

Food processing, whole foods and the role of sports nutrition

European Specialist Sports Nutrition Alliance (ESSNA)

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Executive Summary

Public debate surrounding whole foods versus processed and so-called “ultra-processed foods” (UPFs) has intensified in recent years, often leading to confusion and oversimplification regarding the role of food processing in supporting health, safety, and physical performance.

For athletes and physically active individuals, specialised sports nutrition products can play an important and, in some circumstances, essential role in helping meet nutritional and physiological demands that are difficult to achieve through conventional foods alone. These products are specifically formulated using food processing techniques to deliver nutrients in precise forms, quantities and timings that support performance, recovery, hydration and overall health.

In light of the European Commission’s ongoing work to assess the risks and benefits associated with food processing and UPFs, this paper aims to clarify misconceptions, highlight scientific uncertainties, and emphasise the importance of evidence-based policymaking that reflects the distinct nutritional requirements of athletes and active consumers.

ESSNA supports policy approaches that evaluate foods based on their nutritional quality and function rather than the degree of processing alone.

1. The Nutritional Needs of Athletes and Active Individuals

Athletes and highly active individuals represent a population with distinct physiological and nutritional requirements. In many sporting contexts, specialised sports nutrition products provide practical and scientifically validated solutions to support hydration, energy delivery, recovery and nutrient intake. These products are intended to complement, rather than replace, balanced diets based on whole foods. In that way, they occupy a specialised role in diets.

While whole foods form the foundation of a healthy diet, a whole-food-only approach may not always meet the specific demands of athletes (Close et al., 2022).

Key challenges include elevated energy and nutrient requirements; difficulty obtaining sufficient quantities of specific nutrients; gastrointestinal tolerance during exercise; and timing constraints around training and competition. Inadequate nutrition can sometimes present risks ranging from impaired performance to injury and/or severe dehydration, particularly in high-performance sports.

1) Dehydration and sustained energy during high-intensity and sustained exercise

During high-intensity or endurance exercise, **rapid nutrient delivery** is often essential. Food sources for some nutrients may be difficult to consume **close to, during or soon after exercise**. Whole foods can be impractical in some contexts due to slower digestion and risk of gastrointestinal discomfort. For example, an electrolyte gel during a marathon is often consumed for quick carbohydrate and electrolyte absorption to reduce the **risk of dehydration** and support sustained energy.

2) Meeting nutritional targets with rigorous specialist sports nutrition products

Achieving optimal intake of certain nutrients through conventional foods alone can be challenging, particularly when athletes have **elevated energy and protein requirements, restrictive dietary patterns,**

limited eating opportunities, or demanding training schedules (e.g. Sharman et al., 2025). This is not limited to the prevention of nutrient deficiencies. In many cases, athletes require precise quantities and timing of protein, carbohydrates and other nutrients to support adaptation, recovery and performance outcomes.

For example, consuming sufficient high-quality protein through whole foods alone may be impractical in some situations due to appetite, convenience, digestion, or volume constraints. Similarly, some nutrients relevant to performance and health, including omega-3 fatty acids and vitamin B12, are naturally abundant only in foods that some athletes may avoid, such as animal-based products.

Sports nutrition products and fortified foods can help provide reliable, measurable and convenient nutrient delivery that supports athletes in meeting evidence-based nutritional targets.

3) Risk of banned substances in whole foods and anti-doping requirements

Tested sports nutrition products may also provide reassurance in high-performance environments where athletes require **consistency, traceability and precise nutritional composition**. Third-party testing programmes can help reduce the risk of inadvertent ingestion of prohibited substances, which is particularly important for elite athletes subject to strict **anti-doping requirements** (Maughan et al., 2018).

2. The Functional Role of Sports Nutrition Products

Sports nutrition products are foods specifically developed to meet defined physiological requirements associated with exercise, endurance, recovery and performance. Advances in food processing and formulation have enabled the development of products that deliver nutrients in forms that are practical, digestible and effective in sporting contexts.

They provide:

- Rapidly available carbohydrates to sustain endurance performance (Jeukendrup, 2014);
- Electrolytes (e.g., sodium, potassium, magnesium) to maintain hydration and muscle function;
- High-quality protein to support muscle repair and adaptation (Jäger et al., 2017);
- Micronutrients to address deficiencies and support immune function.

For example, the European Food Safety Authority has authorised health claims related to carbohydrate-electrolyte solutions for improving water absorption and maintaining endurance performance (EFSA, 2011).

3. Supporting Diverse Dietary Patterns, Including Plant-Based Diets

Processing plays an important role in supporting plant-based diets among athletes.

Plant-based diets may present challenges in achieving adequate intake of vitamin B12, iron and omega-3 fatty acids, as well as protein in sufficient quality and quantity.

Through processing techniques such as protein isolation and fortification, manufacturers can improve amino acid profiles, increase protein density, and deliver essential micronutrients. This enables athletes to meet nutritional needs while adhering to dietary preferences.

4. Implications for Policy and Public Health Guidance

A broad classification of UPFs that does not consider nutritional composition, intended use and consumption patterns risks unintended consequences, including limiting access to beneficial and functional foods. Policy approaches that classify foods primarily according to processing level risk unintentionally discourage the use of specialised sports nutrition products that provide demonstrated functional and physiological benefits for athletes and active individuals. Products designed to support

endurance, hydration, recovery or targeted nutrient delivery should not be assessed in the same way as discretionary foods with fundamentally different nutritional purposes and consumption patterns.

ESSNA welcomes the European Commission's approach to ultra-processed foods and its recognised need to better understand the complex relationship between processing and health outcomes in the [Vision For Food and Agriculture](#), published in February 2025 and entrench any forthcoming measures in science-based assessments.

ESSNA calls for any forthcoming policy approaches to processing to:

- **Be grounded in robust scientific evidence;**
- **Focus on nutritional quality rather than processing alone;**
- **Account for population-specific needs, including the active population and athletes;**
- **Avoid oversimplified classifications that may misinform consumers.**

Conclusion

Food processing is an essential component of modern food systems and, in the context of sports nutrition, enables the development of specialised products designed to support physiological performance, recovery, hydration and health.

Sports nutrition products are not intended to replace balanced diets based on whole foods. Rather, they complement conventional diets by helping athletes and active individuals meet nutritional requirements that can be difficult to achieve consistently through ordinary foods alone.

As the European Commission advances its work in this area, it is essential that policy decisions reflect scientific nuance and recognise the distinct role and function of specialised sports nutrition products. Approaches based solely on the degree of processing risk oversimplifying complex nutritional questions and may unintentionally discourage products that provide clear benefits to physically active populations.

About ESSNA

The European Specialist Sports Nutrition Alliance (ESSNA) is the leading European trade association for the sports and active nutrition industry. It brings together major manufacturers and distributors of sports nutrition products, suppliers of ingredients, as well as specialist scientific and legal consultants advising the sector. ESSNA was established in 2003 to promote a regulatory and policy environment that promotes innovation and competitiveness for the sector and protect sports nutrition consumers and their needs. Today, ESSNA is a mature and respected organisation, widely recognised as the voice of the responsible specialist sports and active nutrition sector in Europe.

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