

http://hanfordsentinel.com/features/exercise-is-good-for-the-brain/article_d9fd0575-f6da-5124-ae14-3ddebb0d85a7.html

FEATURED

Movement is medicine

Exercise is good for the brain

Mar 15, 2016



Contributed

It is a well-known fact that exercise is good for the brain. We know from animal and human studies alike that physical activity increases brain volume and can even reduce age related problems in the brain. Even more amazing is that exercise results in neurogenesis (creation of new brain cells) in already mature brains.

Studies with animals exercising on treadmills (or running wheels) for long distance have been found to double and even triple the number of new brain cells (neurons) in the hippocampus (an area of the brain that is key for learning and memory) when compared to sedentary animals. These studies have lead scientists to believe that exercise has a similar effect on the hippocampus in the human brain.

OK so now the question becomes do other types of exercise such as high intensity interval training (HIIT) or weight lifting have the same effect as long distance running and result in neurogenesis?

Given the surging popularity of these forms of exercises researchers at the University of Jyvaskyla in Finland decided to perform a study looking at this question. Their study was published in the February 2016 Journal of Physiology. The researchers injected rats with a brain marker so they could see newly formed brain cells (neurogenesis). They divided the rats into four groups and each group performed their prescribed form of exercise for seven weeks.

Group:

Running group: the rats had running wheels in their cages and completed moderate running every day

High-intensity interval training (HIIT): the rats were placed on treadmills and required to sprint at rapid and strenuous pace for 3 minutes, followed by 2 minutes of slower pace, for a total of 15 minutes of running

Weight lifting group: the rats had weights attached to their tails and climbed over walls everyday

Sedentary group: no exercise.

The results were very interesting as there were very different levels of neurogenesis depending on the type of exercises the rats performed.

The running group showed the greatest level of neurogenesis, far more than the sedentary group. Even more interesting was that the more the rats ran, the greater the increase in new brain cells. The HIIT group increased their brain cells as compared to the sedentary group, however the amount was not even close to the running group. The weight lifting group rats were much stronger, yet they showed no increase in brain cell growth and their brains looked like the sedentary group, meaning no new brain cells.

This research is groundbreaking even though we know that rats are not people. The results suggest that sustained aerobic exercise may be the most beneficial for new brain cells to be developed in mature brains. The researchers and their colleagues speculate that sustained aerobic exercise produces a substance that stimulates neurogenesis. Weight training, while extremely beneficial for muscular health, seems to have had little effect on the promotion of neurogenesis. And they speculated that HIIT may be too intense and stressful therefore there was less neurogenesis than compared to sustained aerobic exercise.

The researchers were careful to suggest that just because long distance running had the most neurogenesis in the hippocampus that other types of exercise may have an effect on the brain that wasn't measured in their study, including additional blood vessels or new connections between brain cells or different parts of the brain.

We know that Movement is Medicine and this research definitely supports our opinion. It may be that the best movement is a balance of aerobic (sustained endurance exercise) with weight training and high intensity interval training creating the best opportunity for muscle health and new brain cells even as we age.

Dr. Maria Fermoile is a Doctor of Physical Therapy at Alliance Rehabilitation in Fresno. She alternates writing this column with Dr. Chris Telesmanic. Both will be happy to answer questions submitted to maria@alliance-rehabilitation.com or chris@alliance-rehabilitation.com. Learn more about movement, fitness and health in this space each week, or by going to www.alliance-rehabilitation.com, or calling 478-5833.

Currents



25 Salads That Have More Calories Than a Big Mac



Occupations With the Biggest Gender Pay Gaps



What are the most stressful jobs?



The Top 20 Richest Cities in the U.S.

Today's top pics: Easter celebrations around world and more

Cubs Spring Training Game Overrun By Bees

Your daily 6: Easter Egg roll and bees delay baseball

Today's Birthdays, March 28: Lady Gaga

QUIZ: Where should you take your next vacation?

Country group Old Dominion head into ACMs already winners

Today's top pics: Easter celebrations around world and more

Music mogul Diddy has a new job: charter school founder



AP video: LGBT groups challenge North Carolina law



AP video: Con man used China as money laundering haven



AP video: San Francisco police release stabbing video, seek suspects



AP video: Wrong house demolished in Texas

Latest Local Offers

Create a magical holiday environment with a floral arrangement or centerpiece from An Enchanted Florist. (559) 584-0125

An Enchanted Florist is proudly serving Hanford and surrounding areas. We are family owned a...

An Enchanted Florist

1782 N 10th Ave, Hanford, CA 93230

📞 559-584-0125

Currently Open



559-584-0125

Get the best professional cosmetics to use at home! www.dulcestudio.com

Check out our brand new website and get the best in professional cosmetics from Dulce Studio!

Dulce Studio

310 N Irwin St, Hanford, CA 93230

☎ 559-410-1812

Currently Open



Have an anniversary coming up? Send her flowers delivered by An Enchanted Florist. (559) 584-0125

An Enchanted Florist is proudly serving Hanford and surrounding areas. We are family owned a...

An Enchanted Florist

1782 N 10th Ave, Hanford, CA 93230

☎ 559-584-0125

Currently Open



559-584-0125