLS, ACLS, PALS

Additional Information**Honors/Awards**

JASPAN treasurer 2011- current

Immediate Past President FLASSPAN 2010- 2014

President's Award 2012, 2013, 2015,2016 FLASSPAN

FLASSPAN President, October 2010 Florida Association of Peri-Anesthesia Nurses

FLASSPAN Outstanding Achievement Award, October 2008,2010

JASPAN President, September 2008 Jacksonville Peri-Anesthesia Nurses

McKechnie Grant 2006

Nurse of the Year, May 2002 Orange Park Medical Center

St. Vincent's Core Value Awards of Dedication and Integrity 2014

Leader of the Quarter St. Vincent's Clay County May 2015

St. Vincent Medical Center Legend Award and Recognition 2015

St. Vincent's Core Value Awards of Dedication 2015

FLASSPAN President Elect 2019-2020

FLASSPAN President Current

ASPAN Region 5 Director 2015-2019

ASPAN Strategic Work Teams:

Membership and Marketing 2010- current

Resource Development 2010-2018

Safety 2009, 2011, 2013

National Conference 2011-2012

Evidenced Based Practice 2014

Clinical Practice Committee 2015-Current

Strategic Planning 2015-2019

Finance 2018-2019

Well being SWT Co-chairman 2019-current

Resource Development SWT 2019-current

National Conference SWT 2019-current

Civility Task Force 2020

ERAS USA liaison 2017-current

Petition for Declaratory Statement
Before the Board of Nursing

In re: Kimberly J. Dixon Godfrey, BSN, RN, CPAN

EXHIBIT 2

Ketamine

Ketalar

AGE SPECIFICATIONS	ADULT	PEDIATRIC	NEONATAL
IV INFUSION:	YES	YES	NO
IV PUSH:	YES	YES	NO
MONITORING REQUIREMENTS			
HEART RATE AND RHYTHM:	<p>Intermittent doses: 0.3 mg/kg (max 30 mg single adult dose; 10 mg for peds) with total of dose (bolus plus continuous) not to exceed 0.3 mg/kg in one hour; HR 5 minutes, and 30 minutes, after each dose</p> <p>Infusion or PCA: Initiation and with dose changes: Continuous ECG or HR baseline, every 30 minutes x 2, then every 1 hour x 4. Maintenance: HR every 4 hours during infusion or PCA.</p> <p>Mayo Clinic Depression Center Ketamine Clinic ONLY: 0.5 mg/kg infused over a minimum of 40 minutes. HR baseline, then every 15 minutes until IV is removed.</p>		
BLOOD PRESSURE:	<p>Intermittent doses: 0.3 mg/kg (max 30 mg single adult dose; 10 mg for peds) with total of dose (bolus plus continuous) not to exceed 0.3 mg/kg in one hour; BP 5 minutes, and 30 minutes, after each dose.</p> <p>Infusion or PCA: Initiation and with dose changes: BP baseline, every 30 minutes x2, then every 1 hour x 4. Maintenance: BP every 4 hours during infusion or PCA.</p> <p>Mayo Clinic Depression Center Ketamine Clinic ONLY: 0.5 mg/kg infused over a minimum of 40 minutes. BP baseline, then every 15 minutes until IV is removed.</p>		
RESPIRATORY:			

	<p>Intermittent doses: 0.3 mg/kg (max 30 mg single adult dose; 10 mg for peds) with total of dose (bolus plus continuous) not to exceed 0.3 mg/kg in one hour; RR 5 minutes, and 30 minutes, after each dose.</p> <p>Infusion or PCA: Initiation and with dose changes: Pulse oximetry: continuous. RR and Sedation Assessment (RASS): baseline, every 30 minutes x2, then every 1 hour x 4. Maintenance: Pulse oximetry: continuous. RR and Sedation Assessment (RASS): every 4 hours during infusion or PCA.</p> <p>Mayo Clinic Depression Center Ketamine Clinic ONLY: 0.5 mg/kg infused over a minimum of 40 minutes. RR baseline, then every 15 minutes until IV is removed. Modified Observer's Alertness/Sedation scale (MOAA/S) baseline, then every 15 minutes until IV is removed.</p>
INFUSION PUMP REQUIRED:	YES
IV PUSH CAREGIVER LEVEL:	RN
HAZARDOUS:	NO
CHEMO RN:	NO
EXTRAVASATION RISK:	NO
MD MONITORING:	NO
Filter / Tubing:	

COMMENTS: When using for sedation, refer Sedation home.

ADMINISTRATION: Adult push rate: over at least 60 seconds; max 30 mg without ready access to ventilator support and continuous ECG.

Peds push rate: 0.5 mg/kg/minute; maximum 10 mg without ventilator and continuous ECG..

Adult/Peds infusion rate: **Maximum total dose (bolus plus continuous) not to exceed 0.3 mg/kg in one hour without ventilator or continuous ECG.**

P&T approved preferential dispensing and use of Ketamine bags (not syringes) for non-PCA infusions.

For **Mayo Clinic Depression Center Ketamine Clinic use only:** 0.5 mg/kg infused over a minimum of 40 minutes

INFUSION DRUGS

- **Infusion Standard Concentration:** 1 mg/mL
(Titrated Only) Peds: 1 or 2 mg/mL

- **Fluid Restricted Concentration:** ICU: 2 mg/mL or 10 mg/mL
(Formulary Acceptable)
- **Standard Units for Ordering:**
(Infusions)

See CSPG Link:

9/30/2020

http://mayoweb.mayo.edu/ps-ivpg/ivpages/ivpg_kl/ketamine.htm

See Link:

<http://intranet.mayo.edu/charlie/moderate-sedation-rst/policy/>

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P and T Committee IV Administration Guidelines

Contact the [Enterprise IVAG](#) workgroup with questions
