

Name(s)

- **Generic:** memantine (me MAN teen) | **Brand:** Namenda, Namenda XR, (Also available in titration packs)

Therapeutic Category

- N-Methyl-D-Aspartate (NMDA) Antagonist

Indication(s)

1. **Confusion/Dementia related to Alzheimer's disease (moderate to severe):** Does not cure but "may" improve patient's ability to perform daily functions as well as awareness and memory.

Dosage Form / Strength / Dosing

- **Dosage Form(s):**
 - **Capsule ER, 24 Hours:** 7 mg, 14 mg, 21 mg, 28 mg
 - **Solution:** 2 mg/mL, 10 mg/5mL
 - **Tablet:** 5 mg, 10 mg
- **Dosing for Alzheimer-Type Dementia/Confusion:**
 - **IR Tablets:** Initiate 5 mg po qd, then increase by of 5 mg each week with target dose of 20 mg/day divided every 12 hours.
 - **ER Capsules:** Initiate 7 mg po qd, then increase by 7 mg each week with target dose of 28 mg/day

Special Populations / Considerations

- **Renally Impaired:** AUC (conc. in blood plasma) increases by 4% (mild), 60% (moderate), 115% (severe). Elimination half-life increases by 18% (mild), 41% (moderate), 95% (severe).
 - If **mild/moderate** impairment, no dosage adjustments
 - If **severe** impairment (CrCl 5-29 mL/min) 14 mg/day (ER), and 5 mg bid (IR)
- **Hepatically Impaired:** Elimination half-life increased by approximately 16% in pt's w/ moderate impairment
- **Gender:** Women have 45% greater exposure than men
- **Pregnancy:** Adverse events seen in animals

Mechanism of Action & Pharmacology

- **MOA/Pharmacology:** It is purported that glutamate is the primary excitatory amino acid in the CNS. There are various NMDA glutamate receptors located throughout the brain. Under "normal" conditions glutamate receptors are blocked by magnesium ions until depolarization is induced. An overstimulation of the receptor prevents magnesium ions from reentering the cell and results in chronically open calcium influx. It is believed that the overstimulation of glutamate contributes to neuronal cell death and Alzheimer's disease. Memantine uncompetitively antagonizes the NMDA glutamate receptors and blocks the receptor like magnesium does under normal conditions.
- **Absorption:** Well absorbed | **Distribution:** 9-11 L/kg | **Metabolism:** Partially metabolized hepatically independent of the CYP system | **Excretion:** 74% is excreted in urine | **Time to Peak:** In serum the IR from peaks in 3-7 hours and the ER formulation in 9-12 hours | **Half-Life Elimination:** 60 to 80 hours | **Protein Binding:** 45%



Side Effects

- **Main (1-10%):** Hypertension, hypotension, weight gain, abdominal pain, constipation, diarrhea, vomiting, aggressive behavior, anxiety, confusion, depression, dizziness, drowsiness
- **SERIOUS:** Stevens Johnson syndrome in hypersensitivity reaction

Drug Interactions

- Alkalinizing agents (such as potassium citrate, calcium carbonate, sodium lactate, calcium acetate) or carbonic anhydrase inhibitors (such as acetazolamide, methazolamide) increase serum concentrations of memantine

Monitoring Parameters

- Cognitive fxns and functional outcomes
- hepatic and renal function

Patient Counseling Information

- Used to treat (not cure) dementia/confusion in pts with Alzheimer's disease
- Take with or without food
- If capsule
 - may open/sprinkle on spoonful of applesauce
 - do not crush/chew
- If missed dose do not double dose. Just take next dose as directed.

Reference(s)

- https://www.rxlist.com/consumer_memantine_namenda/drugs-condition.htm
- <https://www.drugs.com/ppa/memantine.html>

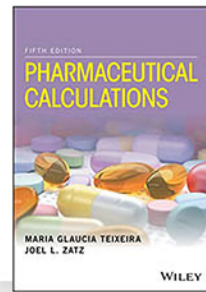


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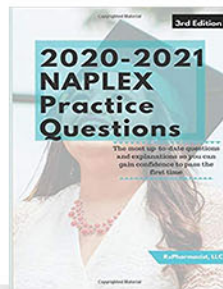
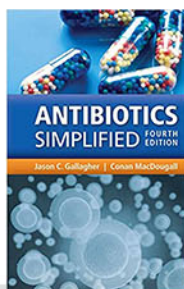
Calculations (NAPLEX)



Pharmacy Law (MPJE)



Supplemental



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This helps focus your learning and the repetition helps to retain info and indirectly prepare you for the NAPLEX



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