

Drug treatments for Alzheimer's disease: Memantine

Memantine is one of a number of drugs that are available for the treatment of Alzheimer's disease. This drug may alleviate symptoms in the middle and later stages of Alzheimer's disease. This sheet provides information about how memantine works, who might benefit and what questions people should ask their doctor if being prescribed this drug.

How does memantine work?

Memantine belongs to a group of medicines called N-methyl-D-aspartate (NMDA) receptor antagonists. Memantine targets glutamate, which is a neuro-transmitter. Neurotransmitters help carry messages from one brain cell to the next. Each nerve cell has a specific set of receptors ('docking sites') responsible for receiving glutamate from the neighbouring cell.

Glutamate is present in higher levels when someone has Alzheimer's disease. When too much glutamate is present it sticks to the receptors, allowing too much calcium to move into the brain cells causing damage. Memantine sticks to the same receptors, blocking glutamate, and this prevents too much calcium from moving into the brain cells.

The use of memantine is one possible pharmaceutical approach to treating the symptoms of moderate to severe Alzheimer's disease.

What does memantine do?

The effect of memantine varies for different people. Some will not notice any effect, while others may find that their condition improves slightly, or that they stay the same when they would have expected to become gradually worse.

The areas in which some people with Alzheimer's disease may find improvement are:

- function in daily activities, e.g. washing, dressing
- an overall change in thinking, function and behaviour, e.g. remembering routines, finding way around, language and other communication skills

What forms of memantine are available?

The following is general information about memantine, which can only be prescribed by a medical practitioner. Comprehensive product information should be read before taking this medication.

The drug's generic name is memantine. It is now sold in Australia by several pharmaceutical companies under various brand names, including Ebixa, Memanxa, and APO-Memantine. Memantine is available in either 10mg or 20mg tablets. Tablets should be swallowed with water, and can be taken with or without food. Usually people start with a low dose of 5mg once per day. The dose is then gradually increased over about four weeks to a maintenance dose of typically 20mg once per day.

Does this drug have side-effects?

A small number of people taking memantine experience side-effects, which are usually mild to moderate. These side-effects can include hallucination, confusion, dizziness, headache and tiredness. Talk to your doctor if these symptoms occur.

Memantine is not recommended for people with severe kidney problems. Caution is required in people with a history of epilepsy, liver disease, heart problems or high blood pressure.

Is memantine effective for all people with dementia?

Memantine will not help everyone who takes it. It treats the symptoms of moderate to severe Alzheimer's disease only and is not a cure – there is no evidence that it can halt or reverse the process of cell damage that causes the disease.

Memantine is approved for use for people with moderate to severe Alzheimer's disease.

How does memantine interact with other drugs for Alzheimer's disease?

Memantine works differently from cholinesterase inhibitors that are also approved in Australia for treatment of Alzheimer's disease. Individuals may be able to take memantine either as stand-alone therapy or in combination with a cholinesterase inhibitor. There is some preliminary evidence that memantine and a cholinesterase inhibitor may be more effective than a cholinesterase inhibitor alone, but more research is needed.

How do you get treatment?

It is important that the person has a proper diagnosis and assessment to make sure that he/she has Alzheimer's disease, and is in the moderately severe stage of the illness. A specialist, such as a neurologist, geriatrician or psychiatrist, will usually be involved in this assessment and the prescription of the drug.

Is there any subsidy available for this drug?

Memantine is approved for listing on the Pharmaceutical Benefits Scheme (PBS) for treatment of moderately severe Alzheimer's disease. This means that the cost is subsidised by the Australian Government for those who meet the criteria for diagnosis and stage of disease. It is subsidised as a stand-alone therapy. People are not able to get subsidies for both memantine and a cholinesterase inhibitor taken in combination.

What are the conditions for getting memantine at a subsidised cost?

For an initial PBS subsidised prescription of memantine, the following conditions must be met.

Diagnosis

A diagnosis of moderately severe Alzheimer's disease must be confirmed by, or in consultation with, a medical specialist. Specialists who are able to confirm the diagnosis include geriatricians, neurologists, psychiatrists and other consultant physicians.

