

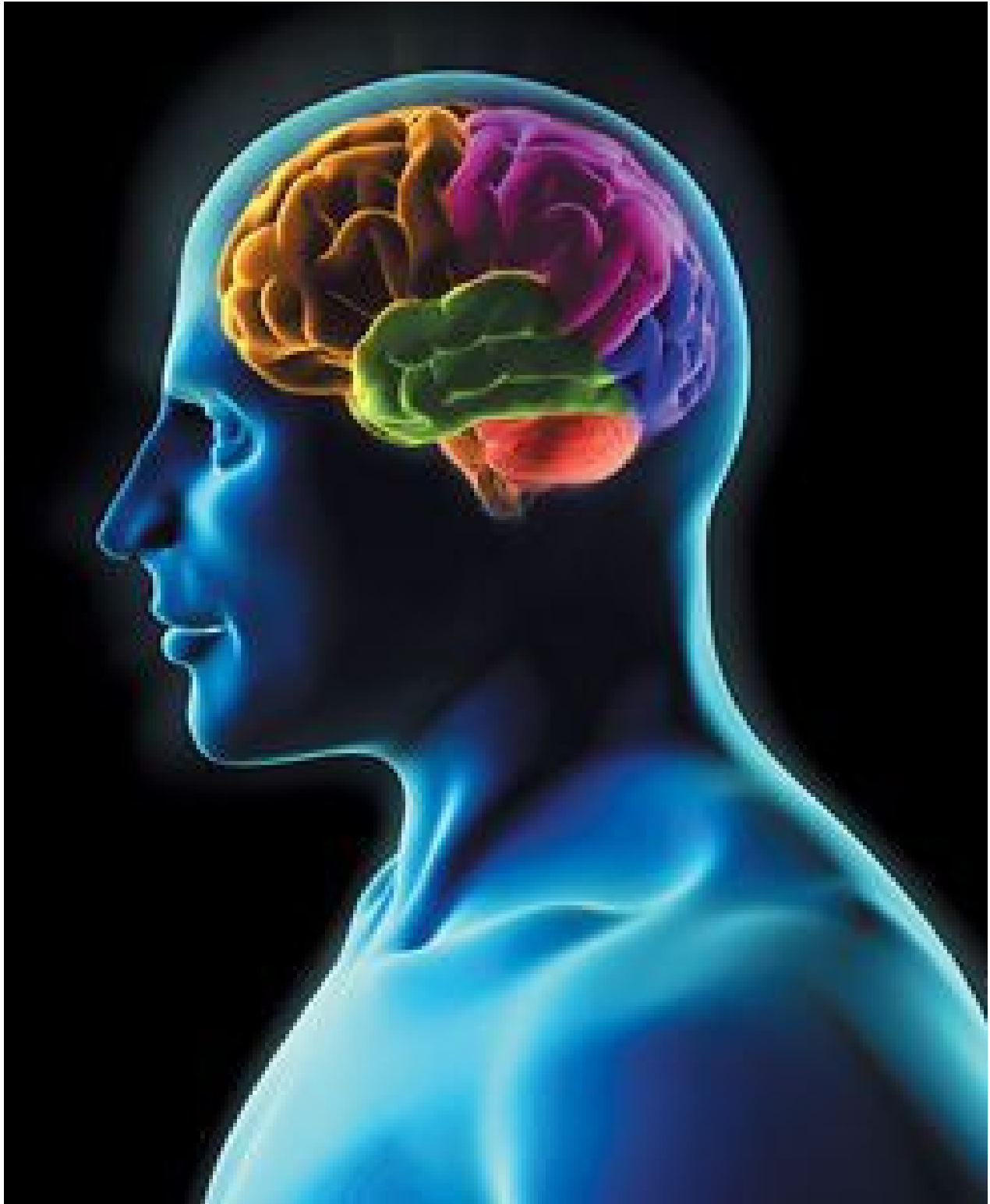
Melatonin Reduces the Transition From Mild Cognitive Impairment to Alzheimer's

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Over the years, experimental studies have shown that melatonin blocks the build-up of beta-amyloid plaque (a hallmark feature of [Alzheimer's disease](#)).¹ Human prospective studies have also shown that Alzheimer's patients tend to have lower melatonin levels than non-Alzheimer's patients.² These preliminary studies led to the development of a number of recent clinical trials that have tested the ability of melatonin supplementation to reduce the development of Alzheimer's disease in high-risk patients diagnosed with mild cognitive impairment. Mild cognitive impairment is the stage of memory loss and functional brain capacity decline that is the forerunner to the development of full-blown Alzheimer's disease.³

