



Moving to Protect Your Mind

Dementia is one of those things I don't like to think about, which is probably exactly why I should.

Dementia is a group of neuropsychiatric disorders defined as “a generalized, pervasive deterioration of memory and at least one other cognitive function, such as language and an executive function, due to a variety of causes.” (1) Causes include, but are not limited to, Alzheimer’s disease, cerebrovascular disease, Parkinson’s disease, and alcohol or other substance abuse dementia. Hearing loss is also a significant risk factor for dementia. Researchers at Johns Hopkins University found that providing hearing aids to older adults with dementia slowed their cognitive decline (2). Clinical dementia is characterized by persistent cognitive symptoms that interfere with daily functioning and social and occupational activity (1).



Four percent of people between 70-74 have dementia. That number increases to 18% for those 80-84. For those over 90 the chance of having dementia increases to 35% (3). Alzheimer’s disease, the most common form of dementia, affects over 7 million Americans (4). Of course, if you suspect that you or a loved one has dementia, contact your medical professional.

Treatments for dementia include drugs to reduce symptoms and slow progression. Health professionals design the best pharmacological approach depending on the form of dementia a patient has. Non-pharmacological approaches include cognitive stimulation and socialization. Lifestyle approaches focus on a brain-healthy diet and exercise. (4)

Yes, exercise.



There is growing evidence that exercise significantly reduces the risk of developing dementia. Researchers at Johns Hopkins University found that dementia risk decreased in a dose dependent manner with increasing amounts of physical activity (5). They studied 89,667 men and women with an average age of 63 years. They found that the risk of dementia was lower by 41% for participants who exercised up to 34.9 minutes/week, lower by 60% for those who exercised for 35-69.9 minutes per week, lower by 63% for those who exercised for 70-139.9 minutes per week, and lower by 69% for those who exercised for 140 minutes or more minutes per week.

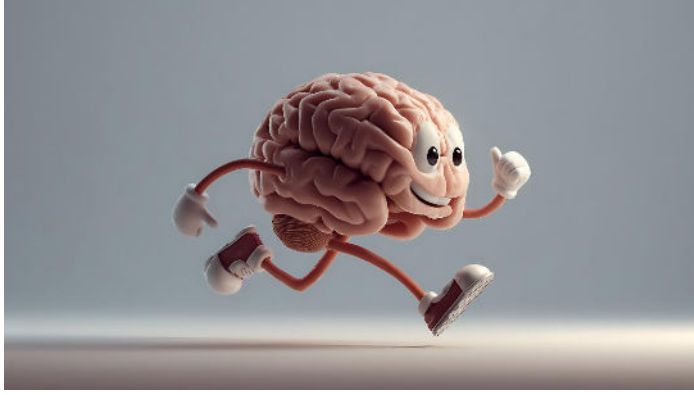
According to study lead author **Amal Wanigatunga**, PhD,

“This adds to a growing body of evidence that some exercise is better than nothing, especially with regard to an aging-related disorder that affects the brain that currently has no cure.” (5)

Remarkably, there is emerging evidence that exercise can not only slow down but partially reverse the memory loss component of dementia.

The hippocampus is a region of the brain that plays a key role in memory. Researchers have studied the role of the hippocampus in memory in dementia and the impact of exercise on hippocampal function and memory. In 2011 Kirk Erickson et al. studied 120 older adults who did not have dementia (6). Half the subjects performed moderately intense aerobic exercise weekly for one year while the control subjects performed stretching exercises for the same period. All subjects had magnetic resonance images taken of their brains before and after the year long training. The researchers found that the subjects who performed aerobic exercise had 2% larger hippocampi than the subjects who performed only stretching. They also found that aerobic exercise increased the amount of BDNF (brain derived neurotrophic factor) which is associated with neuron growth.

More recently Thomas, et al. studied the effects of aerobic exercise vs. stretching in 30 older adults with mild cognitive impairments (7). Half the subjects did aerobic training 3 times per week for 12 months while the control subjects did stretching exercises on the same schedule. Thomas' team found the group who performed aerobic exercise had significantly more cerebral blood perfusion to the anterior cingulate cortex, a brain area associated with memory. They also found an improvement in memory.



The preponderance of the exercise used in these studies was aerobic exercise. Aerobic exercise requires continuous movements that increase oxygen demand and therefore increase respiration and heart rate. Aerobic exercise is typically done for an extended period of time. For some that means walking at a “brisk” pace for 10-15 min. For

others it means jogging, swimming or biking for 20-40 min. Others will get aerobic benefits from gardening or dancing for an extended period. I am being intentionally vague so that you will find your favorite activities that increase your respiration and heart rate for an extended period of time. Doing aerobic exercise with friends gives other benefits as well.



These research results are encouraging for the millions of people who have dementia and the millions of others who are vulnerable. There is still much research to be done to understand what forms of exercise help reduce risks of dementia and improve symptoms. But the bottom line is that exercise provides significant protection against dementia.

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1. American Psychological Association, Psychiatry.org
2. (<https://publichealth.jhu.edu/2023/hearing-aids-may-slow-dementia-onset>)
3. Manly, J. et al. (2022). Estimating the Prevalence of Dementia and Mild Cognitive Impairment in the US; The 2016 Health and Retirement Study Harmonized Cognitive Assessment Protocol Project. JAMA Neurology, vol. 79, no. 12.
4. Alzheimers Association (alz.org)
5. Wanigatunga, A. et al. (2025). Moderate-to-Vigorous Physical Activity at Any Dose Reduces All-Cause Dementia Risk Regardless of Frailty Status” JAMDA, Volume 26, Issue 3105456 March 2025.

6. Erickson, K., et al., (2011). Exercise training increases the size of the hippocampus and improves memory. Proc Natl Acad Sci U S A. 2011 Jan 31;108(7):3017–3022. doi: 10.1073/pnas.1015950108.
7. Thomas, B, et al., (2020). Brain Perfusion Change in Patients with Mild Cognitive Impairment After 12 Months of Aerobic Exercise Training J Alzheimers Dis. 2020;75(2):617–631. doi: [10.3233/JAD-190977](https://doi.org/10.3233/JAD-190977))

Fun Question: Does Exercise Make You Smarter?



Yes! Several studies have shown that regular exercise can improve memory, problem solving, planning and other executive functions and increases the size of regions of the brain associated with these functions (1, 2).

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1. Exercise can boost your memory and thinking skills. (2024). Harvard Health Publishing,
2. Physical Activity Boosts Brain Health, (2025). Centers for Disease Control,

Personal Note: Workout Euphoria



One of the things I noticed early in my exercise career was the feeling of euphoria after a workout. It was a feeling of reduced pain and deep relaxation. That was long before we talked about an “endorphin rush” or a “runners high.”

This experience was initially thought to be caused by the release of endogenous opioids (endorphins). But the latest research indicates that this post workout “high” is more likely due to endocannabinoids. These are atypical neurotransmitters that modulate other neurotransmitters in the brain (1).

After years of going to the gym, I recognized that this post-workout euphoria might be responsible for my addiction to exercise. But, I decided it was a good addition and I didn’t worry about it.

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