



State of Maryland

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To: EMS Clinicians
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From: Theodore Delbridge, MD, MPH
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Timothy Chizmar, MD
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RE: Ketamine for Severe Agitation – Important Update

Ketamine may be an effective medication for patients with severe agitation, but it must be administered with the utmost caution. Its use for anxiolysis or sedation should only be considered for the severely agitated patient who is combative, violent, and represents an immediate danger to self or others. We have outlined the following requirements for these clinical scenarios below:

- **De-escalation.** Verbal and other de-escalation techniques, as outlined in the Behavioral Emergencies protocol, should always be attempted first.
- **Decision.** As with any medication or intervention, there are inherent risks. The risks associated with ketamine (at higher doses) include loss of airway reflexes or hypoxia. It is imperative that, as with any other medication or intervention, the known risks are weighed against the potential benefits to inform a decision. EMS may not accept “orders” or requests from law enforcement officers to administer ketamine. Effective immediately, online medical direction must be obtained prior to giving ketamine for severe agitation unless doing so would present immediate and imminent harm to the patient or EMS clinician.
- **Transport.** Patients who have received ketamine must be transported in the supine position. No prone positioning or positioning underneath of a backboard is permitted. At least two EMS clinicians, one of which must be ALS, must directly care for the patient during transport by ambulance (2 ALS clinicians are recommended, if possible). The patient may not be transported by BLS alone or law enforcement.
- **Monitoring.** Due to the risk of hypoxia or airway compromise, the patient must be closely reassessed. Pulse oximetry, ETCO₂, and cardiac monitoring must be initiated at the earliest possible time after ketamine has been given. Advanced airway equipment, bag-valve-mask ventilation, and oxygen must be immediately available for all patients receiving ketamine during transport in the ambulance.
- **Midazolam.** Effective immediately, online medical direction must be obtained for midazolam dosing if a prior dose of ketamine was administered to the patient.
- **Review.** The jurisdictional medical director must review all cases in which ketamine has been given for severe agitation. Review should include evaluation of the patient’s outcome at the hospital. Opportunities for improvement should be promptly identified and acted upon through the QA/QI process.
- **Protocol.** Revisions to the ketamine and other relevant protocols are pending. This guidance serves to supplement current protocol on an interim basis.