Patients with mild cognitive impairment are diagnosed based on a variety of signs and symptoms often first noticed by their friends and family,³ including a greater tendency than normal to forget things; forget important events such as appointments or social engagements; lose their train of thought or the thread of conversations, books or movies they are reading or viewing; feel increasingly overwhelmed by making decisions, planning steps to accomplish a task or interpreting instructions; have trouble finding their way around familiar environments; and/or be more impulsive or show increasingly poor judgment.

Melatonin Supplementation Studies



In recent years, the landmark studies by Furio, et al., and Peterson, et al., showed that patients with mild cognitive impairment (MCI) who were administered melatonin had significantly less progression to Alzheimer's disease over time than MCI patients who were not taking melatonin supplements. In these studies, the dosage range was 3-9 mg, taken one hour before bedtime.⁴⁻⁵ In addition, two other preliminary studies showed improved cognitive performance in MCI patients using melatonin dosages as low as 1 mg and as high as 6 mg.^{3,6}

This research is particularly compelling when you consider the fact that melatonin levels begin to decline during our teenage years, and by age 40 have reached a low enough level to often trigger

sleep disturbance problems. The pineal gland in the brain normally secretes melatonin in the late-evening hours (darkness is a trigger), which helps to induce sleep. As such, lower age-related melatonin levels in the brain are a major cause of insomnia and interrupted sleep problems as we get older.

Many people take melatonin as a natural [sleep aid](#) because it helps them fall asleep. However, melatonin is also a powerful brain antioxidant, and its ability to quench free radicals in this role and suppress the build-up of beta-amyloid plaque are the ways in which it has been shown in experimental studies to inhibit the steps that lead to Alzheimer's disease. The recent clinical trials showing that melatonin helps prevent Alzheimer's disease in high-risk patients is of great significance when you consider that MCI affects a large percentage of the population over 60 years of age.³

Mild Cognitive Impairment, Brain Atrophy and Alzheimer's Disease

We have known for many years that the brains of elderly people show atrophy. More recently, we have realized that atrophy occurs even in cognitively healthy subjects, but is much more accelerated in patients with Alzheimer's disease. Studies show the following:

- An intermediate rate of atrophy is found in people with mild MCI.
- People over 60 years of age without MCI normally have brain shrinkage of approximately 0.5 percent per year.
- Individuals showing MCI normally have a brain atrophy rate twice as high, approximately 1 percent per year.
- Alzheimer's patients can lose as much as 2.5 percent of brain volume per year.

The Oxford Project showed that the only proven method to slow brain atrophy after age 60 (thus far) is B-vitamin supplementation.⁷ In light of recent clinical trials, it may also be useful to include melatonin supplementation for older patients, especially in cases in which mild cognitive impairment is already present.

Drugs Versus Supplements for Sleep Disorders

With the recent finding that prescription sleep medications are linked to an increased risk of cancer, heart disease, premature death and other health conditions,⁸ I have argued that taking melatonin in a supplement that also includes 5-HTP, GABA and *Bacopa monnieri* is a much safer and effective strategy to remedy age-related insomnia and sleep disturbances. With recent studies showing that melatonin supplementation may be an important measure to help prevent Alzheimer's disease and stabilize cases of MCI, the argument in favor of using a melatonin supplement as a sleep aid, instead of prescription and over-the-counter sleeping pills, becomes even more compelling.

I suggest you use melatonin supplementation to improve sleep quality in patients you feel would benefit from this intervention as follows: The patient should begin by taking no more than 500 mcg of melatonin one hour before bedtime. If that is not sufficient to attain the desired effect, increase the dosage to 1 mg (1,000 mcg). Slowly increase the dosage by 500 mcg increments until you find the dosage that provides the patient with a good night's sleep and allows them to awaken feeling refreshed the next morning.

Note that too much melatonin can generate vivid dreams that may awaken the patient or leave them feeling drowsy in the morning. For individuals with MCI, higher dosages may be more appropriate (3-9 mg) to prevent the transition to Alzheimer's disease, as noted above. For a dosage

higher than 3 mg, physician monitoring (liver and kidney function tests) on a periodic basis is recommended.

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