



# THE AIS SPORTS SUPPLEMENT FRAMEWORK

**SPORTAUS**

March 2019

# Executive Summary

## AIS Sports Supplement Framework 2019

1. The use of supplements and sports foods by Australian athletes involves a balance between the potential benefits (e.g. contribution to an evidence-based sports nutrition program) and potential risks (e.g. waste of resources, distraction, poor role modelling, anti-doping rule violations, compromised training adaptations, adverse health events). Events in recent years have demonstrated that poor supplementation practices can lead to significant problems. As a result, National Sporting Organisations have been called to action to implement clear guidelines to the athletes within their governance to ensure that their use of supplements and sports foods is safe, effective and legal.
2. The AIS Sports Supplement Framework is a leadership activity of the Australian Institute of Sport which provides the expertise and resources developed during the implementation of the AIS Sports Supplement Program (2000-2013) to allow National Sporting Organisations and agencies to develop their own Sports Supplement Guidelines and Programs.
3. An updated version of the Framework has been developed, with the engagement of key stakeholders, to enhance the evidence base and resources that underpin it.
4. Trusted components of the AIS Sports Supplement Framework have been retained, including the ABCD classification system that provides a simple education tool to rank sports foods and supplement ingredients according to the scientific evidence that they can safely and practically contribute to an athlete's performance goals.



# Summary of components within the AIS Sports Supplement Framework

## Key stakeholders

- AIS Sports Supplement Framework working team
- National Sporting Organisations and their Sports Supplement Panels
- The National Institute Network: the AIS and State Academies and Institutes of Sport in Australia and their Medical, Science and Nutrition experts
- Australian Sports Anti-Doping Authority (ASADA)
- Independent 3<sup>rd</sup> party supplement auditing programs

## ABCD Classification system

- The ABCD Classification system ranks sports foods and supplement ingredients into 4 groups according to scientific evidence and other practical considerations that determine whether a product is safe, legal and effective in improving sports performance
  - The ABCD Classification system focusses on sports foods and individual ingredients rather than specific supplement products and brands. The list in each group is identified as “examples” to note that it may not be complete
  - Multi-ingredient supplements (e.g. pre-workouts) raise specific concerns. These products contain a large list of individual ingredients, and in some cases, the doses of these ingredients are not stated on the label with the excuse that it is a “proprietary blend” over which the manufacturer has special ownership. Concerns about these products include the lack of an effective dose (e.g. inadequate amounts or poor timing of intake relative to exercise) of some active ingredients, potential for harmful interactions between ingredients, and the increased risk of inadvertent contamination due to the sourcing of ingredients from various locations.
- The current Classification of supplements and sports foods was made via the consensus of the AIS Sports Supplement Framework working team, and will constantly evolve according to new knowledge plus the informed direction of our key stakeholders.
- This work will occur in collaboration with ASADA to reduce the risk of Anti-Doping Rule Violations arising from the use of supplements and sports foods.
- Use of the Framework should be considered in conjunction with the expert guidance of an accredited sports dietitian, to integrate identified sports supplement protocols into a broader evidence based sports nutrition program.



## Group A

Overview of category	Sub-categories	Examples
<p><b>Evidence level:</b> Strong scientific evidence for use in specific situations in sport using evidence-based protocols.</p> <p><b>Use within Supplement Programs:</b> Permitted for use by identified athletes according to Best Practice Protocols.</p>	<p><b>Sports foods</b> Specialised products used to provide a convenient source of nutrients when it is impractical to consume everyday foods.</p>	<p>Sports drink</p> <p>Sports gel</p> <p>Sports confectionery</p> <p>Sports bar</p> <p>Electrolyte supplement</p> <p>Isolated protein supplement</p> <p>Mixed macronutrient supplement (Bar, powder, liquid meal)</p>
	<p><b>Medical supplements</b> Supplements used to prevent or treat clinical issues including diagnosed nutrient deficiencies. Should be used within a larger plan under the expert guidance of a Medical Practitioner/Accredited Sports Dietitian.</p>	<p>Iron supplement</p> <p>Calcium supplement</p> <p>Multivitamin supplement</p> <p>Vitamin D supplement</p> <p>Probiotics</p>
	<p><b>Performance supplements</b> Supplements/ingredients that can support or enhance sports performance. Best used with an individualised and event-specific protocol, with the expert guidance of an Accredited Sports Dietitian.</p>	<p>Caffeine</p> <p>B-alanine</p> <p>Bicarbonate</p> <p>Beetroot juice/Nitrate</p> <p>Creatine</p> <p>Glycerol</p>



