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Operational Best Practices for Dietary Supplementation in Canadian Sport

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Operational Best Practices for Dietary Supplementation in Canadian Sport

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1. INTRODUCTION

Under the technical direction of Own The Podium (OTP), a National Supplement Advisory Group (NSAG) was convened to address sport supplement use in Canada and specifically address gaps in the Canadian high performance sport system highlighted in the McLaren Report (2019). The NSAG consisted of sport scientists, primarily from Canadian Olympic & Paralympic Sport Institute Network (COPSIN), including representatives from the field of medicine, nutrition, psychology and exercise physiology, in addition to senior administrators from national sport partners. The NSAG also created the Position Statement on Sport Supplement Use to provide clarity and concise messaging on key aspects of supplementation in high-performance sport. Please refer elsewhere to the Position Statement on Dietary Supplementation in Canadian Sport.

This document, hereafter referred to as *Operational Best Practices (OBP)*, supports the implementation of the Position Statement on Dietary Supplementation in Canadian Sport (hereafter, referred to as the 'Position Statement') by the COPSIN, in adherence to the Canadian Centre for Ethics in Sport (CCES) requirement for minimization of risk of supplements. The focus of the OBP will be on communicating standards of practice for athletes, coaches, National Sport Organizations (NSOs), Multi-Sport Service Organizations (MSOs), and Integrated Support Teams (IST's). Specifically, it outlines best practices and protocols for assessment, recommendation, procurement and/or deployment of all Dietary Supplements.

2. GLOSSARY OF TERMS & ACROYNMS

1.1. Acroynms

ADRV	Anti-Doping Rule Violation
CADP	Canadian Anti-Doping Program
CAST	Canadian App for Supplement Tracking
CCES	Canadian Centre for Ethics in Sport
COPSIN	Canadian Olympic & Paralympic Sport Institute Network
IST	Integrated Support Team
MD	Medical Doctor/Physician
OBP	Operational Best Practices
MSO	Multi-Sport Service Organization
NAP	National Athlete Pool
NSAB	National Supplements Advisory Board
NSAG	National Supplements Advisory Group
NSO	National Sport Organization
OTP	Own The Podium
PSO	Provincial Sport Organization
RD, Pdt, DtP	Registered Dietitian
RTP	Registered Testing Pool (of athletes)
WADA	World Anti-Doping Agency



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1.2. Terms

Dietary Supplement	A food, food component, nutrient, or non-food compound that is purposefully ingested in addition to the habitually-consumed diet with the aim of achieving a specific health and/or performance benefit. ¹ This is an over-arching term that includes Performance Supplements, Ergogenic Supplements, Sports Supplements, Sports Foods, Functional Foods, and Medical Supplements. (E.g., fibre supplement, vitamins, electrolytes, protein powder, vitamin supplements, etc).
Sports, Performance, or Ergogenic Supplements	A Dietary Supplement used by athletes to support or enhance sports performance. ¹ (E.g., caffeine, bicarbonate, beetroot juice/nitrate, creatine, beta-alanine, etc).
Medical Supplements	Used to prevent or treat clinical health issues including diagnosed nutrient deficiencies. ¹ (E.g., iron, calcium, vitamin D, multivitamin, omega-3, probiotics, etc).
Sports Foods	Specialized products used to provide a practical source of nutrients when it is impractical to consume everyday foods. ¹ (E.g., Sports bar used for endurance, sports drinks and sports gel, etc).
Functional Foods	Foods enriched with additional nutrients or components outside their typical nutrient composition. ¹ (E.g. mineral-fortified and vitamin-fortified, as well as nutrient-enriched foods).
“Other” Supplements	Includes a wide range of Dietary Supplements that are herbal, botanical extracts and concentrates. (E.g., echinacea, ginseng, etc).
WADA	The World Anti-Doping Agency List of Prohibited Substances and Methods is an International Standard identifying substances and methods prohibited in-competition, out-of-competition and in particular sports. The WADA Prohibited List is updated every year effective January 1 st . For further information and to download the OBPT recent copy of the WADA Prohibited List visit: http://list.wada-ama.org/

¹ Maughan et al. (2018). IOC Consensus Statement: Dietary Supplements and the High-Performance Athlete. *International Journal of Sport Nutrition and Exercise Metabolism*. 28(2), 104-125.



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Staff

COPSIN sports science staff, sports medicine staff, administration staff, and/or members of an IST. This may include physicians, dietitians, sport psychologists, exercise physiologists, strength and conditioning staff, therapists, or other staff affiliated with a sport organization. In some cases this may also include coaches, IST staff, and/or administration staff that are not directly employed by COPSIN.

