

# Exercise Shakes Away the Blues



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With summer around the corner, everyone is getting into gear to have that perfect “beach body” through exercising. Exercise has obvious benefits for your body; it allows you to build up your strength, flexibility, and cardiovascular endurance. It decreases your chance of osteoporosis, heart disease, obesity, diabetes, and many other conditions that can be limiting later on in life. However, exercising does much more than enhance your physical health. It has many benefits for your brain and mind and is crucial for your mental health.

Depression has become a major topic in this country within the past few years. According to the Mayo Clinic, it affects one out of every ten people. Besides medication and seeking professional help, exercise can help battle depression. When you work out, your brain releases many types of neurotransmitters. The most notable are dopamine, serotonin, and noradrenaline. The release of these transmitters in your brain can improve your mood, focus, and attention. Exercising also releases endorphins that improve your sense of well-being. In addition, achieving your personal record in lifting

or running a mile can increase your confidence and personal autonomy. Working out also allows you to be more socially interactive, which can boost your mood.

Exercise has neuroprotective effects on the brain against dementia and Alzheimer’s disease. The main signs and symptoms of these conditions are memory loss and destruction of mental functions. The hippocampus and the prefrontal cortex are the main areas of the brain that these neurodegenerative diseases attack. The hippocampus is responsible for your memory, emotions, and motivation, while the prefrontal cortex is involved with planning, cognitive behavior, and decision making.

Over time, our bodies and brains start to function less efficiently. With this loss of overall function, it opens the door for these diseases to affect the areas of our brain mentioned before, which can result in cognitive decline.

However, the brain is like any muscle in your body. If you exercise a muscle, the muscle anatomy and physiology change to make it stronger and able to function better. The same effects happen to the brain. As mentioned earlier, the hippocampus and prefrontal cortex are areas most susceptible to these neurodegenerative diseases. Exercise will cause increases in the amount of new brain cells in these areas and thus creates an increase in volume and function of the hippocampus and prefrontal cortex.

The result of this increase in brain cells is that it will take much longer to feel the effects of dementia. In a recent study performed by Horder et al, researchers followed over 1,000 women between the

ages of 38 and 60 for 44 years. Those women with a lower cardiovascular fitness had a higher incidence of dementia compared to those women with a higher cardiovascular fitness.

Another neurodegenerative disease is Parkinson’s disease. Parkinson’s disease affects the amount of the chemical dopamine that is transmitted into your brain. This decrease in dopamine can cause tremors, rigidity, and gait and balance problems. It also produces cognitive changes that can affect planning, attention, and memory.

Exercise has been shown to slow down the progression of this disease, and people with Parkinson’s who exercise have an overall better quality of life. As noted above, exercise can improve your memory and attention, and it can also improve your gait and balance.

Exercise will give you all of these mental and physical benefits, which can help you achieve a better quality of life. But how often are you

supposed to exercise? The Office of Disease Prevention and Health Promotion recommends that adults should exercise at a moderate intensity level for 150 minutes each week or at a vigorous intensity level for 75 minutes a week.<sup>1</sup> If you break that down, it is about 30 minutes 5 days a week. The 30-minutes-a-day recommendation can be an accumulation of activity. For example, you can break up the 30 minutes into three 10-minute periods if that is what you can tolerate. Moderate-intensity exercises can include walking briskly, doing water aerobics, biking, and general gardening. Vigorous-intensity exercise includes jogging, running, hiking, and aerobic dancing.

Why not do your future self a favor? Exercise now so your body and mind can be as strong as they can be later in life when it gets a little tougher to move around and remember that time you spent on the beach.

<sup>1</sup><https://health.gov/paguidelines/guidelines/chapter4.aspx>



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