Journal of
Obesity & Weight Loss Therapy
ISSN: 2165-7904

Perspective Open Access

Association of Dietary Protein in Obesity and Weight Loss Management

Joshua Marc*

Department of Health Sciences and Technology, Swiss Federal Institute of Technology (ETH) Zurich, 8603 Zurich, Switzerland

Introduction

Protein in the diet is important for a variety of physiological functions in the body. For healthy people, the current Recommended Dietary Allowance (RDA) is 0.8 g/kg/day. Protein intake of at least 1.4–1.6 g/kg/day, on the other hand, appears to be more optimal for active persons aiming to optimise training adaptations. Protein supplements are frequently utilised in order to meet this criterion. Protein supplement popularity is largely impacted by claims of enhanced muscle mass, fat loss, higher performance, and improved recovery markers.

Protein intake during and around a training session appears to be reliant on total daily protein consumption as well as the existence or absence of an energy deficit for recovery and performance [1]. While the findings support the effect of post-exercise protein intake on increases in fat free mass (FFM), individuals who consume sufficient daily calories and a minimum daily protein intake of 1.6 g/kg may not see any additional benefit from immediate post-training protein consumption on muscular strength.

Intake of Protein: Protein intake during and around a training session appears to be reliant on total daily protein consumption as well as the existence or absence of an energy deficit for recovery and performance. While the findings support the effect of post-exercise protein intake on increases in fat free mass (FFM), individuals who consume sufficient daily calories and a minimum daily protein intake of 1.6 g/kg may not see any additional benefit from immediate post-training protein consumption on muscular strength [2].

It's important noting that resistance-trained individuals in a caloric deficit require much more protein to compensate for any potential loss of lean body mass, with a recommended daily protein consumption of 2.3–3.1 g/kg FFM for these individuals. While this approach raises total protein intake, necessitating a reduction in fat and carbohydrate intake, protein appears to have special properties, and overfeeding with protein has been proven to have no deleterious impact on body composition in trained individuals. In the same way, healthy older persons require more total daily protein (0.61 g/kg FFM) than their younger counterparts (0.25 g/kg FFM).

Ingestion of milk-based protein after a harmful eccentric resistance programme has previously been shown to effectively mitigate the expected decrements in strength and repeated sprint performance from 24 to 72 hours after the bout.

In resistance-trained young men performing an acute, total body resistance training protocol, the effects of a whey protein supplement (25 g protein, 2.5 g fat, and 3 g CHO) versus a calorie-equated carbohydrate drink (32.5 g CHO) were compared, and performance variables were assessed at 10- and 24-hours post-exercise. The group that took the protein supplement had a moderately beneficial effect on acute anaerobic power and strength, implying that the pace of recovery was improved over those who took the carbohydrate drink. This is especially noteworthy given that the respondents were already taking 1.9 g/kg/d of protein on a daily basis, and it may be especially relevant for athletes who engage in high-intensity, explosive sports.

While the majority of protein supplement resistance training research has used a "post-exercise" delivery methodology, timing effects may persist into the peri-workout interval. In 21 resistance-trained males, the effects of consuming 25 g of hydrolysed whey protein immediately prior to a resistance training session with a 3-hour fast post-exercise vs. consuming the same quantity and source of protein immediately following the same training session after a 3-hour fast were compared. All of the participants had a 500-calorie excess and 1.8 g/kg of protein each day. After the 8-week intervention, there were no variations in body composition, one-rep max back squat, or bench press between the groups [3].

Protein supplementation and perseverance in training: While the majority of the literature on the effects of protein intake on performance has concentrated on anaerobic activities, more recent research has looked at its impact in endurance exercises, however this has been mostly overlooked in recent reviews. The impact appears to be at least somewhat reliant on the presence or lack of other nutrients, mainly glucose, similar to resistance exercise. In a 2010 systematic review and meta-analysis, 11 researches examined the effects of protein and carbohydrate ingestion during a bout of cycling vs. carbohydrate consumption alone on performance during a second bout of cycling.

Recovery and performance must be evaluated in the context of an accumulated effect in real-world athletic performance scenarios. For continuing advancement and best performance, the ability to train consistently while keeping healthy is essential. Endurance athletes are more susceptible to upper respiratory tract illnesses than other athletes. Reduced immunological function due to decreased circulation of particular T-lymphocytes, especially during periods of high volume and/or intensity of training, may contribute to this elevated risk [4].

Over time, total daily calorie and protein consumption have the most important nutritional roles in enabling exercise adaptations. Once these considerations are taken into account, peri-exercise protein intake appears to have a potentially helpful function in improving physical performance and positively impacting recovery processes. The notion of "performance" and the relevant metrics to quantify it based on intended results are both problematic. Attempting to define and quantify the concept of recovery also poses challenges. Furthermore, depending on whether the emphasis is on an immediate, short-term effect (i.e., 24 hours or less) or a long-term training response, both performance and recovery must be assessed in context.

It's also worth noting that protein timing, whether pre-, during, or after an exercise, is frequently discussed in the context of bodybuilding (i.e., the singular goal of increasing skeletal muscle mass). It is clear that such a narrow frame of reference ignores the potential utility of protein timing in endurance events (i.e., running, cycling, rowing, swimming,

***Corresponding author:** Joshua Marc, Department of Health Sciences and Technology, Swiss Federal Institute of Technology (ETH) Zurich, 8603 Zurich, Switzerland; E-mail: marcjA25@ethz.ch

Received December 01, 2021; **Accepted** December 15, 2021; **Published** December 22, 2021

Citation: Marc J (2021) Association of Dietary Protein in Obesity and Weight Loss Management. J Obes Weight Loss Ther 11: 476.

triathlon, and so on), as well as the vast majority of individual and team sports in which skeletal muscle hypertrophy is not a major concern [5].

For example, gains in body weight or lean body mass are generally avoided in weight-class sports (e.g., boxing, mixed martial arts, weightlifting, powerlifting, etc.); otherwise, the individual athlete would have to compete in a bigger weight class. Protein timing, in particular, may help with recovery in certain cases.

References

1. Jager R, Kerksick CM, Campbell BI, Cribb PJ, Wells SD, et al. (2017) International society of sports nutrition position stand: protein and exercise. J Int Soc Sports Nutr 14:20.
2. West DWD, Abou Sawan S, Mazzulla M, Williamson E, Moore DR (2017) Whey protein supplementation enhances whole body protein metabolism and performance recovery after resistance exercise: a double-blind crossover study. Nutrients 9:735.
3. Stearns RL, Emmanuel H, Volek JS, Casa DJ (2010) Effects of ingesting protein in combination with carbohydrate during exercise on endurance performance: a systematic review with meta-analysis. J Strength Cond Res 24:2192-202.
4. McLellan TM, Pasiakos SM, Lieberman HR (2014) Effects of protein in combination with carbohydrate supplements on acute or repeat endurance exercise performance: a systematic review. Sports Med 44:535-50.
5. Valentine RJ, Saunders MJ, Todd MK, St Laurent TG (2008) Influence of carbohydrate-protein beverage on cycling endurance and indices of muscle disruption. Int J Sport Nutr Exerc Metab 18:363-78.