

International Ultra Triathlon Association (IUTA)

Risk of a positive doping test due to the intake of food supplements

Millions of people consume dietary supplements in hope of maintaining and or to improve their health; however, research has failed to demonstrate the efficacy of numerous supplements in disease prevention. There are also concerns that have been raised about the safety of routine and high-dose supplements, due to the fact that these substances are not regulated globally. So unlike drugs, they aren't required to meet the same strict standards. Which may lead to potential adverse health problems, even leading up to possible death as well as positive anti-doping tests. Which is the use of banned athletic performance-enhancing drugs. [1]

On average it takes a drug twelve years to get approved by the FDA, going through three phases according to www.drugs.com (13 years approved by EMA according to www.ema.europa.eu/en). The multiple phases allow the FDA or EMA to understand if a drug treats the conditions it is set out to treat, as well as understand the adverse effects of the drug. Understanding the adverse effects of a drug can be lifesaving. This is a major flaw with supplements. Since supplements are not regulated by the official authorities, there has been no research on the adverse effects of a supplement and all the ingredients. Doctors are not allowed to prescribe medicine without official approval, why can supplements be sold without official approval? The lack of knowledge on the effects of supplements could be extremely dangerous to those who take them.

With the increasing use of unregulated dietary supplements, athletes are at continued risk from adverse medical events and positive anti-doping tests. While supplements cannot claim to treat, cure, prevent or diagnose disease they do often make claims of improved recovery, decreasing inflammation and providing antioxidant protection, as well as a remedy for nutrient deficiencies and homeostasis: the state of steady internal, physical, and chemical conditions maintained by living systems.

There are many different supplements on the market and many people and athletes in the quest for a healthier lifestyle try supplements, but it can be confusing and overwhelming to figure out which ones to take,

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what brand to use, and if they are safe.

In order to prevent positive anti-doping tests, athletes, coaches and sports doctors at all levels of competition must inform themselves about nutritional supplements or prohibited substances. WADA (World Anti-Doping Agency) provides a comprehensive code to outline a code of fairness in sport, referred to as “The spirit of the sport”. Meaning to act ethically, and fairly. Doping would not be acting in the spirit of the sport.

WADA’s Article 2.1.1 states: *“It is each Athlete’s personal duty to ensure that no Prohibited Substance enters his or her body. Athletes are responsible for any Prohibited Substance or its Metabolites or Markers found to be present in their Samples. Accordingly, it is not necessary that intent, Fault, negligence or knowing Use on the Athlete’s part be demonstrated in order to establish an anti-doping rule violation under Article 2.1.”* [2]

Dr. P van der Bijl’s study titled *“Dietary supplements containing prohibited substances”* [3] states *“While food supplements and pharmaceutical agents may enhance strength and performance of athletes, there is insufficient scientific data to support this theory.”* Brands are selling supplements claiming to have numerous positive effects without any proof. These false hopes for those who take these supplements are only causing harm to the body. Having unregulated supplements is a public health concern. Although the public can and should research a product, not all the information is easily available. The government needs to step in and take action to regulate these products for the safety of the public. One sure way for an individual to ensure the supplement does not contain any prohibited substances is to check data bases to view safe products.

Another issue with dietary supplements is for athletes competing at high levels. Some athletes may be taking a supplement to help with an issue that has nothing to do with enhancing performance. The lack of knowledge of a supplement may lead to a failed doping test. The consequences of failing this test can be detrimental to an athlete who has worked for years to get to the level they are at currently. This is extremely harmful for any athlete and could cause them to feel like they have lost everything they had been working towards. Dietary supplements need to be regulated so athletes can confidently take supplements that may benefit other part of their lives. Even if these

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supplements do become regulated, an individual should still consult a physician to understand the side effects and the effectiveness of the supplement. One should be certain that a balanced diet is the foundation for developing optimal training and performance, for a competitive lifestyle where strenuous physical activity make demands on the human body beyond its normalcy.

If you believe you have a nutrient deficiency you should seek medical testing with a licensed MD, for proper interpretation and recommendations of your results. If supplementation is recommended it is imperative to use a reputable source if a balanced diet cannot provide fulfillment. A reputable source would provide proper labeling and third party testing. Proper identification of strength, purity and documentation of free of contamination should be listed. The label should state: "Third party tested".

Most athletes are not even aware they are consuming prohibited substances. One example is Jessica Hardy leading to the 2008 Olympics. Although she had done her research, she still had taken in a prohibited substance. According to the Neilson Mathews' study "*Prohibited Contaminants in Dietary Supplements*" [4], "*it is estimated that 6.4% to 8.8% of doping cases are caused by tainted dietary supplements.*" This is a crucial piece of data as the lack of regulation of dietary supplements has the potential to derail an athlete's career. This statistic portrays that in the last Olympic games, if every athlete took dietary supplements (2,952 athletes according to M. McCluskey from time.com [5]), 189 athletes would have tested positive for doping due to tainted dietary supplements. This staggering number proves how taking dietary supplements without them being regulated can cause athletes to inadvertently test positive for doping.

The practice of using dietary supplements among the population at large and athletes at all levels of competition has led to a huge, continuously growing, multi-billion dollar industry with a worldwide market estimated at more than \$165 billion in 2014 and expected to rise to \$279 billion by the end of 2021.[5] If the composition and quality of ingredients cannot be reliably ensured, the validity of research on dietary supplements is questionable. Moreover, the health of the public is put at risk.

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With the hundreds of products on the market it is extremely difficult for consumers to be able to understand the effects of the supplement. The supplements could potentially produce unintentional side effects that may be life threatening. Although athletes are held to a higher standard and need to be aware of the supplements and their ingredients, it is extremely difficult even for an expert in the field could be misled by certain claims in the industry. The government needs to begin to regulate dietary supplements the same way the rest of food and medicine are regulated to help protect individual's health and athletes from positive doping tests.

References:

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- [5] McCluskey, Megan. (2018, February 9). Olympics 2018: How Many Athletes Are Competing? <https://time.com/5142791/olympics-2018-number-of-athletes-countries/>
- [6] Transparency Market Research: Nutraceuticals Product Market is expected to reach USD 278.96 Billion globally in 2021. <https://www.transparencymarketresearch.com/global-nutraceuticals-product-market.html>