



**AUSTRALASIAN COLLEGE OF SPORT & EXERCISE PHYSICIANS POSITION STATEMENT
Supplements**

Purpose and Scope

Dietary and nutritional supplements are commonly used by both active and inactive members of the Australian and New Zealand public¹²³⁴. This position statement is intended for use by medical practitioners, allied health practitioners working in sport or advising active individuals, sporting organisations, athletes, parents, coaches and the general community.

The Australasian College of Sport & Exercise Physicians (ACSEP) position statement provides guidelines on the use of nutritional supplements. The purpose of the statement is to support athletes, coaches, sport support staff and members of the Australasian public to make decisions that:

- are evidence based
- minimise health risks
- minimise the risk of anti-doping rule violation (ADRV) in athletes
- protect the integrity of sport in Australia and New Zealand

Definition of a supplement

The ACSEP recognises that a broad definition is needed to describe supplements used for sporting performance, well-being and aesthetics. The ACSEP supports the concept of the IOC Expert Group, in their statement on dietary supplements in athletes, which considers “supplements to encompass a wide range of products, including essential nutrients (vitamins, minerals, proteins, amino acids), herbals and botanicals, and specific products [marketed] with potential for maintenance or improvement of health and the optimization of sporting performance”⁵. In practical terms, supplements can be seen as medical supplements (addressing nutrient deficiencies), sports foods (providing nutrients in a practical form for use around sport or exercise) and performance supplements (products claiming to directly improve sports performance or achieve outcomes that will indirectly enhance performance)⁶.

Numerous classification systems are available for supplements but readers are directed to the Australian Institute of Sport (AIS) Sports Supplements Classification) for a sport specific approach. The AIS stratifies supplements A through D. Class A supplements are generally considered lower risk and with some evidence of efficacy, compared to class D supplements that have significant risk from both health and anti-doping perspectives.⁶

Regulation of supplements

In Australia dietary supplements are defined as complementary medicines under the Therapeutic Goods Regulation 1990⁷. In NZ, dietary supplements are regulated under the Dietary Supplements Regulations 1985, falling under the Food Act 2014⁸. Meanwhile sports foods are regulated under Standards 2.6.2 and 2.9.4 of the Australia New Zealand Food Standards Code⁹.

In this rapidly evolving lucrative industry, legislative regulation is challenged by complex definitions, direct to consumer marketing, ease of access to variably regulated overseas suppliers and the absence of any requirement for manufacturers or distributors to provide evidence of safety or efficacy prior to marketing, or to conduct post market monitoring for toxicity. All of these factors place consumers at risk of adverse reactions and / or (in the case of athletes) an anti-doping rule violation.



The standards required for supplements and sports food are lacking in rigor and are not strictly enforced. Numerous studies have demonstrated a 10 - 25% risk of contamination¹⁰¹¹¹²¹³¹⁴ of supplement products with World Anti-Doping Agency (WADA) prohibited substances¹⁵. Contamination may occur either within the manufacturing process or as a result of interactions of numerous complex botanical materials. A high proportion of anti-doping rule violations (ADRV) in Australia are due to substances regularly found in supplements¹⁶.

The ACSEP advises consumers that a number of serious concerns have been identified with dietary supplements¹⁷, including:

- labelling accuracy and adherence of supplements to Australian & NZ regulatory requirements
- contamination and adulteration of products with substances that are prohibited in sport or that have deleterious human health effects
- the use of novel ingredients which do not have adequate safety data or history of use in humans
- the complexity of ingredients, manipulation of chemical names and conflicting data on safety and efficacy which challenge health literate consumers and specialists.

The ACSEP advocates for enhanced regulatory oversight of the dietary supplement market.

Considerations for anyone contemplating the use of supplements

1. A “food first” approach should be taken to the achievement of nutrient needs.
2. There are some occasions when medical supplements and sports foods may be needed to prevent or manage a nutrient deficiency, or to find a practical way to meet sports nutrition goals.
3. It is recommended that if use of the few evidence-based performance supplements is justified, it should be undertaken with advice from a qualified Sports Dietitian, a Sport and Exercise Physician or another medical practitioner with appropriate experience in sports nutrition.
4. Members of the public should not assume that a sports supplement available for purchase in Australia or New Zealand is safe for use and free of ingredients with harmful health effects.

Statements relating to special sub-groups:

Elite athletes

- The WADA Code explicitly states that athletes are ultimately responsible for any substances ingested.
- Supplementation is not required by all high-performance athletes.
- If supplementation has been deemed necessary then the ACSEP recommends utilising only products that have undergone third party batch testing.
- Injections have no role as part of a supplement strategy. Injections should only be administered in the event of a documented medically diagnosed illness or injury and should only be administered by a medical practitioner.
- Untested, experimental, or substances which are not approved for human use should not be used for supplementation and are prohibited under the S0 category^{*18} of the WADA Code.

*S0: “Any pharmacological substance which is not addressed by any of the subsequent sections of the List and with no current approval by any governmental regulatory health authority for human therapeutic use (e.g. drugs under pre-clinical or clinical development or discontinued, designer drugs, substances approved only for veterinary use) is prohibited at all times.”



