

# El Dorado County Emergency Medical Services



## Agency Quick Reference

Revised Date: June 19, 2023

### Medication Profile

#### **Midazolam Hydrochloride (Versed)**

##### **Class:**

Short-acting benzodiazepine/CNS agent  
Sedative-Hypnotic  
Anticonvulsant

##### **Action:**

CNS depressant with muscle relaxant, anticonvulsant, and anterograde amnestic effects. Intensifies activity of gamma-aminobenzoic acid (GABA), a major inhibitory neurotransmitter of the brain, by interfering with its reuptake and promoting its accumulation at neural synapses. Also provides some retrograde amnestic effects, making it useful after cardioversion.

**Onset:** 1-10 minutes

**Peak:** 20-60 minutes

**Duration:** 2-6 hours

##### **Adult Administration:**

###### Seizures or Severely Agitated Patient (No IV):

10mg IM. May repeat at 5mg prn every 5 minutes x 2 for ongoing seizures or severe agitation. (Max total dose = 20mg). Monitor for respiratory depression.

###### Seizures or Severely Agitated Patient (IV established):

2.5mg IV/IO diluted in 5mL NS slow push, titrated to effect. May repeat prn every 5 minutes x 2 for ongoing seizures. (Max total dose = 7.5mg) Monitor for respiratory depression.

###### Severe Anxiety or Emergence Reaction from Ketamine:

0.5mg – 1mg, slow IV/IO or IM every 5 minutes prn x 3 (Max total dose = 3mg)  
Use lower increments (0.5mg) if given following opioid or ketamine medications.

###### Pacing/Cardioversion:

1-2mg slow IVP (lower dose for elderly, debilitated or smaller adults).  
May repeat x 2 PRN. (Max total dose = 3mg)

## **Pediatric Administration:**

### **Seizures (No IV):**

0.2mg/kg IM (Max. 10mg). May repeat at 0.1mg/kg (Max. 5mg) in 5 minutes x 1 for ongoing seizures. (Max total dose = 15mg)

Divide IM volume between bilateral thighs based on age maximums:

- Neonate – 3months = **1ml**
- 3 months – 12 years = **3ml**
- 12 years – Adult = **5ml**

Monitor for respiratory depression

### **Seizures (IV established):**

0.1mg/kg in 5mL NS slow IVP over 2-5 minutes. Max single dose = 2.5mg (May repeat x1 PRN)  
(Max total dose = 5mg)

### **Pacing/Cardioversion/Severe Anxiety or Agitation:**

0.05mg/kg in 5ml NS slow IVP over 2-5 minutes. Max single dose = 1mg (May repeat x1 PRN)  
0.1mg/kg IM, single dose

Contact base station for additional doses

**All doses administered from different routes apply to the total max dose.**

### **Indications:**

Seizures  
Sedation  
Severely agitated  
Cardioversion  
Transcutaneous Pacing

### **Contraindications:**

Hypersensitivity/allergy  
Hypotension

### **Side Effects:**

CV: Fluctuations in vital signs, hypotension

CNS: Oversedation, headache, retrograde amnesia, euphoria, drowsiness, coma

RESP: Respiratory depression, respiratory arrest, cough, laryngospasm

GI: Nausea, vomiting, hiccough (diaphragmatic spasm producing a cough/noise)

EENT: Blurred vision, diplopia (seeing two objects), nystagmus

### **Pregnancy:**

Category D

### **Notes:**

- Midazolam Hydrochloride is an effective chemical restraint and should be used early in the restraint process especially with patients showing signs of excited delirium.
- May cause apnea, especially in children and the elderly. Be prepared to monitor and support respirations.
- Effects are intensified by ETOH or other CNS depressant medications. Carefully monitor vital signs including EKG and pulse oximetry.
- Midazolam is a schedule IV medication under the Controlled substance Act of 1970.