

The Top Ten Treatments For Preventing Alzheimer's Disease

by J. Wesson Ashford, MD, PhD

Research is rapidly uncovering information for the treatment and prevention of Alzheimer's disease (AD). While much discussion about cause is still speculative, there is mounting evidence to support several ideas about how the disease develops. Though there is never enough evidence to prove any scientific theory, there is frequently enough evidence to discuss a particular idea with patients and to make practical recommendations. In the field of Alzheimer's disease, there are several such issues that can now be brought to the clinic setting. Here are ten recommendations based on current experience treating Alzheimer patients and on the associations between AD and other dementing disorders. Other suggestions are based on scientific hypotheses with only preliminary evidence.

1) Take your blood pressure regularly and be sure that the systolic pressure is always less than 130. This recommendation is based on the association between stroke

and Alzheimer's disease and several articles relating high blood pressure to poor memory and a higher incidence of AD, particularly in association with certain genes. There is also some evidence that patients taking diuretics for their elevated blood pressure develop less AD. So keep track of your blood pressure and, if necessary, make sure that it is well treated.

2) Watch your cholesterol; if your cholesterol is elevated, get treated with "statin" drugs.

Cholesterol levels are related to arteriosclerotic vascular disease, which is in turn related to heart disease and stroke. So, this is a good idea in any case. Pertaining to AD, there is recent evidence that brain cholesterol plays an important role in memory and is controlled by Apolipoprotein E (produced by the ApoE gene), which may be associated with 50% of the Alzheimer risk. Further, two recent studies have suggested that individuals taking "statin" drugs are less likely to get Alzheimer's disease. While these findings would not warrant prescription of statin



medication without cholesterol elevation, clearly these data give individuals with elevated cholesterol another reason to take their prescribed medications. A diet free of animal fat may also help lower cholesterol levels, and low animal fat diets may be associated with a lower AD risk. However, there are also reasons to eat deep water fish (tuna, salmon, swordfish, etc.), which contain oils thought to be good for the brain.

3) Exercise your body and mind regularly. Many studies extol the virtues of exercise, and while there are no specific links between exercise and Alzheimer's disease, there are links between exercise and health and cognition. People can get smarter by exercising. So, there is a logical recommendation to exercise to reduce the risk of AD. But, beyond this, there are recent theories linking insulin to AD.

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The blood insulin level peaks about an hour after you eat. If you exercise about 30 minutes after you eat, even just walking for about 15 minutes, you might reduce your peak insulin level and leave the insulin-degrading enzyme to do its other task of breaking down the harmful beta-amyloid that forms fibrils in the brains of Alzheimer patients. There is some recent evidence suggesting that keeping your mind active can also delay onset. While this evidence can be challenged in various ways, it makes sense to continue seeking intellectual stimulation throughout your life.

(non-steroidal anti-inflammatory drugs) have a reduced risk of Alzheimer's disease. Because the risks of these drugs (especially internal bleeding) are so great, they cannot be recommended for routine prevention. However, if you have arthritis, you should seek the advice of your doctor for treatment. Other research suggests that only certain NSAIDs may prevent the development of a toxic protein in the brain that may be a specific cause of AD (beta-amyloid-1-42). The particular NSAIDs identified with this benefit so far are ibuprofen (Motrin, Advil), sulindac

study which suggested that Vitamin E delayed specific end-points for Alzheimer patients by as much as 6 months. Though far from conclusive, this "neuro-protective regimen" has become a common treatment for AD and is taken by many as a preventive.

B12 and folate have also been advocated as brain protective agents. B12 recommendations are complicated because its levels in the body are dependent on an individual's intestinal ability to absorb it. If an individual cannot absorb B12 taken orally, monthly injections must be given. However, these issues need to be discussed with your physician. The RDA for folate is 400 micrograms (mcg) per day, but this dose can be increased to 1 mg per day if memory difficulty is a concern. However, here again, because of a complicated relationship between B12 and folate, it's essential to discuss proper dosage with your physician.

With recent findings showing a correlation between elevated homocysteine levels and Alzheimer's disease, B12 and folate become even more important because of their ability to keep homocysteine in check. Note too that alcohol and caffeine intake and tobacco use increase homocysteine levels. Your doctor may wish to check your homocysteine level.

8) Discuss sex-hormone replacement therapy (HRT) with your physician (only women for now). There are general recommendations to post-menopausal women to take HRT to reduce the risk of heart disease and improve life in a variety of ways. There is also some evidence that

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4) Wear your seat belt; wear a helmet when riding a bicycle or participating in any activity where you might hit your head. Many reports show a relationship between head injury and AD, so playing it safe can help reduce this factor.