Cognitive assessment

A cognitive assessment using an approved test needs to be performed. This is a simple test of memory and thinking. The Mini-Mental State Examination (MMSE), and the Clinicians Interview Based Impression of Severity (CIBIS) are the tests approved for this assessment. Special arrangements can be made for testing people whose first language is not English or who have communication difficulties or hearing or sight problems.

The person with Alzheimer's disease must be in the moderately severe stages of the illness (MMSE = 10–14) based on this assessment to be eligible for the subsidy. These restrictions are less stringent for those with DVA Gold cards.

Authority for PBS subsidy

The prescribing doctor must submit an authority application in writing, including the cognitive assessment score/s, but an initial 2 months' supply can be sought by telephone. Up to 6 months' supply can be obtained on the initial authority. The treatment must be the sole PBS subsidised medication for Alzheimer's disease prescribed for the person.

Can I continue to receive medication at the subsidised rate?

Continuing to obtain the subsidy after the first 6 months depends on whether the prescribing doctor determines that memantine is providing clinical benefits to the patient. A follow-up clinical assessment will usually be done by your GP or specialist around 4 weeks and then again at 6 months after the first assessment. This will involve discussing what benefits, if any, the person with dementia and their family have noticed.

If the doctor determines that a clinically meaningful response has been demonstrated, they can obtain authority by telephone to prescribe the drug for subsequent 6 month periods. Previously, an improvement on a cognitive test had to be demonstrated for continued subsidy after the first 6 months, but as of 1 May 2013 this was no longer the only acceptable way to determine a response.

A clinically meaningful response to treatment can be demonstrated in the following areas:

- Quality of life, such as level of independence or happiness
- Cognitive function, such as memory, recognition or interest in environment, improved ability to communicate
- Behavioural symptoms, such as hallucination, delusions, anxiety, marked agitation or aggressive behaviour

To continue receiving the subsidy beyond the first year of treatment, the prescribing doctor can obtain approval by phone for each 6 months of therapy. Re-assessments for a clinically meaningful response must be undertaken and documented by the doctor every six months.

How much does memantine cost?

People who meet the conditions required by the PBS are able to purchase memantine at the subsidised rates set each year by the Australian Government. There are cheaper costs for pensioners and veterans. People who do not meet the criteria for the subsidy may choose to purchase memantine (with a prescription) at full cost, which at the time of writing is around \$50 for four weeks' supply.

Where can I find more information?

Information regarding medication and subsidies changes regularly. The latest PBS schedule is available online at [pbs.gov.au](https://www.pbs.gov.au). Dementia Australia will continue to provide these updates, which are also available online at [dementia.org.au](https://www.dementia.org.au). Your GP, specialist and pharmacist are also important sources of information.

For information about other drug treatments for Alzheimer's disease, see **Dementia Q&A sheet 1 Drug treatments for alzheimer's disease: Cholinesterase inhibitors.**

You can also refer to the Clinical Practice Guidelines and Principles of Care for People with Dementia produced by the NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People.

What questions should you ask your doctor about any drug being prescribed?

- What are the potential benefits of taking this drug?
- How long before improvement may be noticed?
- What action should be taken if a dose is missed?
- What are the known potential side-effects?
- If there are side-effects, should the dose be reduced or should the drug be stopped?
- If the drug is stopped suddenly, what happens?
- What other drugs (prescription and over-the-counter) might interact with the medication?
- How might this drug affect other medical conditions?
- Are there any changes that should be reported immediately?
- How often will a visit to the doctor be needed?
- Is the drug available at a subsidised rate?

Dementia Australia recognises that the currently licensed Alzheimer's drugs are not a cure. It is evident however that these drugs improve the quality of life for some individuals with Alzheimer's disease.

Further Information

Dementia Australia offers support, information, education and counselling. Contact the National Dementia Helpline on **1800 100 500**, or visit our website at dementia.org.au



For language assistance phone the Translating and Interpreting Service on **131 450**