



## ACADEMIC PAPERS

Mr. Mauricio de Arruda, professor of the IFBB College.

# Evaluating the importance of appropriate exercise technique to maximize training adaptations



When engaging in a Weight Training Program, practitioners often emphasize the importance of appropriate exercise technique, especially when trying to maximize training adaptations (e.g.: hypertrophy). This narrative review aimed to synthesize existing evidence on what constitutes proper exercise technique for maximizing muscle hypertrophy, focusing on variables such as exercise-specific kinematics, contraction type, repetition tempo, and range of motion (ROM). It is usually recommended that when trying to maximize hypertrophy, one should employ a ROM that emphasizes training at long muscle lengths while

also employing a repetition tempo between 2-8 seconds. More research is needed to determine whether manipulating the duration of either the eccentric or concentric phase further enhances hypertrophy.

The authors of this article identified several factors that should be standardized when the ultimate goal is muscle hypertrophy. The repetition technique to maximize muscle growth may be more flexible than previously thought, with the main variable of influence appearing to be ROM, specifically emphasizing training at long muscle lengths.

It's also important to note that individual body anthropometry can

alter recommendations depending on the given exercise; thus, certain aspects of technique will ultimately be specific to the individual - there is not a one-size-fits-all prescription.

It is therefore suggested that universal exercise-specific kinematic guidelines should be followed and adopted to the above recommendations.

**SOURCE:** Optimizing resistance training technique to maximize muscle hypertrophy: a narrative review. Patroklos Androulakis Korakakis et al. 2023.

Mag. Ville Isola, professor of the IFBB College.

# The Strategic Use of Supplements in Competitive Fitness and Bodybuilding: Insights and Evidence



In the competitive world of fitness and bodybuilding, dietary supplements are critical allies for athletes striving to enhance their performance, muscle growth, and recovery. With many options and bold claims flooding the market, identifying the supplements that offer real benefits while staying within the bounds of health and anti-doping rules presents a significant challenge. This challenge is particularly pronounced in IFBB athletes, where athletes push their bodies to the limit while adhering to strict competition guidelines.

Recent research by Jiménez-Martínez et al. (2024) into the supplementation habits of bodybuilders on the international stage offers valuable insights into the patterns and preferences that guide supplement use in this demanding sport. Drawing from a broad international cohort, this study peels back the layers of supplement selection among these athletes, revealing a landscape where evidence-based practice is paramount for achieving peak performance.

## SUPPLEMENT TRENDS AMONG BODYBUILDERS

The study reveals that most bodybuilders rely on dietary supplements as a cornerstone of their training and preparation. Creatine and whey protein emerge as the most favored supplements, a testament to their widespread acceptance and the scientific evidence supporting their use.

Interestingly, the study finds no significant difference in supplement consumption patterns between more and less successful athletes. Instead, it highlights that an athlete's age, competitive experience, and participation frequency are more indicative of success than specific supplementation strategies.

## PRACTICAL INSIGHTS FOR ATHLETES AND COACHES:

- **Evidence-Based Supplements Take Precedence:** The preference for creatine and whey protein underscores a shift towards supplements backed by solid scientific research. This trend suggests that athletes increasingly seek supplements that offer proven benefits.
- **Experience Trump Supplements:** The findings suggest that success in bodybuilding is less about the supplements one takes and more about the athlete's overall experience and approach to competition. This insight challenges the notion that

supplements alone can make or break competitive outcomes.

- **Online Shopping Dominates Supplement Acquisition:** Reflecting modern buying habits, most athletes turn to online platforms for their supplement needs. This shift highlights the importance of digital savviness and the need for critical evaluation when purchasing supplements online.
- **The Influential Role of Coaching:** Athletes often make supplement choices based on their coaches' recommendations, underscoring coaches' critical role in guiding supplement use. This places a responsibility on coaches to remain up-to-date with the latest evidence-based recommendations.
- **A Call for Greater Collaboration:** Despite the reliance on supplements, there needs to be a noticeable gap in consultations with healthcare professionals. This points to an opportunity for greater collaboration between athletes, coaches, and medical experts to ensure safe and effective supplement use.

