
SUPPLEMENTS: Risks vs. Rewards.

THE ISSF BELIEVES THE USE OF MOST SUPPLEMENTS POSES AN UNACCEPTABLE RISK FOR SHOOTERS AND THEIR ATHLETIC CAREER. WHILE ISSF DOES NOT RECOMMEND THE USE OF SUPPLEMENTS, IT IS ACKNOWLEDGED THAT MANY SHOOTERS WILL CHOOSE TO USE THEM TO SUPPORT THE NUTRITIONAL DEMANDS OF TRAINING AND TRAVELLING. AS SUCH, IN AN ATTEMPT TO ADDRESS MANY QUESTIONS THAT ARE POSED TO THE ISSF REGARDING SUPPLEMENT USE, THIS EDITION IPOD FOCUSES ON THE ISSUE IN GREATER DEPTH.

Dietary supplements are defined as products containing "dietary ingredients" intended to supplement the diet. These include vitamins, minerals, amino acids, botanicals, herbs, and substances such as enzymes, organ tissues and glandulars, metabolites, and other dietary supplements.

Shooters continue to question whether or not their use of vitamins or dietary or nutritional supplements is safe, and if by consuming them they are at risk of yielding positive doping control results. The simple answer is that extreme caution is recommended regarding any type of supplement use, whether vitamin and mineral, homeopathic or herbal or dietary and nutritional.

VITAMIN AND MINERAL DIETARY SUPPLEMENTS

Many athletes may turn to vitamin and mineral supplementation due to confusion over the Recommended Daily Allowance (RDA) and the Dietary Reference Intakes (DRI). The RDAs are recommendations suited for 97-98 percent of the population, based on extensive research. DRIs include RDA recommendations but also include Adequate Intakes (AIs) for nutrients that need more research. The reality is that most sports medicine professionals agree that unless an individual has a nutrient deficiency, vitamin and mineral supplementa-

tion may not improve athletic performance. The question that arises is: "do most athletes need to take vitamins and dietary supplements?" The answer to that question generally is NO. Athletes have increased energy needs. These allow them more opportunities to obtain the nutrients they need through a balanced diet composed of a variety of natural foods that contain a complex matrix of various nutrients.

Accordingly, for shooters who consume a normal, varied and balanced diet and meet their energy requirements by eating properly, there is no evidence that vitamin and mineral supplementation is necessary to enhance health or performance. Conversely, a shooter who replaces food with supplements can put his or her health at risk. A handful of supplements for breakfast, followed by several tablespoons of assorted products containing trace minerals or powdered protein supplements and herbs throughout the day, will not provide the health benefits and needs found in food.

More is not always better. The established recommended RDA and DRI for vitamins and minerals are to be used as a guide in determining nutritional needs. Although a shooter who takes a simple onea-day type of vitamin or mineral that does not exceed the nutrient levels of the RDA/DRI is probably not doing him or herself

any harm, evidence shows that excessive ingestion of vitamins and minerals can be dangerous to health.

Self-prescribed supplement users should heed overdose warnings and look for symptoms of toxic levels of supplementation, such as diarrhoea, skin rashes that do not fade and unexplained joint pain. Fat soluble vitamins (A, D, E, and K) can be toxic when misused. Unlike water soluble vitamins in which excess amounts are excreted in the urine, fat soluble vitamins are metabolized in body fat and remain in the body.

Yes, there are some practical situations in which qualified medical practitioners, accredited sports dieticians and registered nutritionists may recommend specific vitamins or minerals for certain individuals (e.g. if iron stores are low), but these should be taken with qualified expert advice and only used as directed or prescribed. Caution is also needed because evidence has shown that some multi-vitamin, mineral and nutritional supplements may contain prohibited substances that are not recorded on the label.

Therefore, a shooter should always consult with his or her physician, or other health care professional, to determine whether vitamin and mineral supplementation is needed to maintain optimal health.



HOMEOPATHIC PRODUCTS AND ALTERNATIVE MEDICINE SUPPLEMENTS.

Homeopathic products are usually very low in concentration of active substances. However, because the label usually does not specify ingredients by chemical substances but rather by origin (name of plant or animal it is extracted from), it is difficult for anyone to determine whether a prohibited substance may be present in these supplements.

As is the case for nutritional supplements, in some countries, homeopathic products, herbal remedies and other alternative medicinal products are not subject to the same quality control requirements as pharmaceutical products. Therefore, improper labelling, poor manufacturing practices and contamination can cause prohibited substances to be present in these products without the consumer knowing.

When consulted medical professionals or pharmacists advise a shooter to take homeopathic supplements, they should ensure that they are suitable for that shooter's nutrient needs and safe for his or her health. Always make sure the professional consulted knows of the doping risks associated with supplement use and reviews the World Anti-Doping Agency (WADA) Prohibited List before providing advice.

Shooters also have to be careful about any home remedies that have found their place in the family tradition or cultural lifestyle. Many such concoctions are derived from herbal products and some prohibited substances do originate from plants. Remember, under the strict liability principle it does not matter how or why a prohibited substance entered an athlete's body. Shooters are responsible for everything that goes into their body.

DIETARY AND NUTRITIONAL SUPPLEMENTS.

The reality is two-fold. First, there continues to be significant health risks associated with nutritional supplement use, and second, adverse analytical findings and antidoping rule violations continue occurring as a result of their use.

Many shooters question why supplements receive such negative reputations. It is because nutritional supplements may intentionally contain prohibited substances or may be inadvertently contaminated with prohibited substances. In many countries, the manufacturing of dietary supplements is not appropriately

regulated by the government. Indeed, there is little government regulation on the supplement industry. In some cases, supplement manufacturers mislabel their products by not accurately specifying the contents or the relative amounts of each ingredient per dose. In other cases, the ingredients on the inside of the bottle may not match those listed on the outside label or package. In many cases, the undeclared substances found in the supplement can include one that is prohibited under antidoping regulations. It is not uncommon for supplements to be cross-contaminated with banned substances during the manufacturing process if the manufacturer produces other products that contain prohibited substances.

