RECENT ARTICLES AND VIDEO CLIPS ON THE BRAIN, THE BODY – NEUROPLASTICITY AND EXERCISE

Denise Medved, Creator and Founder of Ageless Grace® on <u>The Science of</u> <u>Neuroplasticity and the 21 Simple Tools for Lifelong Comfort and Ease™</u>

http://www.youtube.com/watch?v=GG5pGFSOeeU

A few of the hundreds of articles on brain fitness, neuroplasticity, aging and exercise:

1. Neuroplasticity – Wikipedia, the Free Encyclopedia – A Definition

http://en.wikipedia.org/wiki/Neuroplasticity#Fitness_and_exercise

Jump to Fitness and exercise: In a 2009 <u>study, scien</u>tists made two groups of mice swim a water maze.

"Our results support the notion that different forms of [physical] exercise induce neuroplasticity changes in different brain regions," Chauying J. Jen, a professor of physiology and an author of the study, said.

2. Physical exercise: why aerobic exercise enhances neurogenesis...

http://sharpbrains.com/resources/2-the-4-pillars-of-brain-maintenance/physical-exercise-why-aerobic-exercise-enhances-neurogenesis-and-neuroplasticity/

by Alvaro Fernandez

Through increased blood flow to the brain, **physical exercise triggers biochemical changes that spur neuroplasticity** – the production of new connections between neurons and even of neurons themselves. Brain exercise then protects these fledgling neurons by bathing them in a nerve growth factor and forming functional connections with neighboring neurons. Dr. Gage's work of the Salk Institute for Biological Studies, have shown that **exercise helps generate new brain cells, even in the aging brain**.

3. Exercise is Medicine – Neuroplasticity

http://www.centerformovement.org/2012/06/06/exercise-is-medicine-neuroplasticity/

Brain imaging shows and increase in brain activity over the motor cortex after a single 15 to 30 minute practice session...

4. Neuroplasticity and Exercise - Steve Pavlina

http://www.stevepavlina.com/forums/health-fitness/41825-neuroplasticity-exercise.html

Health & Fitness - Jan 17, 2010

I recently read *The Brain That Changes Itself*, by Norman Doidge, M.D. It's about the science of neuroplasticity and the discovery that the brain can grow new neural

pathways and rewire damaged areas to other parts of the brain. **There is amazing application of this science to visualization and exercise.** The author mentions a study where men are asked to visualize doing bicep curls for 10 minutes a day for several weeks. They don't do any physical weight lifting at all. At the end of the study, all of the men had increased bicep size -- from visualization alone.

5. Neuroplasticity - How Exercising the Brain Helps it to Grow and Repair

http://eap.com.au/FileManager/Mar10_Newsletter/article_3.html

How Exercising the Brain Helps it to Grow and Repair ... Neuroplasticity is advocating that the brain is capable of change even after childhood.

Studies have shown that learning to tango, juggle, do crosswords and other challenging new activities can use the brains natural plasticity to make positive changes. Physical exercise done regularly can also delay dementia and Alzheimer's disease.

6. Brain Awareness Week: 15 Amazing Examples of Neuroplasticity in Action

http://lawsagna.typepad.com/lawsagna/2010/03/brain-awareness-week-15-amazingexamples-of-neuroplasticity-in-action-.html

Mar 18, 2010 – Physical exercise promotes creation of new neurons in the brain.

Norman Doidge in his book "The Brain that Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science" talks about a paradox of change. The forces that enable us to change are also responsible for keeping us stuck. If we keep doing the same, we may think nothing changes, but in fact, the more we repeat a certain behavior, the stronger the corresponding pathway in the brain grows, making it more difficult to unlearn the pattern. The good news is that the same principle applies when we learn a new skill or habit. The more attention we pay to it and the more we practice it, the easier it will become.

EXAMPLE: London taxi drivers have a larger hippocampus compared to bus drivers. It's because this region of the hippocampus is specialized in acquiring and using complex spatial information in order to navigate efficiently. Taxi drivers have to navigate around London whereas bus drivers follow a limited set of routes.

7. How to Rewire the Brain with Neuroplasticity...YouTube

http://www.youtube.com/watch?v=sWJeR8TTQ3I

Oct 14, 2012 Brain imaging studies show that every time we learn a new task, we're changing our brain More by Daniel Honan Exercising Smart: Neuroplasticity (Part 3 of 5) - YouTube

www.youtube.com/watch?v=CaqM8ALcby8

8. Exercising 10 minutes a day can boost life expectancy - CBCNews.

http://www.cbc.ca/news/health/story/2012/11/07/physical-activity-life-expectancy.html

9. Super Brain by Deepak Chopra, M.D. and Rudolph E. Tanzi, Ph.D