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DIETARY PROTEIN PROMOTES MUSCLE PROTEIN SYNTHESIS

With an aging population, it is important to recognize the value of dietary protein for maintaining muscle mass and strength in the elderly. The synthesis, maintenance and function of muscle protein depend on the ingestion of sufficient dietary protein throughout life. Elderly people are at increased risk of frailty and a diminished quality of life related to protein-energy malnutrition and sarcopenia (loss of muscle and strength). A study published in the September 2009 issue of the Journal of the American Dietetic Association adds to the evidence that eating moderate amounts of high-quality protein helps promote muscle protein synthesis in healthy adults.

This study compared changes in muscle protein synthesis and anabolic efficiency in response to different amounts of protein. A 113 gram serving of lean beef (30 g protein; 220 kcal) increased muscle protein synthesis by approximately 50% in both young and elderly volunteers. No significant increase in protein synthesis was observed after ingestion of a 340 gram serving of lean beef (90 g protein; 660 kcal) in either age group (35 years + or - 3; and 68 years + or - 2).

The authors of this study concluded that a moderate-size portion of high-quality protein is an equally effective and more energetically efficient means of stimulating muscle protein synthesis compared to a threefold larger serving ingested at one meal. They suggest the ingestion of multiple moderate-size servings of high-quality protein-rich foods throughout the day may represent an effective way to optimize muscle synthesis while controlling overall energy intake.

FOR YOUR PRACTICE

Recent research suggests that older adults should be encouraged to consume moderate amounts of high-quality protein throughout the day for optimal health. This approach may help prevent the loss of skeletal muscle mass and the ensuing frailty that often occurs as people age. Older adults stand to benefit from understanding that sufficient protein is essential for their health. Practical tips can help them incorporate protein-rich foods in their main meals and snacks.

WANT TO LEARN MORE?

Read the abstract, [*A Moderate Serving of High-Quality Protein Maximally Stimulates Skeletal Muscle Protein Synthesis in Young and Elderly Subjects*](#), by Symons TB et al. J Am Diet Assoc. 2009; 109:1582-6.

To help your clients enjoy protein-rich foods as part of a healthy eating plan,

see the 2-page fact sheets that accompany our [Nutrition Perspective](#) newsletters for health professionals: *The Satiating Power of Protein* (May 2008) and *Protein – Can Higher Intakes Benefit Health?* (August 2005).

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