Supplement Transaction

Refers to a situation whereby any Staff directly recommends or provides any Dietary Supplement including a sports supplement, sports food, medical supplement, performance or ergogenic supplement, functional food and/or “other” supplement to an athlete, coach or relevant NSO, COPSIN or MSO Staff member affiliated with a sport organization. This operation may or may not involve a monetary transaction. There are many different types of scenarios (as outlined below) involving supplement transactions with an athlete, coach or relevant NSO/MSO/COPSIN Staff member affiliated with a sport organization, including but not limited to:

- Selling a supplement(s)
- Handing out/distributing supplements
- Selling and coordinating through a third-party distributor, who then sells the supplement to an athlete, coach, NSO, COPSIN, or MSO
- Handing out free supplement samples
- Selling supplements through a website
- Providing supplements to athletes on behalf of an NSO, COPSIN, or MSO at training, competition and/or used in research and testing
- Providing supplement advice to an athlete including but not limited to supplement dosing, brand names, timing of ingestion, etc.

Third-Party “tested” Supplements

Several private companies with the specialized lab accreditation (ISO 17025) are qualified to screen supplements for banned substances according to the most recent WADA Prohibited List. Refer to Appendix A to see the list of these accredited companies and their websites, as well as common questions asked about supplement screening for banned substances.



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3. SCOPE

The OBP applies to all athletes in the National Athlete Pool (NAP) and the Registered Testing Pool (RTP) under the Canadian Anti-Doping Program (CADP) administered by the CCES, as well as any other athlete(s) identified by an NSO (NSO Staff, coaches and High Performance Directors), IST Staff, MSO's, COPSIN, and independent practitioners.

4. JURISDICTION

Monitoring alignment with the Position Statement and the OBP will be the responsibility of each COPSIN employee and contractor. In order for the OBP to be effective and fully implemented at the national level, alignment from all key stakeholders will be essential. The following standards and systems are recommended to help educate and facilitate alignment with the OBP and the Position Statement.

4.1 Operational Best Practices for Supplement-Related Compliance & Obligations

The COPSIN will be responsible for implementing the following:

- 4.1.1 Ensure that each athlete, appointed coach, IST member or relevant NSO or MSO Staff member involved in Supplement Transactions will adopt, implement, and comply with the OBP, which should include:
 - 4.1.1.1 Completing the CCES education online learning video.
 - 4.1.1.2 Attendance at an internal education session on the OBP (in-person, online/virtual or recorded session) within the first three months of a new Olympic/Paralympic Quad cycle (winter or summer Games) or within the first three months of employment for new employees.
 - 4.1.1.3 Reading the OBP within the first three months of a new Olympic/Paralympic Quad cycle (winter or summer Games) or in the case of new employees, as part of their human resources orientation.
 - 4.1.1.4 Reading the current WADA list of Prohibited Substances and Methods and any further updates to the WADA code on an annual basis (website: <http://www.wada-ama.org>).
 - 4.1.1.5 Signing off annually to confirm having reviewed the updated WADA list of prohibited substances.
- 4.1.2 Recording all supplement batch numbers independently or with the Canadian App for Supplement Tracking (CAST) for supplements involved in a Supplement Transaction with athletes.
- 4.1.3 Ensure the Operational Best Practices (OBP) is made available to those staff involved in Supplement Transactions.



- 4.1.4 Ensure that each athlete, coach, IST, relevant NSO, MSO, and COPSIN Staff is notified of any changes to the OBP.
- 4.1.5 Ensure that there are opportunities for each COPSIN Staff member involved in Supplement Transactions to have their existing practices and procedures peer-reviewed.
- 4.1.6 Remain committed to ongoing research and expert advice from recognized regulatory bodies in relation to sports nutrition and supplement use.
- 4.1.7 Whenever possible, only purchasing third-party tested supplements (i.e., supplements screened by ISO 17025 accredited labs – See to Section 8.0 and Appendix A).
- 4.1.8 Carefully consider the risks of any inadvertent doping offence as a result of providing and advising athletes about taking supplements. Athletes are always strictly liable for what they consume and Staff members are also liable for their involvement in a Supplement Transaction that results in an ADRV.
- 4.1.9 Keep all supplements in secure locked storage prior to any supplement transactions.
- 4.1.10 Track all supplements dispensed to athletes, coaches, or Staff members in a Supplement Transaction log or using the CAST (See Appendix D).
- 4.1.11 Not enter into any sponsorship or other agreement that does not comply with the Position Statement and the OBP.

5. SUPPLEMENT CLASSIFICATION

The individualized and timely use of a supplement may assist an athlete to achieve peak performance and/or improve health, however, limitations to the regulation of the supplement industry means that:

- Marketing hype may exaggerate the benefits of a supplement.
- Supplements containing **WADA** prohibited substances may list these ingredients under alternative, unfamiliar names (e.g., geranamine is the trade name for the **WADA** banned substance called methylhexanamine).
- Supplements may contain a **WADA** prohibited substance due to accidental or purposeful cross-contamination that may occur during the manufacturing process.
- Supplements that pose a potential health risk or could negatively impact performance are easily available for purchase.



