FDA-approved treatments for Alzheimer's

Although current medications cannot cure Alzheimer's, one treatment addresses the underlying biology. Other medications may help lessen symptoms, such as memory loss and confusion.

FDA-approved drugs for Alzheimer's

The U.S. Food and Drug Administration (FDA) has approved medications that fall into two categories: drugs that may change disease progression in people living with Alzheimer's, and drugs that may temporarily mitigate some symptoms of Alzheimer's disease.

Treatments may be available in different forms (pill, patch or other). When considering any treatment, it is important to have a conversation with a health care professional to determine whether it is appropriate. A physician who is experienced in using these types of medications should monitor people who are taking them and ensure that the recommended guidelines are strictly observed.

Drugs that may change disease progression

Drugs in this category may change disease progression with benefits to both cognition and function in people living with Alzheimer's disease:

Aducanumab (AduhelmTM)

Aducanumab is an anti-amyloid antibody intravenous (IV) infusion therapy approved for Alzheimer's disease. When considering any treatment, including aducanumab, it is important to have a conversation with your health care provider to determine if you are a candidate for the treatment.

Aducanumab works by targeting beta-amyloid, a microscopic protein fragment that forms in the brain and accumulates into plaques. These plaques disrupt communication between nerve cells in the brain and may also activate immune system cells that trigger inflammation and devour disabled nerve cells. While scientists aren't sure what causes cell death and tissue loss during the course of Alzheimer's, amyloid plaques, one of the hallmarks of the disease, are one of the potential contributors. Aduhelm is the first therapy to demonstrate that removing amyloid, one of the hallmarks of Alzheimer's disease, from the brain is reasonably likely to reduce cognitive and functional

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decline in people living with early Alzheimer's.

- Aducanumab is indicated for the treatment of Alzheimer's disease.
- The drug was studied in people living with early Alzheimer's disease — which includes people with mild cognitive impairment (MCI) or mild dementia due to Alzheimer's disease who also have evidence of a buildup of amyloid plaques in the brain. Treatment with aducanumab may be appropriate for people in the disease stage studied in the clinical trials.
- There is no safety or effectiveness data on initiating treatment at earlier or later stages of the disease than were studied.
- Some clinical trial participants who received aducanumab experienced reduction in cognitive decline observed through measures of cognition and function.
- Examples of cognition measures include:
 - o Memory
 - o Orientation
- Examples of functional measures include:
 - Conducting personal finances
 - Performing household chores such as cleaning

The most common side effects include amyloid-related imaging abnormalities (ARIA), headache and fall. Another potentially serious side effect is allergic reaction. ARIA is a common side effect that does not usually cause symptoms but can be serious. It is typically a temporary swelling in areas of the brain that usually resolves over time. Some people may also have small spots of bleeding in or on the surface of the brain with the swelling, although most people with swelling in areas of the brain do not have symptoms. Some may have symptoms of ARIA such as headache, dizziness, nausea, confusion and vision changes.

Drugs that treat symptoms Cognitive symptoms (memory and thinking)

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As Alzheimer's progresses, brain cells die and connections among cells are lost, causing cognitive symptoms to worsen. While these medications do not stop the damage Alzheimer's causes to brain cells, they may help lessen or stabilize symptoms for a limited time by affecting certain chemicals involved in carrying messages among and between the brain's nerve cells.

The following medications are prescribed to treat symptoms related to memory and thinking:

Cholinesterase inhibitors (Aricept[®], Exelon[®], Razadyne[®])

Cholinesterase (KOH-luh-NES-ter-ays) inhibitors are prescribed to treat symptoms related to memory, thinking, language, judgment and other thought processes. These medications prevent the breakdown of acetylcholine (a-SEAtil-KOHlean), a chemical messenger important for memory and learning. These drugs support communication between nerve cells.

The cholinesterase inhibitors most commonly prescribed are:

- **Donepezil** (**Aricept**[®]): approved to treat all stages of Alzheimer's disease.
- **Rivastigmine** (Exelon[®]): approved for mild-to-moderate Alzheimer's as well as mild-to-moderate dementia associated with Parkinson's disease.
- Galantamine (Razadyne[®]): approved for mild-to-moderate stages of Alzheimer's disease.

