

Practitioner Dietary Supplement Reference Guide – 3rd Edition

dotFIT Worldwide's Position on Use of Supplements for Enhancing Performance

Sports at all levels have become fiercely competitive, primarily because the rewards for winning continue to expand into previously unimaginable economic territories. Giving athletes the necessary “edge” to compete now requires sophisticated evolving nutrition and exercise protocols, including the proper integration of individualized dietary supplements. Additionally, because of improved methods and frequency of drug testing, athletes are seeking healthy legal alternatives to help enhance performance. Maximizing potential during high-level competition involves athletes and qualified trainers leveraging all available resources. In fact, surveys from the 2008 Olympics showed at least 90% of the 11,000 athletes reported regularly using dietary supplements.¹ Other polls of competitive athletes of all ages show the same numbers.^{2,3,4,5} Additionally, approximately 85% of health club participants regularly use dietary supplements to enhance health or exercise outcomes.⁶

There is now strong scientific and empirical evidence that a limited number of natural/bio substances, prepared in formulations matched from positive clinical trials and ingested properly within a training and nutrition plan, can safely improve recovery,^{7,8,9,10,11,12} muscle protein synthesis,^{11,12,13,14,15,16,17,18,19,20} time to exhaustion^{21,22,23,24,25,26,27,28} and training-induced size or performance for many athletes.^{9,29,30,31,32,33,34}

Performance Dietary Supplement Rationale

Competitive athletes and exercisers constantly seek physical improvement in order to remain competitive in their respective sport by attempting to make continuous strength and performance gains, or simply enhance exercise sessions over time as with avid exercisers.

Exercise stimulates natural human skeletal muscle synthesis and performance throughout life when compared to a non-exercise state.^{35,36} Various forms of mechanical loading (exercise design) initiate muscle protein's related anabolic signaling and the mode, intensity and volume of exercise differentially affect signaling, thus long-term outcomes.^{37,38,39} The general goal of most athletes is to maximize the body's natural muscle protein synthesis (MPS) processes, which include applying peak strength during exercise and recovering adequately from each training bout to constantly increase performance and if desired, increase skeletal muscle size. Thus, the athletes/exerciser's goal is to continue to improve physically by making each training session build on the previous, leading to continuous athletic/physical progress since unaccustomed exercise continues to set the stage (initiates anabolism) for the desired muscle remodeling that would potentially improve performance/size.^{15,40,41} However, despite the constant initiation of MPS by exercise, positive training progress slows dramatically with age and experience, and training plateaus become common occurrences^{41,42,43,44} leading researchers and athletes to believe that something is missing (nutritionally) in the pre or post-exercise period that would otherwise continue progression from proper unaccustomed training (at least until there is an unavoidable age decline*). In other words, exercise is only a continual trigger event for the desired result leaving nutritional/bio-ingredient modulations to deliver the progressive outcome.^{36,43,45} These conditions set the stage for dietary supplementation when all else is equal and training and diet protocols are optimized for the desired progression.

*Eventually as in all aspects of life, age will become a factor in abating progress but depending on age and level of training experience, this inevitable decline can be prolonged to a point where one has the greatest potential to not just extend their athletic success or "playing lifespan" but also remain self-sufficient throughout life.^{42,44,46}

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Practitioner Dietary Supplement Reference Guide – 3rd Edition

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Practitioner Dietary Supplement Reference Guide – 3rd Edition

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