

DIGESTIVE+++ PROBIOTIC LINKED TO IMPROVED ATHLETIC PERFORMANCE

If you watched the summer 2016 Olympics in Rio, it may have inspired you to try a new sport or to make an effort to become more physically active. Athletes, especially ones that make their sport a career, have a number of responsibilities that can take a toll on their physical and mental health. According to an international Olympic committee consensus statement, professional athletes have been shown to experience a suppressed immune system, which can be exacerbated by psychological stress, environmental extremes, exposure to large crowds, or increased exposure to pathogens due to elevated breathing during exercise.[1,2]

The Olympic committee went on to report that high-intensity and prolonged training and competition "load" is associated with an increased risk of immunological changes. These may increase the risk of diagnosed illness or symptoms. Illness in elite-level athletes during international competition has been studied in a variety of settings including the Summer and Winter Olympic Games, Winter Youth Olympic Games, Summer Paralympic Games, Winter Paralympic Games and other international competitions in a variety of sports consisting of athletics, aquatic sports, football and rugby union.[2]

ATHLETIC PERFORMANCE RAISES RISK FOR ILLNESS

These studies further reported that in shorter duration (less than four weeks) at major international games or tournaments, 6 to 17 percent of registered athletes were likely to suffer an illness of some sort. In recent Olympic summer and winter games, almost 10 percent of athletes reported an illness. Clinically diagnosed infections are generally reported as the most common cause of acute illness, with infection being the cause of respiratory tract illness in about 75 percent of cases. Other systems commonly affected by illness are the digestive system, urinary/genital system, and the skin and subcutaneous tissues.

However, athletes can develop symptoms (e.g. sore throat, sinus congestion and cough) that mimic infections, but are actually due to allergy or inflammation from other causes such as inhalation of cold, dry or polluted air.[1]

PROTEIN SUPPLEMENTATION INCREASES MUSCLE MASS AND PERFORMANCE

It is well established that when athletes or those on a moderate exercise routine consume a supplement of simple proteins during training and workout periods for up to eight weeks, their performance parameters and muscle mass improve. It has been further postulated that probiotic supplementation added to the protein supplementation might improve exercise performance as well, because certain probiotics may also help with such metabolic conditions such as protein breakdown in the gut. It was also of interest in the studies to observe if respiratory or gastrointestinal distress improved with the supplementation regimens.

Two studies were designed to evaluate athletic parameters while consuming either a protein supplement alone or protein with a probiotic supplement. The results of both studies showed that probiotics supplemented with protein reduced the number, severity, and duration of respiratory infections and gastrointestinal distress in athletes, better than taking just a protein supplement alone.

PROBIOTIC AND PROTEIN SUPPLEMENTATION IMPROVED PERFORMANCE BETTER THAN PROTEIN ALONE



A small study first revealed a trend towards an increase in vertical jump power after eight weeks of full body workouts four times per week daily, while ingesting *Bacillus coagulans* and protein daily in comparison to protein alone.[2]

A second study was then created to observe if vertical jump performance was aided by muscle recovery through gut microbial modulation. The study was conducted to determine if taking the probiotic *Bacillus coagulans* along with protein could have a beneficial effect on muscle damage, performance and recovery following a strenuous exercise bout. Twenty-nine male subjects took 20 grams of casein (milk protein) for seven weeks. Each participant's testing included measurements of muscle soreness and recovery, inflammation and performance testing. The second part of the study had participants take a supplement of *Bacillus coagulans* along with the 20 grams of milk protein for 14 days.

At the conclusion of the supplementation periods, participants performed the experimental protocol which included a muscle damaging, one-legged exercise bout. Perceived recovery and muscle soreness were measured at day one, two and three following the exercise bouts. In addition, participant's strength, power and muscle thickness were measured two days after exercise. Participants used the opposite leg during the second muscle-damaging exercise bout.

Bacillus coagulans supplementation taken while consuming a protein supplement showed reduced muscle damage, improved recovery and maintained physical performance after damaging exercise better than just taking a protein supplement alone. The authors speculated that the beneficial effects observed in vertical jump performance might be based on aiding muscle recovery through gut microbial modulation. The supplement of *Bacillus coagulans* consumed by the study participants contained one billion CFU (Colony Forming Units). CFU is the standard measurement of good bacteria one receives from a probiotic.



Professional athletes and weekend athletes need to be aware that strong physical exercise can be damaging to the immune system as well as muscle tissue, which can create free radical damage and injury. These published studies supported the use of consuming the strain of bacteria *Bacillus coagulans* to optimize health and recovery after heavy exercise.

DIGESTIVE^{+++} contains 1.5 billion active spores of *Bacillus coagulans*, the lactobacillus probiotic that also forms a spore. The spore-forming lactobacillus has been shown to withstand digestive enzymes and shows viability in the colon in studies. It is likely one of the most optimal probiotics for human consumption, and the spore coating protects it from environmental factors when handling and in storage. Therefore, it has a longer viable shelf life. These were the primary reasons it was chosen for the LifePharm DIGESTIVE^{+++} product.

LEARN MORE ABOUT THE BENEFITS OF DIGESTIVE^{+++}

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

REFERENCES

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