TO YOUR HEALTH

Carleton-Willard Village Out-Patient Clinic 100 Old Billerica Road, Bedford MA

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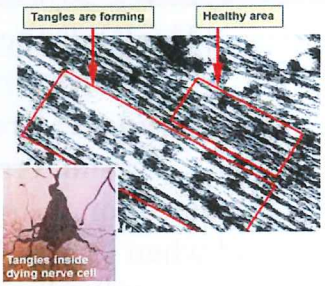
Aerobic Exercise for a Healthy Brain

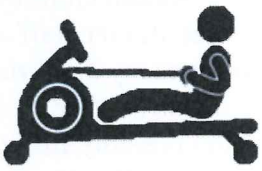
By Deb McNiven

Can Physical Exercise Reduce the Risk of Developing Dementia?



One of the hallmarks of Alzheimer's disease is a brain lesion known as a tau tangle. Normally, tau functions to stabilize the structure of cells in the brain. When it becomes abnormal, tau initiates a variety of biological changes that can result in dying brain cells. Higher levels of tau in the brain are associated with faster rates of decline. Therapies to prevent cognitive decline and dementia are now beginning to focus on reducing tau.

Researcher Laura Baker, PhD and colleagues from Wake Forest School of Medicine, Winston Salem NC, reported results of a 6-month randomized controlled trial that tested whether aerobic exercise might lower tau levels in older adults. This trial included moderate to high– intensity aerobic exercise in sixty-five 55-89 year old, sedentary adults with Mild Cognitive Impairment (MCI). These findings were shared at the *2015 Alzheimer's Association International Conference*.



What the Researchers found:

Participants who completed aerobic exercise saw a significant reduction in tau levels in cerebrospinal fluid. The effect was most pronounced in adults over 70 years old. Aerobic exercise increased blood flow in the memory & processing center of participants brains, with an improvement in executive functions.

What is aerobic exercise?

Exercise performed at a moderate level of intensity over a long period of time is considered aerobic. It improves general physical health and increases blood flow to the brain. At least 30 minutes of aerobic exercise on most days of the week is recommended. Examples of aerobic exercise include brisk walking, dancing, NuStepping, bicycling and swimming.

Epidemiological studies and some intervention studies suggest that physical exercise may play a role in reducing the risk for Alzheimer's disease and age-related cognitive decline. Animal studies point to why this might be so. Exercise increases both the number of small blood vessels that supply blood to the brain and the number of connections between nerve cells in older rats and mice. Researchers have found that exercise raises the level of a nerve growth factor (a protein key to brain health) in an area of the brain that is important to memory and learning. Researchers have also shown that exercise can stimulate the human brain's ability to maintain old network connections and make new ones that are vital to healthy cognition ***(National Institutes of Health)***.

In a year-long study performed by the National Institutes of Health, 200 seniors exercised daily, doing either an aerobic exercise program of walking for 40 minutes or a non-aerobic program of stretching and toning exercises. At the end of the trial, the walking group showed improved connectivity in the part of the brain engaged in daydreaming, envisioning the future, and recalling the past. The walking group also improved their executive functions and the ability to plan and organize tasks, such as cooking a meal.

Physical activity is a valuable part of any overall body wellness plan and is associated with a lower risk of cognitive decline. Engage in cardiovascular (aerobic) exercise to elevate your heart rate. This will increase the blood flow to your brain and body, providing additional nourishment while reducing potential dementia risk factors such as high blood pressure, diabetes and high cholesterol. Keep your heart healthy to help keep your brain healthy. Growing evidence suggests that many factors that increase the risk of heart disease also may increase the risk of dementia. These factors include smoking, obesity, diabetes, high cholesterol and high blood pressure ***(alz.org).***

In another study, Neuroscientist Art Kramer, who directs the Beckman Institute for Advanced Science and Technology at the University of Illinois, scanned the brains of 120 older adults, half of whom started a program of moderate aerobic exercise — just 45 minutes, three days a week, mostly walking. After a year, the MRI scans showed that for the aerobic group, the volume of their brains actually increased. Those individuals in the control group who did not perform aerobic exercise lost about 1.5 % of their brain volume, adding up to a 3.5 % difference between individuals who took part in aerobic exercise and those who did not. Further tests showed that increased brain volume translated into better memory.

The findings support the earlier animal research from the National Institute of Health in which rodents that were exercised had a number of favorable physiological changes, Kramer says. They had more new neurons, stronger connections between neurons, and increased blood supply to a number of regions in the brain.

Rachel Whitmer, a researcher at Kaiser Permanente in Northern California, agrees that it's important to exercise your body to ensure the health of your brain. It's not just getting adequate exercise, Whitmer says, it's also "maintaining good blood pressure, levels of cholesterol and a healthy weight," and remembering that..."What's good for the heart is good for the Brain."

Health Education Lecture

Dr. Kathryn Bowers

"Skin Cancer: Prevention, Detection and Treatment"

Early detection is key! Learn what to look for and when its time to see a dermatologist. Dr. Bowers will talk about the different types of skin cancers and recommendations for prevention. Join us for what is sure to be an informative lecture.

June 24, 2016

1:30pm -2:30pm

Auditorium Center & Left

New Nurse Practitioner

Sandra Guidrey, NP has joined our nurse practitioner staff and will be working Monday, Wednesday and Friday in the Nursing Center. You will also see her in the Clinic one Saturday a month and possibly filling in when Susan Cusson is on vacation. Sandra received her Master of Science in Nursing at Simmons College and is now an adjunct professor there. She is well qualified with over 20 years of experience as a geriatric nurse practitioner. We are pleased to welcome her to CWV!

Have a happy and safe summer!

From the Clinic Staff: Susan, Debbie, Judi, Andrea and Michelle