



## MIDAZOLAM

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### Description

- Benzodiazepines are sedative-hypnotics that act by increasing GABA activity in the brain. GABA is the major inhibitory neurotransmitter, so increased GABA activity *inhibits* cellular excitation. Benzodiazepine effects include anticonvulsant, anxiolytic, sedative, amnestic and muscle relaxant properties. Each individual benzodiazepine has unique pharmacokinetics related to its relative lipid or water solubility.
  - Selection of specific agent as preferred benzodiazepine is at individual agency Medical Director discretion.
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### Onset & Duration

- Any agent given IV will have the fastest onset of action, typical time of onset 2-3 minutes
  - Intranasal administration has slower onset and is less predictable compared to IV administration, however, it may still be preferred if an IV cannot be safely or rapidly obtained. Intranasal route has faster onset compared to intramuscular route.
  - IM administration has the slowest time of onset.
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### Indications

- Status epilepticus
  - Sedation of the severely agitated/combatative patient
  - Sedation for cardioversion or transcutaneous pacing (TCP)
  - Adjunctive agent for treatment of severe pain (e.g. back spasms) in adults that is uncontrolled by maximum opioid dose – **WITH CALL IN ONLY**
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### Contraindications

- Hypotension
  - Respiratory depression
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### Adverse Reactions

- Respiratory depression, including apnea
  - Hypotension
  - Consider ½ dosing in the elderly for all benzodiazepines
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### Dosage and Administration

#### MIDAZOLAM:

#### Seizure or sedation for cardioversion or transcutaneous pacing:

##### Adult:

**IV/IO route:** 2 mg

Dose may be repeated x 1 after 5 minutes if still seizing.

**IN/IM route (intranasal preferred):** 5 mg

Dose may be repeated x 1 after 5 minutes if still seizing.

**Contact Base** for more than 2 doses

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INTERMEDIATE

PARAMEDIC

**Seizure or sedation for cardioversion or transcutaneous pacing:**

**Pediatric:**

**IV/IO route** 0.05mg/kg

Maximum single dose is 2 mg IV. Dose may be repeated x 1 after 5 minutes if still seizing.

**IN/IM route (intranasal preferred):** 0.2 mg/kg.

Maximum single dose is 5 mg IN or IM. Dose may be repeated x 1 after 5 minutes if still seizing.

**Contact Base** for more than 2 doses.

**Sedation of severely agitated or combative patient:**

**Adult:**

**IV route:** 2 mg

Maximum single dose is 2 mg IV.

**IN/IM route:** 5 mg

Maximum single dose is 5 mg IN/IM.

**Contact Base** for more than **1** **2**doses.

**Sedation of severely agitated or combative patient:**

**Pediatric:**

**CONTACT BASE** before any consideration of sedation of severely agitated/combative child

**Post sedation and pain medication within 15 minutes of successfully performing RSI**

**Adult:**

**IV route:** 2 mg

**Contact Base** for additional dose.

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	INTERMEDIATE	PARAMEDIC
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### Protocol

- [Synchronized Cardioversion](#)
- [Transcutaneous Cardiac Pacing](#)
- [Seizure](#)
- [Agitated/Combative Patient](#)
- [Overdose and Acute Poisoning](#)

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### Special Considerations

- All patients receiving benzodiazepines must have cardiac, pulse oximetry monitoring and continuous waveform capnography during transport. Continuous waveform capnography recommended.
- Sedative effects of benzodiazepines are increased in combination with opioids, alcohol, or other CNS depressants.
- Coadministration of opioids and benzodiazepines is discouraged and may only be done with direct physician verbal order.
- In elderly patients > 65 years old or small adults < 50kg, lower doses may be sufficient and effective. Consider ½ dosing in these patients.