WHEY PROTEIN

STATE OF THE SCIENCE:
The Power of Whey Protein

PROTEIN

Protein is an essential nutrient (like fat and carbohydrate) your body needs each day to help build and maintain muscle mass. Nevertheless, not all proteins are created equal—quality can make a difference. High-quality protein foods make it easy for you to get all of the essential amino acids your body needs to build and maintain muscle and help your body work properly. Among protein sources, whey protein is an easily digested, rapidly absorbed high-quality protein that is naturally found in dairy.

Research shows that whey protein helps promote muscle repair and recovery after exercise.[1-4] Additionally, numerous scientific studies have been conducted to better assess the benefits of higher protein diets, including many studies incorporating whey protein. Findings from this body of research show consuming a higher protein diet can help people:

- *maintain a healthy weight,*[5-10]
- *curb hunger,*[11-13]
- *build lean muscle (with regular resistance exercise),* [14-16]
- *enhance exercise recovery*[1-4]
- *maintain muscle mass as they age.*[17, 18]

The following are summaries of several published findings in these areas. For more information on whey protein, visit www.wheyprotein.nationaldairycouncil.org.

MAINTAIN A HEALTHY WEIGHT

Whey Protein, as Part of a Diet Higher in Protein, Can Help with Weight Maintenance

Results from clinical trials indicate higher protein diets may help people preserve lean body mass and maintain a better body composition.[5-7] Following a higher protein diet after weight loss may also result in less weight regained, with most of what is regained in subsequent months being muscle.[8-10] In addition, high-quality protein, such as whey protein, may aid in weight maintenance by promoting satiety, thermogenesis (production of heat by the body) and energy efficiency, and by improving body composition.[19]

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CURB HUNGER

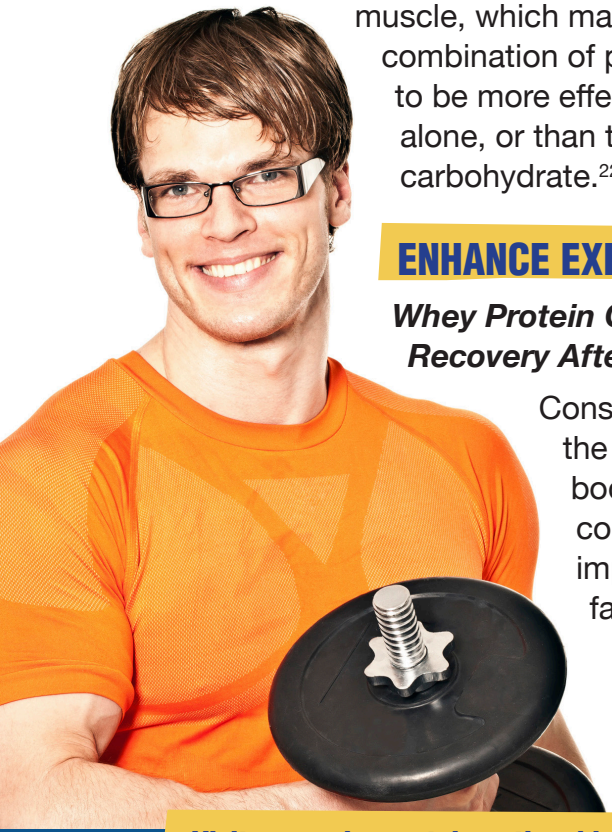
Whey Protein, as Part of a Diet Higher in Protein, Can Help Curb Hunger

Eating more protein may help people eat less because consuming protein as part of a higher protein diet increases the feeling of fullness more than carbohydrate or fat.[20] Further, there is evidence that shows increasing the amount of protein in the diet can lead to decreased total caloric intake and body weight.[20]

BUILD LEAN MUSCLE

Whey Protein, With Regular Resistance Exercise, Can Help Maximize Muscle Growth

Whey protein increases the rate at which the body makes lean muscle because it is one of the best sources of naturally occurring branched-chain amino acids, including leucine.[21] Research shows that consuming whey protein in combination with resistance exercise can boost the rate at which the body makes lean muscle, which may improve body composition.[1,3,4] Moreover, the combination of protein intake and resistance exercise has been shown to be more effective at increasing lean muscle than either of the two alone, or than the combination of resistance training and ingestion of a carbohydrate.[22-28]



ENHANCE EXERCISE RECOVERY

Whey Protein Can Help Enhance Muscle Recovery After Exercise

Consuming whey protein post-exercise can help maximize the effects of exercise by increasing the rate at which the body makes lean muscle.[16,1-4] Further, some studies suggest consuming whey protein during and/or after exercise may improve strength[29-31] and support muscle function[32,33] after fatigue; however, more research is needed.

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REDUCE MUSCLE LOSS AND SUPPORT HEALTHY AGING

Higher Protein Intakes, Including Whey Protein, Can Help Maintain Muscle Mass in the Aging

It is estimated that by 2030 one in five U.S. residents will be 65 and older.[34] This population should pay special attention to maintaining their muscle mass as decreased physical activity, chronic diseases and nutritional deficiencies may contribute to the development of sarcopenia.[35] Sarcopenia is a progressive process that can be characterized by approximately 3-8% reduction in lean muscle mass per decade after 30 years of age, and this rate may be even higher as individuals age.[36-39]

In particular, aging muscle seems to be less responsive to lower amounts of amino acids than younger muscle.[40, 41] As a result, consuming more than the Recommended Dietary Allowance (RDA) for protein (0.8 grams per kg body weight) may be beneficial for older adults to help them meet their metabolic and physiological needs.[42-44]

Quality and timing are also important factors to consider. Experts suggest that consuming 20-30 grams of high-quality protein at each meal may help older adults maximize their ability to make more protein, which in turn, may help preserve muscle or slow muscle loss associated with aging.[36,45,46] However, more research is needed.

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