



University Hospitals
EMS Training & Disaster
Preparedness Institute

Pharmacy PHRiday

Week 33 | August 14, 2026 | Midazolam



Welcome to UH EMS-I's Pharmacy Phriday series. In this episode we will focus on midazolam, one of the many medications discussed in this month's CE lecture, "The Poisoned Patient." This benzodiazepine is the primary pharmacological option for the treatment of seizures and is also indicated for the agitated patient and for sedation prior to various procedures.

Midazolam has become the preferred benzodiazepine for multiple reasons. It is a short acting medication with a relatively quick onset, has fewer storage restrictions compared to other benzos, and can be administered via many routes. In cases of seizures where IV access may be difficult, the ability to administer the critical medication via the IN or IM route is welcomed, and the efficacy of the medication via the IN route is very comparable to IV administration.

Epilepsy is the fourth most common neurological disorder in the world, affecting people of all ages. It is a life-threatening and life-limiting disease suffered by more than 3.4 million people currently. For more information and resources on epilepsy, click [here](#).

Rescue medications in the form of rectal and nasal medications are often prescribed for patients with known seizure disorders for out-of-hospital use for the treatment of acute repetitive seizures or clusters. It is not uncommon for EMS providers to arrive to the scene of a known epileptic that has been administered one of these products and is post-ictal.

In cases where the EMS provider arrives and the patient is still actively seizing, midazolam is considered a standard of care. It is a sedative, anticonvulsant, and hypnotic that interacts within the complex chemical and electrical activity in the Central Nervous System (CNS). It increases the effect of GABA (gamma-aminobutyric acid), a neurotransmitter that essentially slows the brain down. GABA will block impulses between nerve cells in the brain. Thus, midazolam assists the chemical GABA to slow down or apply the brakes to the CNS system. Increased GABA = increased sedation.

The sedative effect of midazolam can also be advantageous for patients other than seizure patients. Protocols indicate its use in cases of:

- Agitation
- Alcohol withdrawal
- Behavioral emergencies
- Cocaine- or stimulant-induced STEMI
- Stimulant overdoses

Midazolam can also be used before performing procedures such as pacing, cardioversion, advanced airway procedures, and CPR-induced awareness. An additional benefit to the use of midazolam in these cases is the medications' tendency to cause amnesia.

Adverse reactions of midazolam are related to the medication's depressant or inhibiting effect on the CNS. These may include drowsiness, respiratory depression, or hypotension, to name a few. These considerations also relate to the contraindications for the use of midazolam. It is worth special note that use of this medication should include close monitoring of the patient's respiratory effort including pulse ox and capnography. Be aware that the effects of the drug can also be accentuated with the presence of alcohol or narcotics. Other cautions include its use for elderly, pregnant, and pediatric patients.

Standard dosing of midazolam in our UH protocols for adults is 2.5 mg as a slow IV push (over two minutes) or 5.0 mg via the IN or IM route. The dosing may be repeated in 5 minutes to a maximum of 10 mg.

Pediatric patients are administered 0.1 mg/kg for IV/IO administration or 0.2 mg/kg for IN/IM administration. As for an adult patient, dosing may be repeated every 5 minutes as needed but only to a maximum dose of 2.5 mg IV/IO or 5 mg IN/IM for the pediatric patient. Midazolam

can be administered by the Advanced EMT in all listed uses except for cases of procedural sedation, airway management, or the combative pediatric patient.

Until next time, stay safe!

Where Is It?

Where can this week's medication normally be found in the drug box?



Midazolam can be found inside the secure "EMS Narcotics Box"

Narcotic box – Midazolam 5 mg/ml x2

