Alzheimer's Disease Medications

FACT SHEET

Several prescription drugs are currently approved by the U.S. Food and Drug Administration (FDA) to treat people who have been diagnosed with Alzheimer's disease. Treating the symptoms of Alzheimer's 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 Alzheimer's

Medications called cholinesterase inhibitors are prescribed for mild to moderate Alzheimer's disease. These drugs may help delay or prevent symptoms from becoming worse for a limited time and may help control some behavioral symptoms. The medications include Razadyne® (galantamine), Exelon® (rivastigmine), and Aricept® (donepezil). Another drug, Cognex® (tacrine), was the first approved cholinesterase inhibitor but is rarely prescribed today due to safety concerns.

Scientists do not yet fully understand how cholinesterase inhibitors work to treat Alzheimer's disease, but research indicates that they prevent the breakdown of acetylcholine, a brain chemical believed to be important for memory and thinking. As Alzheimer's 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, switching from one of these drugs to another probably will not produce significantly different results. However, an Alzheimer's patient may respond better to one drug than another.

Treatment for Moderate to Severe Alzheimer's

A medication known as Namenda® (memantine), an N-methyl D-aspartate (NMDA) antagonist, is prescribed to treat moderate to severe Alzheimer's disease. This drug's main effect is to delay progression of some of the symptoms of moderate to severe Alzheimer's. It may allow patients to maintain certain daily functions a little longer than they would without the medication. For example, Namenda® may help a patient in the later stages of the disease maintain his or her ability to use the bathroom independently for several more months, a benefit for both patients and caregivers.

Namenda® is believed to work by regulating glutamate, an important brain chemical. When produced in excessive amounts, glutamate may lead to brain cell death. Because NMDA antagonists

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Alzheimer's Disease Education & Referral (ADEAR) Center
A Service of the National Institute on Aging
National Institutes of Health
U.S. Department of Health and Human Services

Medications to Treat

This brief summary does not include all information import
for professional medical advice. Consult the prescribing
any other medications or supplements. Drugs are listed

DRUG NAME	DRUG TYPE AND USE	HOW IT WORKS	COMMON SIDE EFFECTS
Namenda® (memantine)	N-methyl D-aspartate (NMDA) antagonist prescribed to treat symptoms of moderate to severe Alzheimer's	Blocks the toxic effects associated with excess glutamate and regulates glutamate activation	Dizziness, headache, constipation, confusion
Razadyne® (galantamine)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate Alzheimer's	Prevents the breakdown of acetylcholine and stimulates nicotinic receptors to release more acetylcholine in the brain	Nausea, vomiting, diarrhea, weight loss, loss of appetite
Exelon® (rivastigmine)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate Alzheimer's	Prevents the breakdown of acetylcholine and butyrylcholine (a brain chemical similar to acetylcholine) in the brain	Nausea, vomiting, diarrhea, weight loss, loss of appetite, muscle weakness
Aricept® (donepezil)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate, and moderate to severe Alzheimer's	Prevents the breakdown of acetylcholine in the brain	Nausea, vomiting, diarrhea

*Available as a generic drug.

Alzheimer's Disease

tant for patient use and should not be used as a substitute
doctor and read the package insert before using these or
in order of FDA approval, starting with the most recent.

MANUFACTURER'S RECOMMENDED DOSAGE	FOR MORE INFORMATION
• Tablet: Initial dose of 5 mg once a day • May increase dose 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 1-week intervals if well tolerated • Oral solution: same dosage as above • Extended-release tablet: Initial dose of 7 mg once a day; may increase dose to 14 mg/day, 21mg/day, and 28 mg/day at minimum 1-week intervals if well tolerated	For current information about this drug's safety and use, visit *www.namenda.com*. Click on "Prescribing Information" to see the drug label.
• Tablet*: Initial dose of 8 mg/day (4 mg twice a day) • May increase dose to 16 mg/day (8 mg twice a day) and 24 mg/day (12 mg twice a day) at minimum 4-week intervals if well tolerated • Oral solution*: same dosage as above • Extended-release capsule*: same dosage as above but taken once a day	For current information about this drug's safety and use, visit *www.razadyneer.com*. Click on "Important Safety Information" to see links to prescribing information.
• Capsule*: Initial dose of 3 mg/day (1.5 mg twice a day) • May increase dose to 6 mg/day (3 mg twice a day), 9 mg (4.5 mg twice a day), and 12 mg/day (6 mg twice a day) at minimum 2-week intervals if well tolerated • Patch: Initial dose of 4.6 mg once a day; may increase to 9.5 mg once a day and 13.3 mg once a day at minimum 4-week intervals if well tolerated • Oral solution: same dosage as capsule	For current information about this drug's safety and use, visit *www.fda.gov/cder*. Click on "Drugs@FDA," search for Exelon, and click on drug-name links to see "Label Information."
• Tablet*: Initial dose of 5 mg once a day • May increase dose to 10 mg/day after 4-6 weeks if well tolerated, then to 23 mg/day after at least 3 months • Orally disintegrating tablet*: same dosage as above • 23-mg dose available as brand-name tablet only	For current information about this drug's safety and use, visit *www.fda.gov/cder*. Click on "Drugs@FDA," search for Aricept, and click on drug-name links to see "Label Information."

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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 Alzheimer's disease.

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 inhibitors. However, the higher the dose, the more likely are side effects. The recommended effective dosages of drugs prescribed to treat the symptoms of Alzheimer's and the drugs' possible side effects are summarized in the table (see inside).

Patients 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.

Testing New Alzheimer's Drugs

Clinical trials are the best way to find out if promising new treatments are safe and effective in humans. Volunteer participants are needed for many Alzheimer's trials conducted around the United States. To learn more, talk with your doctor or visit the ADEAR Center's listing of clinical trials at *www.nia.nih.gov/Alzheimers/ResearchInformation/ClinicalTrials*. More information is available at *www.ClinicalTrials.gov.*

For More Information

To learn about support groups, research centers, research studies, and publications about Alzheimer's disease, contact the following resources:

Alzheimer's Disease Education and Referral (ADEAR) Center
P.O. Box 8250
Silver Spring, MD 20907-8250
1-800-438-4380 (toll-free)
www.nia.nih.gov/alzheimers

The National Institute on Aging's ADEAR Center offers information and publications for families, caregivers, and professionals on diagnosis, treatment, patient care, caregiver needs, long-term care, education, training, and research related to Alzheimer's disease. Staff members answer telephone, email, and written requests and make referrals to local and national resources. The ADEAR website provides free, online publications in English and Spanish; email alerts; an Alzheimer's clinical trials database; and more.

Alzheimer's Association
225 North Michigan Avenue, Floor 17
Chicago, IL 60601-7633
1-800-272-3900 (toll-free)
1-866-403-3073 (TDD/toll-free)
www.alz.org

The Alzheimer's Association is a national nonprofit association with a network of local chapters that provide education and support for people diagnosed with Alzheimer's, their families, and caregivers. The Association also supports research on Alzheimer's.

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