

Beef Up: Middle-aged men may need more to maintain muscle mass

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People tend to lose muscle mass as they age; researchers are investigating ways to delay or counteract age-related muscle loss. A study conducted by the Exercise Metabolism Research Group at McMaster University suggests that current guidelines for meat consumption are based on the protein needed to prevent deficiency without consideration for preservation of muscle mass, particularly for older individuals who are looking to maintain their muscle as they age. This research was published in the journal *Applied Physiology, Nutrition, and Metabolism*.

Thirty-five middle-aged men (~59 years old) participated in a study that found that eating a 6-ounce serving of 85% lean ground beef resulted in significant improvements in the rate of [muscle protein synthesis](#) following exercise. The investigators measured muscle protein synthesis (MPS), which is essential to the body's ongoing growth, repair and maintenance of [skeletal muscle](#) in men who did and did not lift weights. What researchers determined was that the quantity of beef needed for optimal MPS for this age group is double the current recommended serving size of meat.

"Canada's Food Guide now suggests that consuming about 3oz (0.80 g/kg/d) of meat per serving is adequate to provide protein at the recommended level," says Dr. Stuart Phillips, the study's senior author and a researcher with the Exercise Metabolism Research Group at McMaster University. "However, our work shows that the quantity of beef needed to maximize the renewal of new muscle proteins was at least

6oz in middle-aged men. Our findings have clear ramifications for the current recommendations regarding protein to prevent [muscle loss](#) in aging."

More information: The article "Dose-dependent responses of myofibrillar protein synthesis with beef ingestion are enhanced with resistance exercise in middle-aged men" is available Open Access in the journal Applied Physiology, Nutrition, and Metabolism, [DOI: 10.1139/apnm-2012-0092](#)

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