- There is currently no guarantee that any supplement is completely free of substances listed on the **WADA** Prohibited List, even “tested” supplements pose a risk of an anti-doping rule violation.

Australian Institute of Sport (AIS) Sports Supplement Framework, 2021

While “food first” is the focus for athlete’s health and performance, the Australian Institute of Sport (AIS) recognizes that there needs to be a balance between potential rewards and risks associated with the use of supplements and sports foods for athletic performance. As such, the AIS has created a Sports Supplement Framework <https://www.ais.gov.au/nutrition/supplements> that classifies Supplements into four groups according to scientific evidence, safety and other practical considerations using an ‘ABCD’ Classification System. At this point in time, the Canadian sport system will adopt and use the AIS Supplement Classifications and categorized list of supplements until such time that a Canadian Supplement Classification system is created; refer to Appendix B.

5.1 Operational Best Practices for Supplement Classifications

5.1.1 Group A Supplements (“Sports Foods, Medical Supplements and Performance Supplements” Conditions)

Group A Supplements are supported for use in specific situations in sport using evidence-based protocols. Group A Supplements have been separated into three sub-groups: Sports Foods, Medical Supplements and Performance Supplements. Three distinct sub-groups are required to draw attention to the unique nature of each class of supplement and to highlight the different considerations and risk profile that must be evaluated prior to safe supplement usage. Sports Foods (e.g., sport bars, gels), Medical Supplements (e.g., iron, calcium, probiotics) and Performance Supplements (e.g., creatine, caffeine) have been shown in scientific trials to benefit health and/or performance when used according to specific protocols.

5.2 Conditions to Use Group A Supplements

Conditions include:

- 5.2.1 Used in support of a nutrition program that emphasizes appropriate timing, quantity and high quality whole food based meals and snacks.
- 5.2.2 Careful consideration of the risk of any inadvertent doping offence as a result of using the supplement, the risk of potential adverse health effects, as well as consideration of the athlete’s development level.
- 5.2.3 Evidence-based, high-level scientific research supports use of the supplement at recommended dosing protocols when consumed in specific scenarios for positive performance or training adaptations within an appropriate training and/or competition-based sports nutrition program.



5.2.4 Whenever possible an athlete shall only purchase, acquire, or consume supplements that have been tested by approved third-party testing companies (See Section 8.0 and Appendix A).

5.2.5 The athlete should adhere to directions provided by the NSO, MSO or IST Staff with regards to supplement protocols and usage.

5.3 Group A – Sports Foods – Rationale and Process

Sports Foods include specialized products used to provide a convenient source of nutrients when it is impractical to consume everyday foods. Sports Foods may be commercially produced and mass marketed products in the form of regular grocery foods or drinks that contain specifically engineered ingredients to enhance an athlete's training or competitive performance. Sports Foods are considered lower risk for inadvertent doping as they:

- Provide a convenient and timely source of energy and nutrients for an athlete's diet.
- Have been shown in scientific trials to benefit health or performance, when used according to a specific protocol.
- Have a sufficiently low risk profile so that consultation to use may not be required as determined by the athlete's IST.

An athlete does not require consultation with their IST to use a Sports Food as listed in Group A Sports Foods. However, many athletes may benefit by consulting with a dietitian, sports medicine physician, or exercise physiologist about the most effective way to use Sports Foods in training and/or competition. While Sports Foods are considered "lower risk" supplements there are no 100% guarantees that any supplement is free of banned substances. Athletes are always strictly liable for what they consume and Staff are equally liable for endorsing any supplement with an athlete.

5.4 Group A – Medical Supplements – Rationale and Process

Medical Supplements (e.g., iron or vitamin D) are used to prevent or treat clinical health concerns, including diagnosed nutrient deficiencies. An athlete may consider taking a Medical Supplement based on the following conditions:

- 5.4.1 The athlete has consulted about the use of a particular Medical Supplement with their dietitian, medical physician, and/or physiologist, who are aware and in compliance with the OBP.
- 5.4.2 The athlete is accurately informed about the appropriate use of the Medical Supplement and its place in an appropriate sports nutrition program.



- 5.4.3 The athlete carefully considers the risk of any inadvertent doping offence as a result of using the Medical Supplement.
- 5.4.4 Whenever possible an athlete shall only purchase, acquire or consume Medical Supplements that have been tested by approved third-party testing companies (See Section 8 and Appendix A).
- 5.4.5 The athlete should adhere to directions provided by the NSO, MSO or IST Staff with regards to supplement protocols and usage.

