

*South African Institute for
Drug-Free Sport*



SUPPLEMENT USE UNDER THE SPOTLIGHT

**I PLAY
FAIR**
**SAY NO!
TO DOPING**





Supplements
include any of the
products sold as dietary
or health supplements,
ergogenic aids
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 without being aware of the risks of doing so...

The lack of efficacy and safety verification before going to market is a global problem. Unlike prescription medicines, supplement manufacturers do not need to get the accuracy of its labels and claims clinically proven and verified by health authorities before going to market.

What you need to know about supplements

- There is a **lack of legislation** and governance in the supplement industry - products can be advertised and sold with **misleading claims** and incorrect labeling.
- 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.

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', 'herbal' or 'organic' does not necessarily mean that it is harmless and cannot get you banned. Herbal ingredients / formulations can have potent harmful side-effects and/or lead to a failed doping test.
- Vitamins / minerals from supplements can more easily exceed upper safety limits that can cause negative health effects and can block training adaptations that will negatively affect your sporting performance.
- Reliance on supplements shifts focus away from the more effective dietary and training strategies that are proven to optimise performance.

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' or '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 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.

Proven facts

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 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.
- Only a very small number of dietary ingredients have sufficient evidence in adults* of *potential* performance-enhancing effects when taken in supplement form. It's not a one-size-fits-all effect: it invariably only works for some people, under specific training conditions / sporting types and the benefits are typically small, or for some it could be detrimental.
- *The effects of supplements are typically not studied in youth due to the ethics of potentially harming any aspect of health, growth or development. Evidence from adult studies cannot and should not simply be extrapolated to youth and therefore claims of products 'specifically designed for youth' should be regarded with the utmost caution.
- Supplements are expensive - your time and money could be better invested in seeing a registered dietitian, with sports nutrition experience. This is the best-qualified person to assist you with making informed decisions about optimising your performance nutrition strategy.

What are the risks involved with supplement use?

- Health risks may include allergic reactions, interactions or toxic effects from over-dosing, or due to pharmaceutical-grade ingredients, unapproved drugs or ingredients not fit for human consumption - added mistakenly due to poor manufacturing processes or added deliberately to otherwise ineffective products. Moderate to severe side-effects such as heart palpitations, high blood pressure, liver and kidney damage and failure, heart failure, stroke and deaths in adults and youth have been reported.
Don't let supplements ruin your health.
- For elite-level athletes there is also the risk of testing positive for a banned substance that can ruin their career, their reputation and that of their coach, family and team. A very small amount can let you test positive - this amount might not even be enough to enhance performance... Don't let supplements **ruin your reputation** (and those around you).

The principle of strict liability applies in sport, meaning that innocent ingestion of prohibited substances is not an acceptable excuse. Don't let supplements **ruin your career**.

Remember, the ingredients list and dosages on the label may be misleading or inaccurate.

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

Due to the substantial risks involved, SAIDS supports the views of leading global health and sporting authorities (e.g. U.S. Academy of Pediatrics, IOC, WADA) that deem it inappropriate and unethical for active and competitive adolescent athletes to be encouraged to consume dietary supplements for performance-enhancement.

A dietary supplement should only be considered to correct a clinically diagnosed dietary deficiency (e.g. iron deficiency) and taken under appropriate health professional guidance e.g. Registered Dietitian, who can address and optimise dietary intake at the same time. With supplements the aim is to take as little as possible, for the shortest duration possible.

Claims of particular concern parents should watch out for:

- Claims of being 'specifically formulated', 'safe' and 'effective' and good for youth. Such claims need to be backed-up by evidence from a scientific, peer-reviewed testing process involving that particular supplement or product range in question, and it needs to be verified by the SA Health Products Regulatory Authority (SAHPRA).
- Unethical marketing such as '...young athletes need supplements in addition to food to perform', that 'food is not convenient and cannot supply enough', and so on. These claims contradicts evidence-based consensus on the proven value of a "food focused" nutritional approach for youth as THE best support for optimal health, growth, development and sporting performance. Food can be implemented in a practical, convenient way and has the scientific backing to out-perform supplements on many fronts.
- The promotion of supplement-use and exaggerated / false claims also pose a deeper concern over the negative impact on kids' perceptions about the value of optimising nutrition and training (which may take a bit more effort) versus the 'false' value (and focus) being placed on using supplements, pills and potions - 'quick fixes' - to be your best. Supplement-use at a young age has been identified as a key predictor of doping behavior in future.
- Creating these unhealthy perceptions can further feed the "win-at-all-costs" mentality, which degrades the values of true sportsmanship, such as fair play, respect, dedication, preserving health and wellbeing and keeping it fun.

See our "Parent's Guide to Support Clean Sport" available on our website.

Ingredients / claims of particular concern everyone should watch out for:

- Although ingredients like creatine and caffeine are in itself not banned and have potential proven performance benefits for some adults under select training / competition conditions, it has not been proven safe and effective for children and adolescents.

Note: these products are also at risk of containing other pharmaceutical / harmful / banned ingredients that may / may not be indicated on the label.
- Claims of 'hormone-like' effects, including 'Pro-hormone' products / ingredients, the words 'anabolic', 'mass builder', 'steroid-', 'testosterone-', 'growth hormone-like' effects.
- 'Pre-workout' formulations and those claiming 'thermogenic', 'extreme energy' or 'pump' effects; and those claiming to have weight loss, fat-burning or 'ripping' effects - these are likely to contain unknown amounts and combinations of stimulants (and other ingredients) that could be harmful to health and/or result in a positive doping test.

See www.drugfreesport.org.za for more details on pitfalls to watch out for.

Do you need supplements to perform at your best?

The simple answer is NO! The science gurus have conclusively proven that the biggest gains in performance can be made by focusing on food - variety from all the food groups - and eating 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 individualised basis and then constantly re-evaluated. It remains critical to follow a risk- minimising approach when selecting the applicable supplement.

NOTE: The majority of supplements cannot prove their claims of efficacy. So is the benefit to risk ratio worth it?

How to minimise the risks

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.

Here are the steps to a winning performance nutrition plan that a Dietitian can assist you with:

1 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

2 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!

3 The choice of supplement(s) should be critically evaluated - whether it has a 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.

There are independent companies that offer services to supplement manufacturers to test their products for the presence of banned substances and then give their 'stamp of approval'. Independent testing is expensive and it invariably means that only some aspects of safety are being tested for, and in most cases, only done on a random and periodic basis e.g. the 'Informed Choice.com' testing programme. The 'Informed Sport.com' is a more robust programme where *each batch* of the product gets tested for a list of banned substances. Be aware though that even with this more robust batch-testing programme, all the risks are still not being eliminated.

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

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