



## High Quality Protein Foods and Physical Activity Aid in Preservation of Muscle and Function

Muscle mass occurs at higher rates during the later adult years due to age-related changes in muscle protein synthesis and breakdown as well as reduced dietary protein intake. This often leads to the limited ability to perform basic functional activities which can be linked to several poor health outcomes including chronic disability, diminished quality of life, and premature death.

Using data from the Framingham Offspring Study (1972-2000), researchers at Boston University School of Medicine, analyzed associations of the primary food sources of animal protein (red meat, poultry, fish, and dairy) as well as plant protein (legumes, nuts, seeds, soy), alone and in combination with physical activity, on longitudinal changes in skeletal muscle mass and functional capacities in older adults. It was hypothesized that active adults who consume more animal protein-source foods would have greater preservation of muscle mass and functional capacity over time.

Subjects with the highest intakes of animal foods were slightly younger, had lower BMIs, higher leucine content in their diets and men specifically, were more active, smoked more, and drank more alcohol. Women consuming the fewest animal protein foods had total protein intakes that were below the current RDA of 0.8 g/kg/day. Additionally, the consumption of more animal protein-source foods was associated with consumption of more dietary fat and fewer carbohydrates.

Subjects with higher intakes of animal protein foods were associated with higher levels of percent of skeletal muscle mass and lower risk of developing functional limitations, regardless of their physical activity level. However, these beneficial effects for plant protein foods were only apparent among the most physically active adults. These results provide evidence that there is no adverse effect of higher intakes of protein derived from animal or plant-based foods. This study contributes to the understanding of the role of high-protein foods, particularly from animal sources, and a physically active lifestyle for the preservation of muscle mass, physical function and independence.

**Source:** Bradlee ML, Mustafa J, Singer MR, Moore LL. High-protein foods and physical activity protect against age-related muscle loss and functional decline. *J Gerontol A Biol Sci Med Sci* 2017 May 25. doi: 10.1093/gerona/glx070. [Epub ahead of print]

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