

Physical Exercise: Good Medicine for the Brain

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Regular physical exercise is important for brain health. Being active is important whether a person has normal memory and thinking abilities or has a memory disorder such as a Mild Cognitive Impairment, early/moderate Alzheimer's disease or related progressive memory disorders.

Researchers have measured improvements in older men and women with normal memory who live independently in the community and are physically active, even if they start becoming active later in life. A simple test of memory and thinking functions, the *Folstein Mini-Mental Status Exam* scores of people with early-stage Alzheimer's disease showed that sedentary (inactive) people have a significant decrease in their scores compared to the scores of more active people. A careful review of 10 research studies found evidence that exercise improves walking and slows the decline in ADLs (personal care activities of daily living such as eating, bathing, dressing, etc.) of people who have more advanced Alzheimer's disease and live in residential care facilities.

Exercise That Helps the Brain

A routine that involves 30 to 40 minutes at a time of physical exercise for 5 days a week improves memory, attention, language skills, and other thinking functions. However, some research found improvements in older people who exercised as little as 2 or 3 times a week.

Any one or a mix of the following four types of exercise seems to be the most helpful:

- 1) **Walking** - such as moderate walking that works up a light sweat
- 2) **Bicycling** – 2 or 3 wheel bicycle or on a stationery or exercise bike
- 3) **Jogging** - *older joints may do well to avoid heavy joint impact exercise*

4) **Resistance training** to improve muscle strength - using push-pull exercise machines in a gym; wide rubber stretch-bands (Sometimes called resistance bands, they range from easy-highly stretchable to a firm-heavy-duty stretchable.); or lifting small free weights

Healthy Changes in the Brain

As a bonus, regular exercise promotes the release of BDNF (brain-derived neurotrophic factor) in the brain. BDNF nurtures the brain cells. You could say that BDNF fertilizes the brain cells.

One research project measured the hippocampus, the brain area responsible for storing short-term memories. Measurements of the hippocampus took place at the beginning and end of the study. In the older people who were in the walking-group, there was a 2% increase in their hippocampus while the comparison group which only did stretching and toning exercises had a 1.5% decrease in that area of the brain.

Researchers have concluded that routine physical exercise makes a significant difference in brain health, brain function, as well as general health such as improving muscle and bone strength, reducing (high) blood pressure, strengthening the heart, increasing the effectiveness of insulin, helping the GI tract, and, especially reducing caregiver stress.

And it is never too late to start being active and gaining the brain benefits from physical exercise! A healthier caregiver will have more resilience to deal with the ongoing challenges of decline in a loved one who has Alzheimer's or a related dementia.

[References available upon request.]

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