

*South African Institute for
Drug-Free Sport*



**SUPPLEMENT USE
UNDER THE SPOTLIGHT**



I PLAY FAIR
SAY NO! TO DOPING

WHAT YOU NEED TO KNOW ABOUT SUPPLEMENTS

- ❌ There's an alarming increase in the number of supplements resulting in **harmful side-effects** (medical problems and fatalities) as well as **positive drug tests** in youth and adults alike,
 - harmful supplements get pulled from the market only after several people are affected and the relevant health authorities get notified.
- ❌ There is a lack of legislation and governance in the supplement industry - products can be advertised and sold with misleading claims, incorrect labeling, and **lack of scientific-grade evidence of efficacy and safety**.
- ❌ **Despite the marketing hype and product claims, the fact remains that the majority of supplements on the market have not been tested according to proper and objective standards, and their claims of superiority, efficacy and safety are not proven and cannot be guaranteed.**
- ❌ Be aware that supplement manufacturers may indeed claim that their product is 'scientifically tested', but at closer inspection the evidence may be insufficient, irrelevant, misinterpreted, not applicable to youth, or in the worst, fabricated.
- ❌ Claims that the product is 'natural' or 'herbal' does not necessarily mean that it is harmless and cannot get you banned.
- ❌ Many herbal components can have potent harmful side-effects, can lead to harmful interactions with other herbals or medications, and/or lead to a failed drug test.
- ❌ Vitamins / minerals / anti-oxidants from supplements can more easily reach levels that can cause negative health effects and can block important training adaptations that will negatively affect your sporting performance.
- ❌ Reliance on supplements shifts focus away from the more important and proven methods of achieving optimal performance and health.

OTHER COMMON PITFALLS TO LOOK OUT FOR

- ⚠️ Even supplements bought from a well-known company, store, pharmacy, or website might contain harmful or banned ingredients.
- ⚠️ Just because the product label, website, or sales representative says that the product is 'tested', 'proven' and 'safe', doesn't mean that it is the case!
- ⚠️ **Be aware of false claims like 'WADA (World Anti-Doping Agency)' or 'SAIDS (South African Institute for Drug-Free Sport) approved'. Due to the known / unknown risks involved, WADA, SAIDS or any other anti-doping agency would never endorse supplements.**
- ⚠️ If banned or harmful substances aren't listed on the product label then it doesn't guarantee that the product is indeed 'clean' or harmless.
- ⚠️ The amount the product label says you should take could be excessive and with a 'more is better' mind-set one can reach toxic levels that could be harmful to your health **and** performance.
- ⚠️ If a well-known sportsperson claims to use specific supplements it does not mean that it is safe or that it will work for you too.

- ❖ Even apparently 'harmless' dietary supplements like vitamin and mineral supplements and protein shakes have been found to be contaminated with harmful and/or banned substances that are not declared on the label.

Be aware of the risks involved with supplement use.

Think twice before blindly believing the clever marketing claims - do a proper benefit vs risk analysis by making use of evidence-based, credible resources such as drugfreesport.org.za or usada.org/substances/supplement-411/

PROVEN FACTS

- ❖ Active sportspeople do not have to take supplements to perform at their best.
- ❖ Optimising one's training, overall dietary intake, rest, recovery and sleep patterns are proven to have a far bigger impact on physique, performance and health than any sport supplement tested to date can.
- ❖ 'Skipping out' on any of the important aspects of nutrition and training cannot be replaced by the use of supplements.
- ❖ Nutrients from supplements are not better than those you get from food, especially to build muscle, reduce body fat, enhance recovery, immune function and so on.
- ❖ A well-balanced diet can boost performance and eliminates the many risks that one faces when using supplements.
- ❖ There are only a small number of supplements proven to assist exercise performance under certain specific conditions, mainly in adults, but it is NOT a one-size-fits-all approach and one still cannot guarantee that it is 100% safe and risk-free, especially in youth!
- ❖ Supplements are expensive - rather invest your time and money in seeing a registered dietitian, who specializes in sport. That is the best person to devise an individualized sport nutrition programme for you and, where appropriate, guide you on the correct use of supplements and how to minimize risks.

WHAT ARE THE RISKS INVOLVED WITH SUPPLEMENT USE?

Health risks may include allergic reactions, toxic effects from self-medicating, over-dosing or poisoning due to contaminants found in the products, high blood pressure, heart palpitations and failure, liver and kidney damage and failure.

For elite-level athletes there is also the risk of testing positive for a banned substance that can ruin a sporting career and discredit their reputation and that of the sporting code, province and country they represent. A very small amount can let you test positive - this amount might not even be anywhere close to being beneficial for performance... So the risk is totally not worth it!

The principle of strict liability applies in sport, meaning that innocent ingestion of prohibited substances is not an acceptable excuse, and athletes testing positive are liable to be sanctioned.

The label does not guarantee safety...

The lack of legislation governing local and global supplement manufacturing and marketing are major reasons for the lack of efficacy and safety standards of the products. This is true even with products from first-world countries such as the USA and UK.