## Group B

Overview of category	Sub-categories	Examples
<p><b>Evidence Level:</b> Emerging scientific support, deserving of further research. Considered for use by athletes under a research protocol or case-managed monitoring situation.</p> <p><b>Use within Supplement Programs:</b> Considered for use by identified individual athletes within research or clinical monitoring situations.</p> <p>Note that some of the products currently listed in Group B have been included due to their historic interest by Key Stakeholders.</p> <p>The Evidence Map approach will better define the scientific support for these products in specific sporting situations.</p>	<p><b>Food polyphenols</b> Food compounds that may have bioactivity including antioxidant and anti-inflammatory properties. May be consumed in food forms (whole or concentrate) or as isolated extracts.</p>	<p>Cherries, berries and black currants</p> <p>Quercetin, ECGC, epicatechins &amp; others</p>
	<p><b>Other</b> Compounds that attract interest for potential benefits to body function, integrity and/or metabolism.</p>	<p>Collagen support products</p> <p>Carnitine</p> <p>HMB</p> <p>Ketone supplements</p> <p>Fish oils</p> <p>Phosphate</p> <p>Curcumin</p>
	<p><b>Sick Pack</b> Multi-ingredient approach to moderate duration and severity of respiratory tract infections.</p> <p>Best used with advice from an appropriate Medical Practitioner/Accredited Sports Dietitian.</p>	<p>Zinc lozenges and Vitamin C</p>
	<p><b>Amino Acids</b> Constituents of protein which may have effects when taken in isolation, or may be consumed individually by an athlete to fortify an existing food/supplement that is lacking in this amino acid.</p>	<p>BCAA/Leucine</p> <p>Tyrosine</p>
	<p><b>Antioxidants</b> Compounds often found in foods that protect against oxidative damage from free-radical chemicals.</p>	<p>Vitamin C &amp; E</p> <p>N-acetyl cysteine</p>



## Group C

Overview of category	Subcategories	Examples
<p><b>Evidence Level:</b> Scientific evidence not supportive of benefit amongst athletes OR no research undertaken to guide an informed opinion.</p> <p><b>Use within Supplement Programs:</b> Not advocated for use by athletes within Supplement Programs.</p> <p>May be permitted for use by identified athletes where there is specific approval from, or reporting to, a Sports Supplement Panel.</p>	<p>Category A and B products used outside approved protocols.</p>	<p>See list for Category A and B products.</p>
	<p><b>The rest</b> If you can't find an ingredient/product in Groups A, B or D, it probably deserves to be here.</p>	<p>The AIS Supplement Framework no longer names Group C supplements or supplement ingredients in this top line layer of information. This avoids the perception that these supplements are special.</p>



## Group D

Overview of category Use within AIS system	Subcategories	Examples
<p><b>Evidence level:</b> Banned or at high risk of contamination with substances that could lead to a positive doping test.</p> <p><b>Use within Supplement Programs:</b> Not be used by athletes.</p>	<p><b>Stimulants</b> Consult WADA list for all examples: <a href="https://www.wada-ama.org/">https://www.wada-ama.org/</a></p>	Ephedrine
		Strychnine
		Sibutramine
		Methylhexanamine (DMAA)
		1,3-dimethylbutylamine (DMBA)
		Other herbal stimulants
	<p><b>Prohormones and hormone boosters</b> Consult WADA list for all examples: <a href="https://www.wada-ama.org/">https://www.wada-ama.org/</a></p>	DHEA
		Androstenedione
		19-norandrostenedione/ol
		Other prohormones
		Tribulus terrestris and other testosterone boosters*
	<p><b>GH releasers and “Peptides”</b> Consult WADA list for all examples: <a href="https://www.wada-ama.org/">https://www.wada-ama.org/</a></p>	Technically, while these are sometimes sold as supplements (or have been described as such) they are WADA banned drugs.
	<p><b>Beta-2 agonists</b> Consult WADA list for all examples: <a href="https://www.wada-ama.org/">https://www.wada-ama.org/</a></p>	Higenamine
	<p><b>Other</b> Consult WADA list for all examples: <a href="https://www.wada-ama.org/">https://www.wada-ama.org/</a></p>	Colostrum – not recommended by WADA due to the inclusion of growth factors within its composition.

\*These products do not appear on the WADA list and are thus not specifically banned. However, they are often found in multi-ingredient products that contain banned ingredients or are at high risk of being contaminated. Therefore, they are not recommended for use.





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