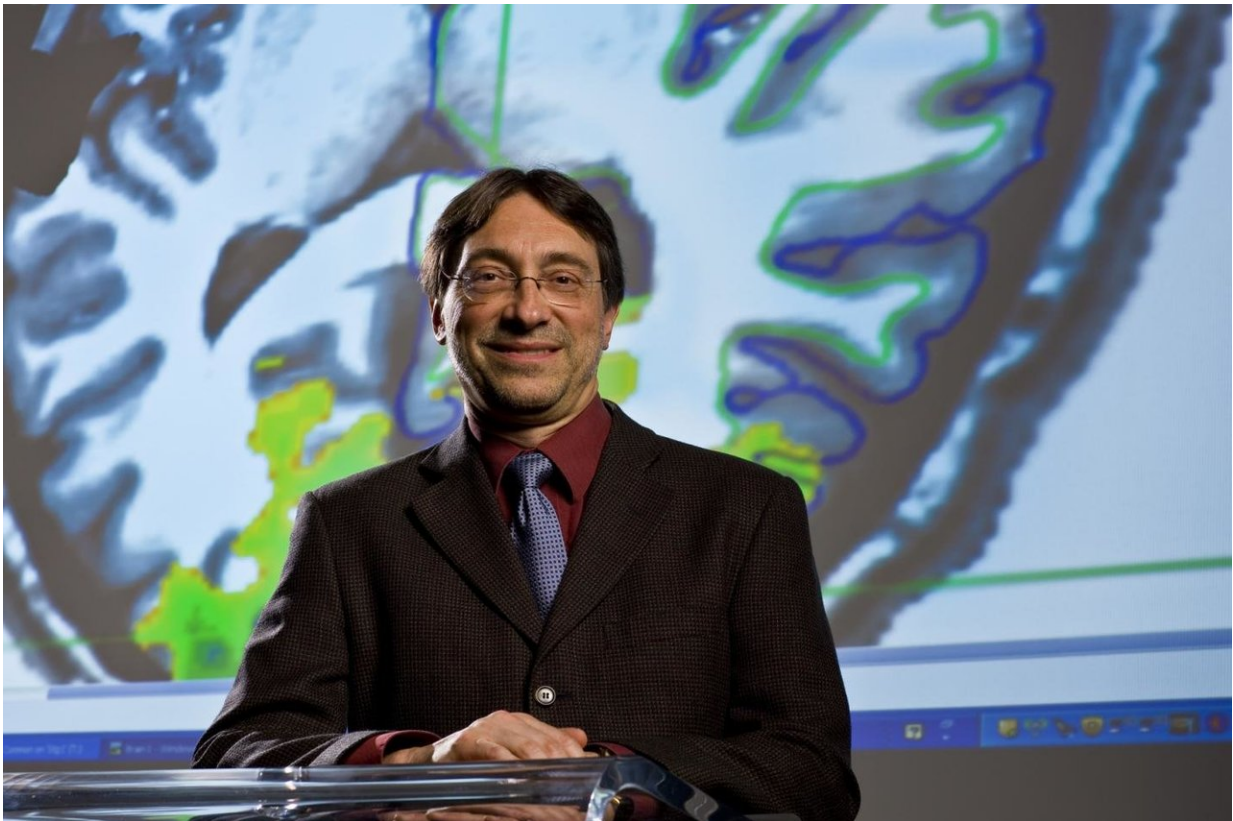


# Researchers propose conceptual framework to study role of exercise in multiple sclerosis

October 17 2018

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Dr. DeLuca is senior vice president of Research & Training at Kessler Foundation. Credit: Kessler Foundation

East Hanover, NJ. October 17, 2018. Researchers have proposed a conceptual framework for examining the relationship between exercise

and adaptive neuroplasticity in the population with multiple sclerosis (MS). The article, " Integrative CNS Plasticity with Exercise in MS: The PRIMERS (PRocessing, Integration of Multisensory Exercise-Related Stimuli) Conceptual Framework", was published in *Neurorehabilitation and Neural Repair* 2018 Sep 12. (doi: 10.1177/1545968318798938). The authors are Brian Sandroff, Robert W. Motl, William R. Reed, Aron Barbey, Ralph H.B. Benedict and John DeLuca.

Researchers are increasingly exploring the effects of exercise in various clinical populations, but little attention is being focused on the [neural mechanisms](#) that underlie positive changes in mobility and cognition. Using this [conceptual framework](#) will enable scientists to systematically examine the effects of exercise on brain connectivity, brain structure, and molecular/cellular mechanisms in the population with MS, and develop new strategies for rehabilitative care.

"Many individuals with MS develop disabling deficits in mobility and cognition," said John DeLuca, Ph.D., senior VP of Research and Training at Kessler Foundation, and a co-author of the article. "Exercise is a low-cost, non-invasive modality that relieves both types of symptoms," noted Dr. DeLuca, "so we are very interested in learning more about how activity results in these improvements. Rethinking how we view [exercise](#) in our plans for the long-term management of people with MS and other neurological conditions is our first step. We anticipate that use of the PRIMERS [framework](#) will accelerate advances in treatment by integrating the contributions from neuroscience, neurophysiology, and neurorehabilitation," Dr. DeLuca concluded.

**More information:** Brian M. Sandroff et al, Integrative CNS Plasticity With Exercise in MS: The PRIMERS (PRocessing, Integration of Multisensory Exercise-Related Stimuli) Conceptual Framework, *Neurorehabilitation and Neural Repair* (2018). [DOI: 10.1177/1545968318798938](#)

Provided by Kessler Foundation

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