## CONCLUSION: TOWARDS INFORMED SUPPLEMENT STRATEGIES:

As the fitness and bodybuilding supplement landscape continues to evolve, so must the strategies athletes and their coaches employ. This study

calls for a more informed, strategic, and holistic approach to supplementation, where health, ethics, and evidence guide decision-making.

Fitness and bodybuilding success is multifaceted, with supplements representing just one piece of a giant puzzle. Embracing an informed approach to supplementation can empower athletes to confidently navigate their competitive journeys, ensuring both peak performance and adherence to health and anti-doping standards.

Join us for an in-depth exploration of effective and safe supplement use in compliance with anti-doping rules at our upcoming IFBB Webinar ZOOM: Sports Supplements on March 17th. Whether you're an athlete, coach, or simply passionate about fitness, this session promises invaluable insights into making informed decisions about your supplement regimen. Register now to secure your spot: <https://ifbb-academy.com/product/ifbb-webinar-zoom-sports-supplements/>

Jiménez-Martínez, P., Alix-Fages, C., Helms, E. R., Espinar, S., González-Cano, H., Baz-Valle, E., ... & Colado, J. C. (2024). Dietary supplementation habits in international natural bodybuilders during pre-competition. Heliyon.

By IFBB College Member, Mr. Ali Mojtahde

# Adaptogens: Rhodiola Rosea for Stress Reduction and Sport Enhancement

In the realm of adaptogens, substances that empower the body to resist and navigate stressful situations, Rhodiola rosea emerges as a potent modifier of stress responses. Adaptogens, rooted in the concept of the “general adaptation syndrome,” play a crucial role in the body’s physiological reactions to stress—alarm, resistance, and exhaustion. Rhodiola rosea, alongside other adaptogens like ashwagandha and Ginseng, aids the body in resisting, tolerating, and coping with stress while facilitating a return to normal physiological states.

## RHODIOLA ROSEA: A POTENT STRESS MODIFIER

Renowned for its remarkable ability to enhance resilience against stress, combat fatigue, and contribute to overall well-being, Rhodiola rosea stands out among adaptogens. Its effectiveness against fatigue makes it a standout anti-fatigue solution. By promoting the release of serotonin—a neurotransmitter associated with mood regulation—Rhodiola provides a natural and effective means of combating tiredness and enhancing vitality.

## WEIGHT MANAGEMENT AND CORTISOL REGULATION

Beyond its anti-fatigue properties, Rhodiola rosea has demonstrated

potential in weight management. This adaptogenic herb is linked to lower cortisol levels, a hormone associated with stress. Rhodiola’s role in maintaining cortisol balance may prevent issues related to metabolic syndrome, such as managing blood sugar levels, lipid control, and reducing the risk of fatty liver conditions.

Cortisol, known for promoting muscle protein breakdown and contributing to a catabolic state, can lead to increased fat accumulation—especially around the abdominal area. Rhodiola’s influence on cortisol levels and appetite regulation positions it as a valuable tool in managing weight and body composition.

## EXERCISE IMPACT: BOOSTING ENERGY EFFICIENCY

Rhodiola’s impact extends to exercise performance by maximizing energy utilization for creatine and ATP production. Its influence on mitochondria and cellular fat oxidation is noteworthy, suggesting a positive impact on mitochondrial function for improved energy metabolism. This is particularly vital in aging, where declining mitochondria contribute to reduced energy supply for tissues like muscles, the brain, and the heart. Rhodiola’s

ability to modulate cortisol release further positions it as an anti-catabolic herb, mitigating detrimental effects on muscle tissue.

## NAVIGATING THE HERBAL SUPPLEMENT LANDSCAPE

Understanding the potency of herbal supplements is crucial, considering approximately 40% of pharmaceutical medications find their roots in herbal remedies. For Rhodiola supplements, opting for standardized formulations containing 3% rosavins and 1% salidroside ensures consistent and reliable benefits.

## IN CONCLUSION: A COMPREHENSIVE APPROACH TO WELL-BEING

Managing stress and cortisol levels through strategies that include lifestyle changes and adaptogens like Rhodiola is integral in protecting against prolonged catabolic states and unwanted changes in body composition. Emphasizing a comprehensive approach to well-being, encompassing a balanced diet, regular physical activity, and sufficient sleep, complements the potential benefits of adaptogens in promoting overall health and resilience.

