Two Most Common Forms of Dementia

Alzheimer's Disease
- Accounts for 60-80% of cases
- Causes are unknown but are mostly likely related to genetics, environment, or lifestyle factors.
- Age-related changes such as inflammation, brain shrinkage, free radicals (environment pollution), etc. in the brain are known to harm neurons and contribute to Alzheimer’s damage.
- Exercise is proven to lower rates of Alzheimer’s disease.

Vascular dementia
- Can occurs after a stroke creates a blockage in an artery to the brain, damaged blood vessels that may reduce circulation, or other components which deprive the brain of vital nutrients and oxygen.
- Risk factors include obesity, high blood pressure, high cholesterol, diabetes, atrial fibrillation (abnormal heart beat), plaque buildup and increasing age.
- Exercise prevents most risk factors, thus preventing the overall effects of vascular dementia.

What Is Dementia?
A general term for a decline in memory or mental ability severe enough to interfere with daily life.

Causes
Dementia is caused by damaged brain cells unable to communicate with each other. The hippocampus, the region of the brain most affected by dementia, is responsible for learning and memory. Once brain cells in the hippocampus are impaired, it can no longer function properly. The disease may spread to other areas of the brain, thus disrupting judgement, visuals, language, and much more. (Alzheimer’s Association, 2016)

Major Symptoms
- Memory loss
- Obstructed communication and language
- Unable to focus
- Affected reasoning and judgment
- Irritability and explosive behavior
- Anxiety
- Mood swings
- Inability to recognize common people or objects

Treatment
Dementia treatment depends on it’s cause. However, in most cases, there is no treatment or cure to stop dementia. Medication can be prescribed to temporarily improve symptoms, although the disease can almost never be fully cured (Alzheimer’s Association, 2016).

Take Action!
There is no exact amount of exercise that flips the switch from dementia to no dementia, but there are recommendations. The Department of Health recommends: 150 minutes of moderate to vigorous activity per week (30 minutes of activity per day, five days a week). Exercise can not be prescribed by a doctor, so it is up to YOU to take action.

Why Exercise?
“Of all the lifestyle changes that have been studied, taking regular physical exercise appears to be one of the best things that you can do to reduce your risk of getting dementia.” (Alzheimer’s Association, 2016)

Exercise & Dementia
Angela Mathias
Every 1 in 3 people over the age of 65 will develop dementia; though exercise can reduce this risk by 30%.

_exercise_ mid life and later life
- Studies show exercise in adulthood has a positive correlation with thinking and memory later in life.
- The risk of Alzheimer’s Disease was reduced by 45%.
- A study of elders observed those who were in the bottom 10% of daily physical activity were more than twice as likely to develop Alzheimer’s disease compared to top 10%.
- A Scotland Study established that, at age 70, those who were physically active experienced less brain shrinkage over three years than those who were not. (Alzheimer’s Society, 2016)

Exercise and The Brain

Exercise results in reduction of plaque and tau tangles
The study "Effects of voluntary and forced exercise on plaque deposition..." displayed that mice that exercised, had significantly less plaque and tangles compared to the sedentary group. Also, the study not only found diminished memory atrophy, but also increased neurogenesis (creation of new neurons). (Yuede, Zimmerman, et al, 2009)

A separate study observed the brains of 44 adults from the ages of 40 to 85 with mild memory changes but no dementia. In the beginning of the study, the adults were primarily scanned for Alzheimer's disease; though exercise can reduce this risk by 30%.

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Just keep moving!
References


Physical Exercise as a Preventive or Disease-Modifying Treatment of Dementia and Brain Aging

J. Eric Ahlskog, PhD, MD, Yonas E. Geda, MD, MSc, Neill R. Graff-Radford, MBCh, FRCP, and Ronald C. Petersen, PhD, MD

This particular article demonstrates the effects long term exercise has on the progression of dementia, grey matter, and the aging of the brain. Grey matter resides in different parts of the brain containing sensory neurons, nerves, cells, and informally, intelligence (Robertson, 2014).

Studies have shown that grey matter and proper function significantly reduces with age and dementia (as seen in figure 1). However, a recent study used a large group of seniors to acknowledge the effects of exercise on grey matter. The study discovered significantly higher grey matter volumes and improved memory in those who completed 1 year of aerobic exercise compared to the sedentary control group (Ahlskog, 2011).

The article not only states the effects of exercise after 1 year, but also the long term effects of exercise. It has been proven that adults who habitually engaged in physical activities, sports, or regular exercise in midlife have a significantly lower risk of dementia in later years (Ahlskog, 2011).