

Researchers see promising results in treating age-related decline in muscle mass and power

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A [proof-of-concept, phase 2 trial](#) by an international research team has found promising results for a myostatin antibody in treating the decline in muscle mass and power associated with aging.

"Myostatin is a natural protein produced within the body that inhibits [muscle growth](#)," said Stuart Warden, a member of the research team who is also associate dean for research and associate professor in the School of Health and Rehabilitation Sciences at Indiana University-Purdue University Indianapolis. "It has been hypothesized for some time that inhibition of myostatin may allow muscle to grow, resulting in improved [muscle mass](#) and physical performance. The current study confirms these beliefs."

In the study, injections of a myostatin antibody, made by Eli Lilly and Co., over a 24-week period resulted in an increase in lean (muscle) mass and improved performance on tasks requiring [muscle power](#) in patients older than 75 with low [muscle strength](#), low muscle performance and a history of falling.

"This is the first study to show that myostatin antibody treatment improves performance on activities requiring muscle power," Warden said. "'Muscle power' refers to the ability to generate [muscle force](#) quickly. During aging, it is lost more rapidly than muscle strength, contributing to disability, falls, reduced quality of life and, in some instances, death."

"Myostatin antibody treatment improved [muscle](#) power in the elderly, as indicated by improvements in the ability to climb stairs, walk briskly and rise repetitively from a chair," Warden said. "Treatment particularly benefited those who were most frail at baseline, a population who may not be receptive to conventional intervention such as resistance exercise."

Warden said the current study "provides proof-of-concept evidence to proceed to the larger studies that are required to demonstrate whether myostatin antibody treatment improves quality of life and reduces falls and their consequences during aging." He added: "This is an important and exciting first step."

Provided by Indiana University

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