Junior / Youth / Emerging athletes

- It is rare that the use of performance supplements can be justified in individuals under the age of 18
- Parents and caregivers should seek guidance from appropriately qualified professionals before allowing children to take supplements.
- In adolescents and sports people, concerns about performance or body image may coincide and predispose to the use of “high risk” supplements (such as bulking, pre-work out or weight loss products.)
- It is recognised that the use of multiple supplements by adolescents has been associated with a more permissive attitude towards doping¹⁹²⁰.
- Schools and clubs are encouraged to declare junior / youth sporting events supplement free.

Recreationally active individuals

- There is no evidence that supplementation will improve health outcomes in healthy individuals on a balanced diet
- Individuals with medical problems which may increase their risk of nutritional deficiency (eg. malabsorption disorders, menorrhagia) are encouraged to consult with their Medical Practitioner before using supplements.
- Athletes should seek specific training and nutrition advice on an individual basis from a suitably qualified practitioner.

Sporting organisations and teams

- Should understand the health and doping ramifications of supplementation, and have clearly documented their approach to the use of supplements.
- Should ensure that those with responsibility for any supplementation strategy have appropriate qualifications, as well as regulatory and ethical oversight.
- Should have a governance system that protects the integrity of sport in relation to supplement usage. Organisations are directed to the Australian Institute of Sport Sports Science Sports Medicine Best Practice Principles²¹ for guidance on the implementation of a supplement oversight panel.
- Should ensure that participation by an athlete in an organisation’s supplementation strategy is always voluntary.
- Are encouraged to carefully consider the appropriateness of any supplement endorsement or sponsorship that their organisation receives.
- Should consider having batch testing as a requirement for products purchased for or recommended to the team.
- Should establish governance processes to ensure that organisational leaders remain informed regarding supplementation practices within their organisation.



Conclusion

For the vast majority of individuals consuming a balanced western diet, supplements provide no health, performance or aesthetic benefits.

ACSEP encourages athletes, sporting organisations, parents, and other members of the sporting public to support their health and the integrity of sport by making informed decisions regarding the appropriate use of supplements for performance and health.

Australasian College of Sport and Exercise Physicians
Position Statement, November 2017

Additional resources

- The World Anti-Doping Authority (WADA) - <https://www.wada-ama.org/>
- ASADA <https://www.asada.gov.au/>
- Drugfree sport NZ <https://drugfreesport.org.nz/what-we-do/>
- Global DRO <http://www.globaldro.com/Home>
- USADA supplements education <https://www.usada.org/substances/supplement-411/>

Reviewed and Endorsed by ACSEP Research Committee
Approved by ACSEP Board November 14, 2017

For review 2021

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- ²<https://www.foodstandards.gov.au/publications/Documents/Sports%20Foods%20Quant%20Report.pdf>
- ³<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.007~2011-12~Main%20Features~Supplements~400>
- ⁴Dascombe, B.J. et al, Nutritional supplementation habits and perceptions of elite athletes within a state-based sporting institute; Journal of Science and Medicine in Sport , Volume 13 , Issue 2 , 274 - 280
- ⁵ https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/News/2017/05/2017-05-09-IOC-Expert-Group-Statement-on-Dietary-Supplements-and-Elite-Athletes-eng.pdf#_ga=2.242187521.241613481.1508988661-1497758786.1414391830
- ⁶ https://www.ausport.gov.au/ais/sports_nutrition/supplements/classification
- ⁷ <https://www.legislation.gov.au/Details/C2017C00226>
- ⁸ <http://www.legislation.govt.nz/regulation/public/1985/0208/latest/DLM102109.html>
- ⁹ <http://www.foodstandards.gov.au/code/Pages/default.aspx>
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- ¹¹ H.Geyer,M.K.Parr,U.Mareck,etal. Analysis of non hormonal nutritional supplements for anabolic androgenic steroids – results of an international study, *Int.J.SportsMed.***2004**,25(2),
- ¹² Maughan RJ. Contamination of dietary supplements and positive drugs tests in sport. J Sports Sci. 2005;23:883–9
- ¹³ <http://www.informed-sport.com/news/australian-supplements-survey-highlights-need-testing>
- ¹⁴ Burke LM, Castell LM, Stear SJ, BJSM reviews: A–Z of supplements: dietary supplements, sports nutrition foods and ergogenic aids for health and performance Part 1, *British Journal of Sports Medicine* 2009;**43**:728-729.
- ¹⁵ <https://www.wada-ama.org/>
- ¹⁶ <https://www.asada.gov.au/sanctions>
- ¹⁷ Vernec A, Stear SJ, Burke LM, et al. Br J Sports Med 2013;47:998–1000.
- ¹⁸ <https://www.wada-ama.org/en/questions-answers/prohibited-list>
- ¹⁹ Yager and O'Dea: Relationships between body image, nutritional supplement use, and attitudes towards doping in sport among adolescent boys: implications for prevention programs. Journal of the International Society of Sports Nutrition 2014 11:13
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