5) If you have diabetes, make sure that your blood sugar is optimally controlled. Patients with diabetes have a tendency to get vascular disease, and this disease can injure the brain. While there is no clear relation between diabetes and Alzheimer's disease, patients who have uncontrolled blood sugars may lose memory and be at greater risk for suffering from dementia.

6) Consult your doctor about treatment for your arthritis pain. There have been several studies indicating that arthritis patients who take NSAIDs

(Clinoril), and indomethacin (Indocin). Indomethacin may be the most potent, and one study suggested that this drug does slow down the course of AD. Ibuprofen is most readily available and sulindac is the most easily administered and has the fewest side effects.

7) Take your vitamins. There is little reason not to take supplemental vitamins after age 50, and they might even help if you have some transient deficiency in your diet. There is general support to take extra supplements of Vitamin E (400 international units [IU]) and Vitamin C (500 milligrams [mg]) together (once per day for prevention, twice per day if memory problems are present, and three times per day if AD is diagnosed). These recommendations are based on the oxidation/free-radical theory of aging and Alzheimer's disease, and one large

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these hormones might reduce the risk of AD. Although one study suggests treatment of female Alzheimer patients with HRT may have more risk than benefit, the issue is of interest because these chemicals seem to enhance the function of many brain cells. This raises the question of whether HRT could help elderly males as well. Certainly men with prostate cancer should discuss this with their physicians.

9) If you have difficulty getting to sleep, consider trying up to 6 milligrams of melatonin at bedtime. Despite little scientific evidence, melatonin, a natural substance produced in the brain, may help initiate and sustain sleep. With aging, the brain produces less melatonin, and older people do sleep less. Sleep, however, is good for the body and brain and may help to keep Alzheimer pathology from developing. Although many people claim that melatonin helps a great deal, it may be effective only in those individuals with a significant melatonin deficiency. However, melatonin is an excellent antioxidant and there is evidence that suggests it may prevent the formation of toxic amyloid fibrils in the brain, which may be the primary cause of AD.

10) If you have significant difficulty with your memory, talk to your doctor about cholinesterase inhibitors. Several drugs from this class, including tacrine (Cognex), donepezil (Aricept), rivastigmine (Exelon), and galantamine (Reminyl), have been approved by the FDA for treating Alzheimer patients with mild dementia. While the primary evidence suggests that

these drugs have only a modest benefit on cognition, there have been several studies that have suggested that these drugs may slow down the progression of AD. These studies are only suggestive, not conclusive, but many physicians agree with this suggestion based on their own observations. Importantly, if these drugs can slow Alzheimer progression, then they may have their biggest advantage very early in the disease course. While doctors are not prescribing these drugs for *preventing* Alzheimer's disease, many physicians are prescribing these drugs beneficially for patients with mild memory problems. It is possible that these drugs may become a central part of preventive therapy for AD in the future.

There are several treatments in addition to those listed above that have been recommended for Alzheimer's disease as treatment or preventive agents. At this point, there is not enough data to make more explicit recommendations. For example, recommendations for Ginkgo Biloba remain ambiguous; co-enzyme Q-10 has been recommended but without wide support; and there is not enough evidence that aluminum is associated with AD, but you probably shouldn't cook tomato sauce in an aluminum pot. Alcohol in very low quantities may protect against heart disease and may protect against AD as well, but anything more than minimal use is not wise.

Several studies are exploring potential new preventions and treatments for AD. The "amyloid vaccine" is one of the most interesting, but development of this treatment was halted when some of the volunteers trying the treatment

developed brain inflammation. Also, there may be specific drugs now available that might slow Alzheimer pathology. For example, lithium and valproic acid, two drugs used to treat manic-depression, may inhibit a brain enzyme (glycogen-synthase-kinase-3-beta), which could prevent the development of neurofibrillary tangles, a late Alzheimer pathology.

Many patients with Alzheimer's disease, including those in very early phases, have problems with depression and paranoid ideas. These symptoms can and should be treated.

Another critical factor in AD, especially if early treatment can slow progression and delay dementia, is early recognition. Screening tests to be used routinely in doctors' offices for patients over 60 years of age are now being developed and may prompt many patients to get help sooner. (See: www.medafile.com for the A-Screen, a brief clinic screening test and computerized memory test.)

At this time, there are many genes being uncovered that appear to be associated with Alzheimer's disease. In the future, it is likely that specific individuals will be told not only what their risk is for developing AD, but also how they can modify their life to prevent it completely. There are so many indications that Alzheimer's disease might be prevented that there is hope mounting that we may be able to end this disease in the near future.

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