Exercising the Brain

MileStones Audio Newsletter, Winter 2024

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MALE ANNOUNCER: 00:00	Kessler Foundation's Milestones Winter 2024 to 2025 Cycling Issue. This publication is brought to you from the Centers for Neuropsychology and Neuroscience Research and Multiple Sclerosis Research at Kessler Foundation. Join us on a journey where innovative technology meets storytelling as various AI voices narrate compelling articles in our podcast newsletter.
FEMALE ANNOUNCER 1: 00:30	In this cycling issue, studies show that exercise is critical in helping individuals with multiple sclerosis maintain their cognitive abilities. But what happens when a person is no longer able to walk or exercise safely? Researchers at Kessler Foundation are investigating if cycling using a stationary bike, combined with virtual reality, may be an effective, low -risk activity to preserve and even improve cognition in persons with MS and mobility challenges.
MALE ANNOUNCER: 00:58	We invite you to learn more about this groundbreaking research in this issue of Milestones.
FEMALE ANNOUNCER 2: 01:05	Exercising the Brain by Carly Wender, Ph .D. The progression of multiple sclerosis is associated with neurodegeneration, irreversible damage to the central nervous system that leads to disability. Individuals with MS often develop mobility issues that tend to worsen over time, cognitive impairment, including difficulty with memory or thinking skills. can be equally debilitating each create barriers to functional independence including the ability to complete activities of daily living and maintain employment over time the co -occurrence of mobility and cognitive issues results in greater challenges in everyday life than either symptom alone the exercise factor research has shown that aerobic ie cardio exercise training is a promising treatment approach for cognitive impairment in persons with ms It leads to improved cognition by inducing new tissue growth. A process called neurogenesis in the hippocampus, a part of the brain involved in learning and memory. Aerobic exercise also strengthens communication among and between neural networks. Six tips to exercise safely. Mobility issues shouldn't be a barrier to exercise for people with MS. To reap the benefits.
MALE ANNOUNCER: 02:19	Six tips to exercise safely.
FEMALE ANNOUNCER 2: 01:13	Mobility issues shouldn't be a barrier to exercise for people with MS. To reap the benefits.
MALE ANNOUNCER: 02:19	One, develop a regimen that meets your needs and is safe and enjoyable. Two, do exercises with low fall risk where you feel secure and balanced.

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MALE ANNOUNCER: 02:01

Three, use a stationary bike, elliptical, or other equipment that allows you to control the speed. Four, consider different types of exercise, aerobic, resistance training, aquatics, et cetera. Five, warm up before and cool down after a session by stretching. Good exercise in itself. Six, rest days are necessary too. Avoid exercising the same muscle groups on consecutive days.

FEMALE ANNOUNCER 2: 02:58

Two studies, one goal. Kessler Foundation researchers are examining the potential of cycling with virtual reality to improve cognitive outcomes for persons with MS.

CARLY WENDER: 03:09

For persons with MS, integrating cycling exercise and virtual reality could be a game changer. These are two of our ongoing studies.

MALE ANNOUNCER 2: 03:17

Says research scientist Carly Wender.

Combine a three -year study funded by the National MS Society. investigates the combined effects of exercise training with cognitive rehabilitation on new learning and memory. Participants in the 12 -week program engage in three sessions per week, either cycling with VR or stretching slash toning. During the program's last five weeks, sessions are followed by cognitive rehabilitation using the Kessler Foundation Modified Story Memory Technique, KFMSMT. Search NCT 06191380 on clinicaltrials.gov to learn more.

MALE ANNOUNCER: 03:54

Researcher Spotlight.

Kessler Foundation Research Scientist Carly Wender, Ph .D., focuses her work on combining exercise with virtual reality to improve cognition, pain, and general health outcomes in persons with MS, brain injury, and other neurological diagnoses. She is widely published and has presented nationally on the impact of exercise on cognitive function in persons with MS who have mobility disability. Dr. WEnder is also a research assistant professor in the Department of Physical Medicine and Rehabilitation at Rutgers New Jersey Medical School.

FEMALE ANNOUNCER 2: 04:31

In person, finding hope and confidence. Ten years ago, when Valerie Bowentowns was diagnosed with MS, she cried a lot. But she quickly learned to manage her ensuing physical, mobility, and cognitive challenges with grace, dignity, and hope. When my neurologist mentioned the groundbreaking MS research underway at Kessler Foundation, I knew I wanted to participate. I've joined several treadmill and cycling studies. The most interesting involve virtual reality. I try to give the best of me during each session. And as a result, I'm better able to focus, pace myself, and be more productive. A quote from Valerie Bowentowns. I'm grateful to Kessler Foundation and hope my experience helps others.

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MALE ANNOUNCER: 05:13

Your help wanted. Kessler Foundation is recruiting individuals with MS for these research studies.

FEMALE ANNOUNCER 3: 05:20

Robotic Exoskeleton Therapy on Mobility and Cognition in MS examines the usefulness of a wearable, robotic exoskeleton device on walking and memory. It is open to individuals ages 18 to 75 with progressive MS who have mobility challenges, i.e., use a cane slash walker. Impact of motivation on memory and learning in MS examines the benefits of performance. Feedback.

It is open to individuals ages 18 to 85 with relapsing -remitting MS. Disease -modifying medication and cognitive fatigue in MS explores the effectiveness of disease -modifying medications on cognitive fatigue that occurs after intense mental concentration. It is open to individuals ages 18 to 64 who are presently prescribed Ocrevus. Home MS, Improving Memory from Home investigates the ability of a remote cognitive training program to improve learning and memory. It is open to individuals ages 18 to 59 and involves remote cognitive training and assessments. Memory rehabilitation and multiple sclerosis examines common memory issues and is open to individuals ages 18 to 65. Walking exercise and brain health in MS compares the ability of overground and treadmill walking exercise to improve brain health. The study, open to individuals ages 18 to 65 who walk without an assistive device, cane slash walker, involves three in -person sessions over three weeks. Combine, exercise and cognitive rehabilitation compares the effects of two different 12 -week exercise programs, aerobic and stretching slash muscle toning, combined with cognitive rehabilitation on learning and memory. Individuals ages 18 to 70 who have mobility challenges, use a cane slash walker, may participate. PACE MS, Cycling and Virtual Reality Intervention explores how cycling combined with virtual reality may improve the speed at which individuals with MS think. It is open to people ages 18 to 65 who have mobility challenges, use a cane slash walker. Our studies investigate changes after MS diagnosis and ways to minimize deficits prior to or following their onset.

MALE ANNOUNCER: 07:42

For more information and eligibility, check out the program notes to email Nancy Moore. With listeners spanning across 90 countries, our podcast on SoundCloud offers a fascinating insight into the impactful work of Kessler Foundation. Connect with us on Facebook, X, and Instagram. Listen to us on Apple Podcasts, Spotify, SoundCloud, or wherever you get your podcasts.