As noted by Ms. Jean Coleman in a report submitted to the ISSF Medical Committee after she attended the Tackling Doping in Sport conference at Twickenham Stadium in March of 2011, "nutritional supplements continue to be another source of problems for the clean athlete". As reported by Ms. Coleman, the IOC has re-issued a statement on food supplements and there is an on-going vetting of new products and ingredients. For example, Methylhexaneamine (MHA) is present in many food supplements. In October, 2010 there were 9 positive tests of Australian athletes, all for MHA. Individuals should be made aware that one of the major sources of MHA in athletes' samples is contamination during manufacture.

Studies have shown that as many as 20 percent of supplements available to athletes can contain ingredients that are not declared on the label. Not surprisingly, a significant number of positive tests have been attributed to the misuse of supplements. Still, taking a poorly labelled dietary supplement is not an adequate defence in a doping hearing.

And so, after recent anti-doping violations caused by the use of mislabelled and contaminated supplements, many anti-doping organizations are once again drawing attention to the extreme risk an athlete runs when using supplements.

Therefore, all shooters must be warned: While it is easy to assume that an inadvertent anti-doping rule violation can only happen to someone else, in reality anyone that uses supplements is at risk, even after taking any recommended precautionary steps.

MINIMIZE THE RISKS:

Shooters have a personal responsibility to evaluate all the risks associated with supplements before using them.

THE IOC NUTRITION WORKING GROUP ADVISES:

"Athletes are cautioned against the indiscriminate use of dietary supplements. Supplements that provide essential nutrients may be of help where food intake or food choices are restricted, but this approach to achieving adequate nutrient intake is normally only a short term option. The use of supplements does not compensate for poor food choices and an inadequate diet. Athletes contemplating the use of supplements and sports foods should consider their efficacy, their cost, the risk to health and performance and the potential for a positive doping test."

If it is still believed that a shooter needs supplements, he or she should first consult a competent sport science professional such as a sport nutritionist or a sports physician. These professionals should be able to advise and confirm if a shooter's needs could be met from consuming normal foods rather than by resorting to supplements.

Additionally, shooters who choose to use supplements should take the following precautions to minimize the risks. These precautions may help demonstrate that an athlete was not at fault or not significantly at fault if a violation occurs as a result of supplement use. Although in most circumstances a violation will still be declared, proof that the utmost caution was observed may be taken into consideration when the sanction is imposed.

- Make a direct enquiry to the manufacturer and get a written guarantee that the product is free of any substances on the WADA Prohibited List. Do not use the product if a manufacturer's guarantee is not provided.
- Ask if the manufacturer makes any products that do contain prohibited substances at the plant where the supplement is produced. If prohibited substances are present in a manufacturing plant, the risk of cross-contamination with the supplement is very high and these products should not be used.
- Ask if the manufacturer is prepared to stand behind its product. If a manufacturer does not stand behind its product, it should not be used.
- Have proof showing the sensible and obvious precautions taken before taking the supplement to address the various risk factors associated with its use.
 Save a copy of emails sent and received, keep a log of all written correspondence and phone calls made, and make copies of all medical or manufacturer's reports



- or guarantees provided by any person or company that was contacted in the course of this precautionary research.
- Seek advice from a National Anti-Doping
 Organization or other health professionals
 regarding supplements. Credible documented proof that advice was sought
 by recognized anti-doping organizations
 and health professionals cannot eliminate
 the risk of inadvertent doping but may
 reduce it. It can also provide credible
 evidence during a hearing in the event
 of a positive test result.

Additional general words of advice

- Supplements which advertise "for treatment or arrhythmia", or "heart stabilizing" or anything similar, are most likely to contain beta blockers which are strictly prohibited in and out of competition under ISSF Anti-Doping Rules and the WADA Prohibited List.
- Supplements which advertise "muscle building" or "fat burning" capabilities are the most likely to contain a prohibited substances, such as anabolic agents or stimulants.

- The terms "herbal" and "natural" do not necessarily mean that the product is safe.
- Pure vitamins and minerals are not prohibited on their own but shooters are advised to use reputable brands and avoid those combined with other substances.

FINAL WORDS:

It is well-known that all athletes searching for a competitive edge often look to a supplement or special combination of nutrients to find it. However, research has shown that there are no quick-fix supplements for improving sports performance. Consuming a wide variety of foods and staying well hydrated are the basic cornerstones to reaching athletic potential.

The rules are clear. Ultimately, based on the fundamental principle of strict liability, shooters are responsible for any prohibited substance that may be found in their urine sample. If shooters who chose to use vitamin, homeopathic or dietary supplements end up testing positive for a prohibited substance, this can result in a violation being declared regardless of how the prohibited substance got into their body.

Bottom line:

The risks associated with supplementation are clear – the responsibility for assuming these risks ultimately rests with the individual shooter. Would it not simply be easier and healthier for every shooter to eat well and to follow a nutritious and balanced diet?

Janie Soublière BSS, LLM, LLB

ATHLETE OUTREACH AT WC IN MUNICH MAY 2011:

The ISSF would like to underline the success of the Anti-Doping Athlete Outreach booth this summer at the World Cup in Munich. Over 200 visitors to the booth took the WADA anti-doping quiz. Many athletes, coaches, and training staff visited the booth to obtain documentation and information and to gain knowledge not only on the dangers of doping but on the responsibility everyone involved in shooting shares when it comes to keeping our sport clean. The merits and success of the ISSF's commitment to anti-doping education continues!

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