



4ORE
RECOVERY
(White Paper)

Wellness in Golfing – The Role of the **4ORE RECOVERY** Nutritional Supplement

Brief Overview of **4ORE RECOVERY**

Every golfer knows that RECOVERY is just as important as performance. In order to maintain peak performance, post-workout RECOVERY is vital. The **4ORE RECOVERY** nutritional supplement is a natural fusion of amino acids, minerals, and vitamins that is designed for golfers. Each component of this unique matrix is supported by years of medical and clinical research. Adding more options for golfers, this nutritional supplement comes in 2 great flavors, peach mango and rainbow paradise.

Amino Acid RECOVERY Matrix

An essential component of a successful post-workout RECOVERY involves regenerating damaged muscle by providing necessary nutrients. Amino acids are at the forefront of post-workout RECOVERY because they are vital to building cells, supporting antioxidant processes, and promoting muscle growth [1]. However, the body only produces eleven out of the twenty amino acids. This means that the other nine amino acids (called essential amino acids) must come from food and supplements. In order to maximally replenish the bodies amino acid stores, **4ORE RECOVERY** contains both essential and nonessential amino acids.

The essential amino acids infused include L-Leucine, L-Isoleucine, L-Valine, L-Threonine, L-Methionine, L-Phenylalanine, and L-Lysine. L-Leucine, L-Isoleucine, and L-Valine are branched chain amino acids (BCAAs), which are recognized as vital to supporting muscle synthesis and preventing muscle breakdown [2]. In particular, L-leucine is well-known for directly activating the mTOR pathway, which is key to muscle growth. One study found that when BCAAs were added to a mixture of L-Lysine, L-Threonine, L-Methionine, and L-Phenylalanine in post-workout individuals, markers of muscle damage were significantly reduced [3]. Another study demonstrated that there is a dose dependent increase in muscle synthesis when taking essential amino acids post-workout [4]. This suggests that supplements rich in essential amino acids may provide the extra boost needed for optimal muscle RECOVERY. L-theanine, an amino acid derived from tea leaves, is unique in that it is not made by the body or required in dietary forms. However, L-theanine is recognized as advantageous after exercise because it decreases the release of several inflammatory molecules and thus, reduces post-workout inflammation [5].

This supplement also contains multiple amino acids which are naturally produced within the body, such as L-Glutamine, L-Tyrosine, and L-Arginine. Supplementation with L-Glutamine after exercise has been found to significantly reduce muscle soreness and increase the rate of muscle RECOVERY [6]. L-Tyrosine is another amino acid that acts as a building block for protein synthesis. Supplementation with L-tyrosine immediately before exercise has been determined to significantly increase exercise capacity [7]. Finally, L-Arginine aids in the production of an important molecule called nitric oxide, which increases blood flow to muscles [8]. Supplementation with L-Arginine before exercise has been shown to significantly improve blood flow to the muscles and aid in RECOVERY after exercise.

This supplement is also enriched with several B vitamins, which are necessary for energy production during rest and exercise [9]. Supplementation with thiamine (Vitamin B1) and niacin (Vitamin B3) have been shown to significantly reduce muscle fatigue after exercise [10,11].

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Vitamin B6 exerts a dual effect in RECOVERY, as it significantly reduces muscle fatigue while also increasing blood flow to muscles [12]. Lastly, promising research indicates that supplementation with Vitamin B12 can promote regeneration of muscles and nerves [13].

Hydration Matrix

An important aspect of post-workout RECOVERY involves ensuring that the body receives optimal hydration. During exercise, the body consumes energy (burning calories) and produces acids as metabolic byproducts. This disturbs the optimal pH for RECOVERY and overall wellness. **4ORE RECOVERY** supplies the body with the precise electrolytes, vitamins and minerals needed to balance pH and replenish muscles.

During exercise, electrolytes like sodium, potassium, magnesium, and calcium are lost through sweat [14]. Thus, the inclusion of Himalayan salt, potassium AAC, magnesium AAC, and calcium carbonate offer ways to replenish the electrolytes lost during exercise. Further, ingesting fluids enriched with sodium, potassium, magnesium, calcium, and chromium have been shown to positively impact the rate of rehydration and muscle RECOVERY [15]. Manganese is another electrolyte which is crucial for enzymes that regulate sugar and amino acid metabolism [16].

Final Conclusions

RECOVERY after any workout requires several nutrients to work together to regenerate muscle and rehydrate the body. The amino acid and hydration matrices incorporated in the **4ORE RECOVERY** nutritional supplement provides all the key nutrients needed to facilitate the peak RECOVERY that golfers need before their next workout.

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