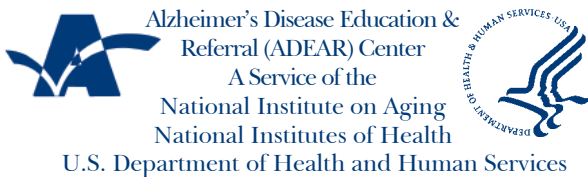


# Alzheimer's Disease Medications

## *Fact Sheet*

Five prescription drugs currently are approved by the U.S. Food and Drug Administration (FDA) 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*, and are prescribed for mild to moderate AD. These drugs may help delay or prevent symptoms from becoming worse for a limited time and may help control some behavioral symptoms. The medications are: Razadyne® (galantamine, previously known as Reminyl®), 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 they 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® is no longer actively marketed.

## 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.

The FDA has also approved Aricept® for the treatment of moderate to severe AD.

## 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 and publications about AD, contact:

### **Alzheimer's Disease Education and Referral (ADEAR) Center**

P.O. Box 8250

Silver Spring, MD 20907-8250

1-800-438-4380

Website: *www.alzheimers.nia.nih.gov*

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

### **Alzheimer's Association**

225 N. Michigan Avenue, Floor 17

Chicago, IL 60601-7633

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.

Note: The brief summary provided below does not include all information important to you. Please read the full package insert before using these or any other medications or supplements. Drug

DRUG NAME	DRUG TYPE AND TREATMENT	
<p><b>Namenda®</b> (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"> <li>•</li> <li>•</li> </ul>
<p><b>Razadyne®</b> (galantamine, formerly known as Reminyl®) 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"> <li>•</li> <li>•</li> <li>•</li> </ul>
<p><b>Exelon®</b> (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"> <li>•</li> <li>•</li> </ul>
<p><b>Aricept®</b> (donepezil) Prevents the breakdown of acetylcholine in the brain.</p>	<p>Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate, and moderate to severe AD</p>	<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<p><b>Cognex®</b> (tacrine) Prevents the breakdown of acetylcholine in the brain. <b>Note:</b> 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"> <li>•</li> <li>•</li> </ul>

\* Use of cholinesterase inhibitors can increase risk of stomach ulcers, and because prolonged use of non-

## Medications to Treat Alzheimer's Disease

Important for patient use and should not be used as a substitute for professional medical advice. Drugs are listed in order, as approved by the U.S. Food and Drug Administration.

	MANUFACTURER'S RECOMMENDED DOSAGE	COMMON SIDE EFFECTS	
-	<ul style="list-style-type: none"> <li>5 mg, once a day, available in tablet form</li> <li>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.</li> </ul>	Dizziness, headache, constipation, confusion	O an co es wi
d	<ul style="list-style-type: none"> <li>4mg, twice a day (8mg/day), available in tablet or capsule form</li> <li>Increase by 8mg/day after 4 weeks to 8mg, twice a day (16mg/day) if well tolerated.</li> <li>After another 4 weeks, increase to 12mg, twice a day (24mg/day) if well tolerated.</li> </ul>	Nausea, vomiting, diarrhea, weight loss	S flu re N ca
d	<ul style="list-style-type: none"> <li>1.5mg, twice a day (3mg/day), available in capsule and liquid form</li> <li>Increase by 3mg/day every 2 weeks to 6mg, twice a day (12mg/day) if well tolerated.</li> </ul>	Nausea, vomiting, weight loss, upset stomach, muscle weakness	N ca
d	<ul style="list-style-type: none"> <li>5mg, once a day, available in tablet form</li> <li>Increase after 4-6 weeks to 10mg, once a day if well tolerated.</li> </ul>	Nausea, diarrhea, vomiting	N ca
d	<ul style="list-style-type: none"> <li>10mg, four times a day (40mg/day), in capsule form</li> <li>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.</li> </ul>	Nausea, diarrhea, possible liver damage	N ca

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

al medical advice. Consult the prescribing doctor and read the  
ration, starting with the most recent.

	<b>POSSIBLE DRUG INTERACTIONS</b>
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.
s	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.*
	NSAIDs should be used with caution in combination with this medication.*
ch ulcers, NSAIDs should be used with caution in combination with these medications.	