

This document is for **reference only**. Please refer to SWO's for specific indications, dosages, and applications

**IFT**

REFERENCE ONLY

**Drug Name:** Midazolam  
**Trade Name:** Versed  
**Class:**  
**Revised:** November 1, 2018

- Benzodiazepine (nonbarbiturate sedative-hypnotic agent)
- Schedule IV Controlled Substance

**Mechanism of Action:**

- Acts at the level of the limbic, thalamic, and hypothalamic regions of the CNS through potentiation of GABA (inhibitory neurotransmitter).
- Decreases neural cell activity in all regions of CNS
- Anxiety is decreased by inhibiting cortical and limbic arousal
- Promotes relaxation through inhibition of spinal motor reflex pathway, also depresses muscle & motor nerve function directly
- As an anticonvulsant, augments presynaptic inhibitions of neurons, limiting the spread of electrical activity. However, it does not alter the electrical activity of the seizure's focus.

**Indications:**

- Continuous infusions for control of status epilepticus
- Sedation during mechanical ventilation

**Contraindications:**

Shock  
Coma  
Hypersensitivity

Pregnancy (D)  
Closed Angle Glaucoma

**Precautions:**

- Patients with respiratory insufficiency (asthma, COPD, etc.) are more susceptible to respiratory depression.
- Effects are enhanced by other CNS depressants.
- Elderly

**Use caution when administering to patients with:**

- Hepatic dysfunction
- Renal insufficiency
- History of drug addiction
- Parkinson's Disease
- Myasthenia gravis

**Dosage:**

**Doses are highly variable and based on institutional guidelines and patient laboratory values. Double check orders with transferring physician.**

**Loading Dose:**

- IV/IO: 2-10 mg over 5-10 minutes PRN,

**Infusion:**

- IV/IO: 0.01 – 1 mg/kg/min,
- Titrate in 0.01 mg/kg/min increments

**Onset:**

- IV: 1-3 minutes (dose dependent)

**Duration:**

- IV: 2-6 hours after infusion complete(dose dependent)

IFT DRUG: MIDAZOLAM INFUSIONS

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## Side Effects:

### Minor:

- N/V
- Headache
- Drowsiness
- Lethargy
- Cough
- Hiccups

### Major:

- Respiratory Depression
- Apnea
- Paradoxical CNS stimulation (i.e. Valium Rage)
- Hypotension
- Cardiac Arrest

## Interactions:

- Additive with other CNS depressants
- *Macrolides* (e.g. erythromycin, clarithromycin): Inhibit metabolism of Midazolam. Can cause excess sedation to occur
- *Antifungals* (e.g. Itraconazole, ketoconazole): Inhibit metabolism of Midazolam. Can cause excess sedation to occur
- *Phenytoin*: midazolam may make levels unpredictable (decrease or increase phenytoin levels)
- *Baclofen*: midazolam is also a muscle relaxant and can cause excessive muscle relaxation with Baclofen

## PEARLS:

***Close monitoring of SPO2, ETCO2 and respiratory status is required.***

***Midazolam provides no pain relief. Agitation may be due to pain and the intubated patient should be assessed for need of pain medication/analgesia.***

***Midazolam infusions are provided multiple different concentrations and volumes. Double check all infusions to prevent a medication error.***

- *Typically supplied in a 100 mg/250 ML D5W or NS concentration.*
- *Has more potential than other benzodiazepines to cause respiratory depression and arrest. Use with extreme caution in peds. Slower administration may reduce this.*
- *Midazolam has twice the affinity for benzodiazepine receptors than does diazepam and has more potent amnesic effects*
- *It is short acting and roughly 3-4 times more powerful than diazepam*
- *Elderly, debilitated, or patients under the influence of other CNS depressants require reduced dosages*