Dietary Protein in Support of Adaptation to Exercise: Finding the Signal in the Noise

Biography

Dr. Stuart Phillips is Professor in the Department of Kinesiology and School of Medicine at McMaster University, Canada. He joined McMaster University in 1998 and is also currently the Tier 1 Canada Research Chair in Skeletal Muscle Health and Director of the McMaster Centre for Nutrition, Exercise, and Health Research and the Physical Activity Centre of Excellence (PACE). His research focuses on the impact of nutrition and exercise on human protein turnover, specifically in skeletal muscle. He is also dedicated to understanding how exercise and dietary protein impact body composition, strength, and function in aging. Dr. Phillips is also a fellow of the American College of Sports Medicine, the American College of Nutrition, and the Canadian Academy of Health Sciences.

Dr. Phillips has authored more than 185 original research papers and 75 reviews, and has given more than 200 invited presentations. He has mentored 17 Ph.D. and 22 M.Sc. students and more than 110 undergraduate thesis students. He is a 5-time nominee and a 3-time winner of McMaster Student Union’s Outstanding Teaching Award. He was also the inaugural recipient of the Canadian Society for Exercise Physiology’s Mentorship award. In 2018, he was named by Clarivate as a highly cited researcher being in the top 1% of all cited researchers in nutritional sciences. He obtained a Ph.D. in Human Physiology from the University of Waterloo, Canada.

Abstract

Athletes engage in vigorous training that places stress on physiological systems requiring nutritional support for optimal recovery. Of paramount importance when optimizing recovery nutrition are rehydration and refueling. However, in this presentation I will highlight the benefits for dietary protein intake over and above requirements set out in various countries at 0.8-1.0 g/kg body mass (BM)/d for training adaptation, manipulating body composition and hypertrophy in athletes. To facilitate the remodeling of protein-containing structures, which are turning over rapidly due to their training volumes, athletes with the goal of weight maintenance or weight gain should aim for protein intakes of 1.6 g/kg BM/d. Protein intakes at this level would not necessarily require an overemphasis on protein-containing foods, but there may be advantages to the consumption of higher quality proteins. I will also highlight that optimal protein intakes may need to exceed 1.6 g/kg BM/d for athletes who are restricting energy intake and attempting to minimize loss of lean tissue. I will discuss the underpinning rationale for weight loss in athletes, explaining changes in metabolic pathways that occur in response to energy restriction when manipulating protein intake and training. I will offer some practical advice on protein intakes that warrant consideration in allowing an optimal adaptive response for track and field athletes seeking to train effectively and to lose fat mass while energy restricted with minimal (or no) loss of lean BM.