Though generally well-tolerated, if side effects occur, they commonly include nausea, vomiting, loss of appetite and increased frequency of bowel movements.

Glutamate regulators (Namenda[®])

Glutamate regulators are prescribed to improve memory, attention, reason, language and the ability to perform simple tasks. This type of drug works by regulating the activity of glutamate, a different chemical messenger that helps the brain process information. This drug is known as:

• Memantine (Namenda[®]): approved for moderate-to-severe Alzheimer's disease.

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Can cause side effects, including headache, constipation, confusion and dizziness.

Cholinesterase inhibitor + glutamate regulator (Namzeric®) This type of drug is a combination of a cholinesterase inhibitor and a glutamate regulator.

• **Donepezil and memantine (Namzaric[®])**: approved for moderate-to-severe Alzheimer's disease.

Possible side effects include nausea, vomiting, loss of appetite, increased frequency of bowel movements, headache, constipation, confusion and dizziness.

Non-cognitive symptoms (behavioral and psychological symptoms)

Alzheimer's affects more than just memory and thinking. A person's quality of life may be impacted by a variety of behavioral and psychological symptoms that accompany dementia, such as sleep disturbances, agitation, hallucinations and delusions. Some medications focus on treating these non-cognitive symptoms for a time, though it is important to try non-drug strategies to manage behaviors before adding medications.

At this time, the FDA has approved one drug to address insomnia in people living with dementia, but trials into drugs that address other non-cognitive symptoms are underway.

Orexin receptor antagonist (Belsomra®)

Prescribed to treat insomnia, this drug inhibits the activity of orexin, a type of neurotransmitter involved in the sleep-wake cycle:

• **Suvorexant (Belsomra®)**: approved for treatment of insomnia and has been shown in clinical trials to be effective for people living with mild to moderate Alzheimer's disease.

Possible side effects include, but are not limited to: risk of impaired alertness and motor coordination (including impaired driving), worsening of depression or suicidal thinking, complex sleep behaviors (such as sleep-walking and sleep-driving), sleep paralysis and compromised respiratory function.

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Participate in clinical studies

Scientists have made remarkable progress in understanding how Alzheimer's disease affects the brain.

Ultimately, the path to effective therapies is through clinical studies. Learn more about Alzheimer's Association TrialMatch[®], a free clinical studies matching service, and how you can participate in vital Alzheimer's disease research. Recruiting and retaining trial participants is now the greatest obstacle, other than funding, to developing the next generation of Alzheimer's treatments. Individuals living with dementia, caregivers and healthy volunteers are all needed to participate in clinical studies focused on Alzheimer's and other dementias.

Treatments at a glance

Name (Generic/Brand)	Approved for	Side effects
Aducanumab	Alzheimer's disease	ARIA, headache and fall
Aduhelm™	(MCI or mild dementia)	

May delay clinical decline

Treats cognitive symptoms (memory and thinking)

Name	Approved for	Side effects
(Generic/Brand)		
Donepezil	Mild to severe dementia	Nausea, vomiting, loss of
Aricept®	due to Alzheimer's	appetite, muscle cramps
		and increased frequency
		of bowel movements.
Galantamine	Mild to moderate	Nausea, vomiting, loss of
Razadyne [®]	dementia due to	appetite and increased
	Alzheimer's	frequency of bowel
		movements.
Rivastigmine	Mild to moderate	Nausea, vomiting, loss of
Exelon®	dementia due to	appetite and increased
	Alzheimer's or	frequency of bowel
	Parkinson's	movements.
Memantine	Moderate to severe	Headache, constipation,
Namenda®	dementia due to	confusion and dizziness.
	Alzheimer's	

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Memantine + Donepezil	Moderate to severe	Nausea, vomiting, loss of
Namzaric®	dementia due to	appetite, increased
	Alzheimer's	frequency of bowel
		movements, headache,
		constipation, confusion
		and dizziness.

Treats non-cognitive symptoms (behavioral and psychological)

Name	Approved for	Side effects
(Generic/Brand)		
Suvorexant	Insomnia, has been	Impaired alertness and
Belsomra®	shown to be effective in	motor coordination,
	people living with mild to	worsening of depression
	moderate Alzheimer's	or suicidal thinking,
	disease	complex sleep behaviors,
		sleep paralysis,
		compromised respiratory
		function.

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