

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 01, 2019

- Benzodiazepine (non barbiturate 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: 1-20 mg/hr
- Titrate in 0.5-1 mg/hr increments or as ordered

Onset:

- IV: 1-3 minutes (dose dependent)

Duration:

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

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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*