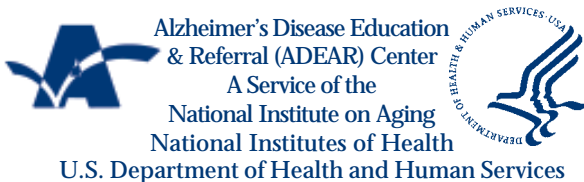


Alzheimer's Disease Medications

Fact Sheet

Five prescription drugs currently are approved by the U.S. Food and Drug Administration to treat people who have been diagnosed with Alzheimer's disease (AD). Treating the symptoms of AD can provide patients with comfort, dignity, and independence for a longer period of time and can encourage and assist their caregivers as well. It is important to understand that none of these medications stops the disease itself.



Treatment for Mild to Moderate AD

Four of these medications are called *cholinesterase inhibitors*. These drugs are prescribed for the treatment of mild to moderate AD. They may help delay or prevent symptoms from becoming worse for a limited time and may help control some behavioral symptoms. The medications are: Reminyl® (galantamine), Exelon® (rivastigmine), Aricept® (donepezil), and Cognex® (tacrine). Scientists do not yet fully understand how cholinesterase inhibitors work to treat AD, but current research indicates that they prevent the breakdown of acetylcholine, a brain chemical believed to be important for memory and thinking. As AD progresses, the brain produces less and less acetylcholine; therefore, cholinesterase inhibitors may eventually lose their effect.

No published study directly compares these drugs. Because all four work in a similar way, it is not expected that switching from one of these drugs to another will produce significantly different results. However, an AD patient may respond better to one

drug than another. Cognex® (tacrine) is no longer actively marketed by the manufacturer.

Treatment for Moderate to Severe AD

The fifth approved medication, known as Namenda® (memantine), is an *N-methyl D-aspartate (NMDA) antagonist*. It is prescribed for the treatment of moderate to severe AD. Studies have shown that the main effect of Namenda® is to delay progression of some of the symptoms of moderate to severe AD. The medication may allow patients to maintain certain daily functions a little longer. For example, Namenda® may help a patient in the later stages of AD maintain his or her ability to go to the bathroom independently for several more months, a benefit for both patients and caregivers.

Namenda® is believed to work by regulating glutamate, another important brain chemical that, when produced in excessive amounts, may lead to brain cell death. Because NMDA antagonists work very differently from cholinesterase inhibitors, the two

types of drugs can be prescribed in combination.

Dosage and Side Effects

Doctors usually start patients at low drug doses and gradually increase the dosage based on how well a patient tolerates the drug. There is some evidence that certain patients may benefit from higher doses of the cholinesterase inhibitor medications. However, the higher the dose, the more likely are side effects. The recommended effective dosage of Namenda® is 20 mg/day after the patient has successfully tolerated lower doses. Some additional differences among these medications are summarized in the table on the other side.

Patients may be drug-sensitive in other ways, and they should be monitored when a drug is started. Report any unusual symptoms to the prescribing doctor right away. It is important to follow the doctor's instructions when taking any medication, including vitamins and herbal supplements. Also, let the doctor know before adding or changing any medications.

For More Information

To learn about support groups, services, research centers, and publications about AD, contact the following groups:

Alzheimer's Association

225 N. Michigan Avenue, Suite 1700
Chicago, IL 60601
1-800-272-3900

Website: *www.alz.org*

This non-profit association supports AD research and families and caregivers of patients with AD. Nationwide chapters provide referrals to local resources.

Alzheimer's Disease Education and Referral (ADEAR) Center

P.O. Box 8250
Silver Spring, MD 20907-8250
1-800-438-4380

Website: *www.alzheimers.org*

This service of the National Institute on Aging offers information and publications on diagnosis, treatment, patient care, caregiver needs, long-term care, and research related to AD.

Note: The brief summary provided below does not include all information important for using these or any other medications or supplements. Drugs are listed in order, as appropriate.