What about supplement use in YOUTH (Under 18 years of age)

**Due to the substantial risks (known and yet unknown) related to supplement use, SAIDS supports the international consensus that sports supplements (including creatine, caffeine, pro-hormones, herbals etc.) should not be used in persons under 18 years of age (see SAIDS position paper for YOUTH at www.drugfreesport.org.za)

HERE ARE SOME PRODUCTS / INGREDIENTS / CLAIMS OF PARTICULAR CONCERN THAT PARENTS MUST WATCH OUT FOR:

- ❖ Claims of 'hormone-like' effects - the words 'anabolic', 'mass builder', 'steroid-', 'testosterone-', 'growth hormone-like' effects.
- ❖ 'Pro-hormone' products / ingredients such as 'DHEA', '19-nor', 'androsterone-dione' or '-diol';
- ❖ Products that claim to have fat-burning effects (weight loss or 'ripping') - these are likely to contain high doses of stimulants like caffeine / ephedrine / methylhexanamine which are harmful to your health;
- ❖ Watch out even if it says 'natural' or 'herbal' forms of pro-hormones or metabolites or fat burners (e.g. Tribulus terrestris, guarana, ephedra, mahuang etc.) - these are dangerous and have been linked to several cases of toxicity, deaths and severe disability.
- ❖ Products like creatine and caffeine are not banned substances (for adults) - they have also become very popular and widely used amongst school-going youth. However, it has not been proven to be safe and effective for children and adolescents.
 - These types of supplements could also be contaminated with banned / harmful substances that are not indicated on the label...
- ❖ Products that claim to produce 'incredible results' - if it sounds too good to be true, then it normally is! The risk to benefit ratio is simply not worth it.
- ❖ Due to these risks, trainers and coaches working with under 18 year olds in schools and colleges in the USA, for example, are prohibited from supplying creatine or other supplements directly to their under 18 year old athletes.

DO YOU NEED SUPPLEMENTS TO PERFORM AT YOUR BEST?

The simple answer is NO! The science gurus have conclusively proven that the cornerstone of optimal performance is to eat a well-balanced diet (with a variety from all food groups) and eat enough of it to meet your energy needs, to properly time your food intake (before/during/after workouts), to train intelligently and to allow for sufficient rest and recovery.

These factors can have a far bigger impact on performance than any supplement tested to date can.

In some situations there might be a valid reason to use a particular dietary supplement. But the age, situation, type of supplement, dosage and timing thereof should be established on an individualized basis and then constantly re-evaluated. It remains critical to follow a risk minimizing approach when selecting the applicable supplement. A registered dietitian with sports nutrition experience is the best equipped health professional to help you with this process.

NOTE: The number of supplements with good efficacy are in the minority!



Supplements include any of the products sold as “dietary or health supplements”, “performance-enhancing” or “sports supplements”.



Aggressive marketing of these products at school, recreational and elite-level has led to large numbers of consumers blindly believing product claims and willing to pay for and use it without questioning its proof of efficacy and safety...



The lack of efficacy and safety verification before going to market is a global problem. Unlike prescription medicines, the majority of supplements (of any kind) have not been evaluated and approved by health authorities, such as the Medicines Control Council in SA or the Food & Drug Administration in the USA.

HOW TO MINIMISE THE RISKS

A dietitian can help you identify and implement a scientifically-proven nutritional and supplement programme based on:

- ❌ Firstly, optimising your overall dietary intake, in a practical way that suits your needs and circumstances, and then secondly, assessing whether you need/could benefit from supplementation, then
- ✅ The type and amount of supplementation should be individualised to 'fill the gaps' if/when needed, it should be appropriate to complement your training and competition, rest and recovery goals.

It is not a one-size-fits-all approach!

- ❌ The choice of supplement(s) should be critically evaluated - whether it has sound scientific proof with direct, supportive and well-executed research showing its **effectiveness and safety** for that individual; aspects of the product manufacturing process should be investigated to help identify low-risk supplements.
- ✅ Certain products or retailers may contain a 'stamp of approval' or logo indicating that their supplement(s) have been independently tested for 'quality / safety' and certified to be 'free of banned substances'. Independent testing is expensive and it invariably means that only some aspects of safety are being tested for, and in most cases only on a random, and periodic basis. Examples of this are products containing the 'Informed Choice.com' logo. Whereas the 'Informed Sport.com' logo means that each batch of the product has been tested for a list of banned substances. Currently, 'InformedSport.com' offers the best level of independent testing and risk minimisation, albeit still not at a level that can guarantee that the product is risk-free. The InformedSport.com website provides a list of specific products that have been tested accordingly.

Though third-party independent testing like this may help to reduce some of the safety risks, it is important to know that: 1) the claims of efficacy of the formulation are still not being tested / approved; 2) important safety aspects e.g. dosage, contra-indications, side-effects in young vs old are not being tested for; and 3) there might still be harmful or banned substances in the product that are not being tested for. This type of testing therefore still does not provide a guarantee that taking the product will not harm your health or performance, or that you won't test positive for a banned substance.

A registered dietitian who specialises in sports nutrition is a valuable resource to help you maximise your health and sporting performance. The dietitian can also help you make informed choices on the use of supplements and how to follow a low-risk approach.

Visit our website (www.drugfreesport.org.za) for more information and practical sports nutrition tips!



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