



# Namenda (memantine)

Generic name: Memantine

Available strengths: 5 mg, 10 mg tablets

Available in generic: No

Drug class: Cognitive enhancer/NMDA receptor antagonist

## General Information

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**Namenda (memantine)** is a cognitive-enhancing medication for treating moderate-to-severe dementia of Alzheimer's disease. Namenda is distinct from the other cognitive enhancers because it represents a new class of medications with a mechanism of action that is very different from that of other cognitive-enhancing agents. Namenda works by blocking the receptors for the neurotransmitter **glutamate**. It is believed that glutamate plays an important role in the neural pathways associated with learning and memory. In brain disorders such as Alzheimer's disease, overexcitation of neurons produced by abnormal levels of glutamate may be associated with neuronal cell dysfunction (resulting in cognitive and memory deficits) and eventual cell death (leading to deterioration and collapse of intellectual functioning). By selectively blocking a type of glutamate receptor (**NMDA receptor**) while allowing for normal neurotransmission, Namenda may help reduce the excitotoxic effects associated with abnormal transmission of glutamate. In addition, because Namenda works differently from other cognitive enhancers, it may be combined with other cognitive-enhancing agents such as Aricept. In one short-term (24 weeks) clinical study, patients who took a combination of Namenda and Aricept scored better on measures of cognition, daily activities, and overall functioning than individuals who took Aricept alone, but the study did not provide data on the long-term benefits of the combination.

## Dosing Information

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The starting dosage for Namenda is 5 mg once a day. The dosage is increased in increments of 5 mg/day, separated by a minimum interval of 1 week. After 1 week, for example, the dosage is increased to 5 mg twice a day (10 mg/day). Dosage adjustments are based on the patient's response and tolerance to the medication. The recommended target dosage is 10 mg twice a day (20 mg/day). Patients with impairment of kidney (renal) function may need lower dosages because renal excretion of Namenda is diminished.

## Common Side Effects

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Namenda is generally well tolerated. The most frequent side effects reported with Namenda include dizziness, headache, confusion, constipation, sleepiness, fatigue, and general body ache and pain. These adverse effects were more frequent at the 20-mg/day dosage, but in most cases side effects are usually mild and transient and resolve after 1–3 weeks with continued therapy.

## Adverse Reactions and Precautions

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In clinical trials, patients receiving Namenda had a higher incidence (4%) of high blood pressure than did patients who received placebo (2%). It is not clear whether Namenda is associated with a risk of inducing high blood pressure. Patients should routinely check their blood pressure while taking Namenda.

Namenda is primarily excreted from the body by the kidneys. The excretion of Namenda from the kidneys may be significantly reduced when the urine is alkaline (basic), which may reduce Namenda clearance by about 80%. Medical conditions (e.g., urinary tract infections), medications (e.g., Diamox, sodium bicarbonate), or diets that alkalinize urine would be expected to reduce excretion of Namenda from the body, which may lead to accumulation of the medication and may potentially increase adverse effects.

Namenda is associated with causing dizziness. This is particularly worrisome in seniors who may be susceptible to falling. At the initiation of therapy and at higher dosages, patients and caregivers should be aware of this potential adverse effect and the risk of falling.

Agitation and aggression were observed with Namenda during clinical trials. Caregivers of patients with Alzheimer's disease should keep in mind that aggressive behavior or agitation may not necessarily be symptoms of dementia but may be the result of an adverse effect of the medication. Family members should report any significant change in the patient's behavior to his or her physician.

## Possible Drug Interactions

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Few significant drug interactions are associated with Namenda. Because it is not metabolized extensively by the liver but excreted primarily by the kidneys unchanged, other medications do not play a significant role in the metabolism of Namenda. However, medical conditions, medications, or diets that influence the condition of urine, making it more alkaline, may affect the excretion of Namenda. Medications known as carbonic anhydrase inhibitors, including Diamox (acetazolamide) and Neptazane (methazolamide), prescribed as diuretics and for treatment of glaucoma, may alkalinize urine and decrease the excretion of Namenda. Sodium bicarbonate, found in baking soda and Alka-Seltzer, is also an alkalinizing agent.

Patients taking Namenda should not consume alcohol because the combination may increase sedation and drowsiness. Moreover, the sedative effects of alcohol may act as a depressant, obscuring the therapeutic effects of Namenda and complicating treatment.

## Overdose

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There are few documented cases of overdose with Namenda, and the information for management of overdose is continually evolving. In a reported case of overdose with 400 mg (forty 10-mg tablets) of Namenda, the patient experienced restlessness, agitation, psychosis, visual hallucinations, somnolence, stupor, and loss of consciousness. The patient recovered from the overdose.