DRUG NAME	DRUG TYPE AND TREATMENT	
<p>Namenda[®] (memantine) Blocks the toxic effects associated with excess glutamate and regulates glutamate activation.</p>	<p>N-methyl D-aspartate (NMDA) antagonist prescribed to treat symptoms of moderate to severe AD</p>	<ul style="list-style-type: none"> • •
<p>Reminyl[®] (galantamine) Prevents the breakdown of acetylcholine and stimulates nicotinic receptors to release more acetylcholine in the brain.</p>	<p>Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD</p>	<ul style="list-style-type: none"> • • •
<p>Exelon[®] (rivastigmine) Prevents the breakdown of acetylcholine and butyrylcholine (a brain chemical similar to acetylcholine) in the brain.</p>	<p>Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD</p>	<ul style="list-style-type: none"> • •
<p>Aricept[®] (donepezil) Prevents the breakdown of acetylcholine in the brain.</p>	<p>Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD</p>	<ul style="list-style-type: none"> • •
<p>Cognex[®] (tacrine) Prevents the breakdown of acetylcholine in the brain. Note: Cognex is still available but no longer actively marketed by the manufacturer.</p>	<p>Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD</p>	<ul style="list-style-type: none"> • •

* Use of cholinesterase inhibitors can increase risk of stomach ulcers, and because prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs) can increase risk of stomach ulcers, it is important to avoid NSAIDs while taking cholinesterase inhibitors.

Medications to Treat Alzheimer's Disease

ant for patient use and should not be used as a substitute for professional medical advice. Approved by the U.S. Food and Drug Administration, starting with the most recent.

MANUFACTURER'S RECOMMENDED DOSAGE	COMMON SIDE EFFECTS	
<ul style="list-style-type: none"> • 5 mg, once a day • Increase to 10 mg/day (5 mg twice a day), 15 mg/day (5 mg and 10 mg as separate doses), and 20 mg/day (10 mg twice a day) at minimum of one week intervals if well tolerated. 	Dizziness, headache, constipation, confusion	O ar re as sh
<ul style="list-style-type: none"> • 4mg, twice a day (8mg/day) • Increase by 8mg/day after 4 weeks to 8mg, twice a day (16mg/day) if well tolerated. • After another 4 weeks, increase to 12mg, twice a day (24mg/day) if well tolerated. 	Nausea, vomiting, diarrhea, weight loss	So flu ac in co
<ul style="list-style-type: none"> • 1.5mg, twice a day (3mg/day) • Increase by 3mg/day every 2 weeks to 6mg, twice a day (12mg/day) if well tolerated. 	Nausea, vomiting, weight loss, upset stomach, muscle weakness	N wi
<ul style="list-style-type: none"> • 5mg, once a day • Increase after 4-6 weeks to 10mg, once a day if well tolerated. 	Nausea, diarrhea, vomiting	N wi
<ul style="list-style-type: none"> • 10mg, four times a day (40mg/day) • Increase by 40mg/day every 4 weeks to 40mg, four times a day (160mg/day), if liver enzyme functions remain normal and if well tolerated. 	Nausea, diarrhea, possible liver damage	N m

Non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin or ibuprofen can also cause stomach ulcers, N

advice. Consult the prescribing doctor and read the package insert before use.

	POSSIBLE DRUG INTERACTIONS
e,	Other NMDA antagonist medications, including amantadine, an antiviral used to treat the flu, dextromethorphan, prescribed to relieve coughs due to colds or flu, and ketamine, sometimes used as an anesthetic, have not been systematically evaluated and should be used with caution in combination with this medication.
ss	Some antidepressants such as paroxetine, amitriptyline, fluoxetine, fluvoxamine, and other drugs with anticholinergic action may cause retention of excess Reminyl in the body, leading to complications; NSAIDs should be used with caution in combination with this medication.*
	None observed in laboratory studies; NSAIDs should be used with caution in combination with this medication.*
	None observed in laboratory studies; NSAIDs should be used with caution in combination with this medication.*
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