5.5 Group A – Performance Supplements – Rationale and Process

Identified Performance Supplements have been shown in numerous scientific trials to benefit athletic performance when used according to a specific protocol for training and/or competition. While scientific evidence supports the use of these products, additional research may often be required to fine-tune protocols for individualized use. An athlete may choose to use Group A Performance Supplements with an individualized protocol under the direction from their IST who are in compliance with the OBP. If an athlete chooses to use a Group A “Performance Supplement” they must first:

- 5.5.1 Consult about the use of a particular Performance Supplement with their dietitian, medical physician, and/or physiologist, who are aware and in compliance with the OBP.
- 5.5.2 Become educated about the appropriate use of the Performance Supplement and its place in an appropriate sports nutrition program.
- 5.5.3 Carefully consider the risk of any inadvertent doping offence as a result of using the Performance Supplement.
- 5.5.4 Whenever possible an athlete shall only purchase, acquire or consume Performance Supplements that have been tested by approved third-party testing companies (See Section 8 and Appendix A).

5.6 Group B Supplements – Food Polyphenols, Antioxidants, Tastants, “Other” Supplements

There are four sub-categories of supplements in Group B Supplements; this group has received some scientific attention (not necessarily related to sport) or may have preliminary data which suggests possible benefits to performance. Food polyphenols sub-group includes food compounds which may have bioactivity including antioxidant and anti-inflammatory properties. The Antioxidants sub-group are compounds that function to protect against oxidative damage



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from free-radical chemicals. And the Tastants sub-group are compounds that interact with receptors in the mouth or gut that may activate the central nervous system. Refer to Appendix B.

The supplements listed in “Group B” are deserving of further research and could be considered for provision to athletes under a research protocol or case-managed monitoring situation. An athlete should only use Group B Supplements in a controlled research study or under the guidance and monitoring of a COPSIN and/or an NSO designated IST member (i.e., dietitian, medical physician, or physiologist) who is aware of and in compliance with the OBP. A Group B Supplement may move up to the Group A category when sufficient new evidence from clinical research warrants this transition.

The process to consider use of Group B Supplements should follow the same Conditions, Rationale and Process as Group A – Performance Supplements; refer to section 5.5.

5.7 Group C Supplements

Group C Supplements are often marketed aggressively to athletes. These supplements may endure a cyclical pattern of popularity and widespread use, but have not been proven to provide a worthwhile enhancement of sport performance. A Group C Supplement may move up to the Group B category when sufficient scientific evidence supports benefits for athletes through robust clinical research trials. All athletes, along with coaches, NSOs, MSOs and COPSIN staff acting in support of athletes, are discouraged from promoting, distributing or consuming Group C categorized supplements. However, use of Group C Supplements may be permitted by identified athletes where there is specific approval from, or reporting to, an IST monitored outcome for use provided the Staff involved aware of and in compliance with the OBP.

5.8 Group D Supplements

Group D listed supplements are prohibited or at high risk of contamination with substances that could lead to an ADRV. The Group D supplements may also contain ingredients that could compromise an athlete’s health and safety. Many of these supplements contain stimulants, prohormones, hormone boosters, growth hormone releasers and peptides, and selective androgen receptor modulators (SARMS) or other substances on WADA’s Prohibited List; (<http://list.wada-ama.org/>). All athletes, along with coaches, NSOs, MSOs and COPSIN staff acting in support of athletes, are strictly prohibited from using, promoting and/or distributing any Group D Supplements.



6. SUPPLEMENT TRANSACTIONS

Supplement Transactions include all of the steps necessary to translate supplement use into an individualized supply that is both safe and appropriate. These may include any or all of the following: advising, procuring, dispensing, or distributing dietary supplements.

6.1.1 Operational Best Practices for Supplement Transactions

- 6.1.2 Supplement Transactions should only be permitted to occur with Staff who are COPSIN, NSO or MSO personnel including but not limited to medical, nutrition and physiology. Other discipline areas such as strength and conditioning and athlete-coach services may also be included in certain circumstances where it makes sense either logistically or from a service delivery perspective. Any Staff member involved in a Supplement Transaction should be aware of and act in compliance with the OBP.
- 6.1.3 All Staff purchasing Dietary Supplements (third party tested) from national supplements retail partners should adhere to the following standards:
 - 6.1.3.1 Review the supplements to ensure products are intact (any products not in perfect condition are to be returned).
 - 6.1.3.2 Record receipt of the supplements on a confidential Supplement Inventory/Transaction Log (See Section 9).
 - 6.1.3.3 Store all supplements in a secure, locked storage until a Supplement Transaction takes place with an athlete or NSO/MSO representative. Once a Supplement Transaction has taken place, it is the receiver's responsibility to keep their supplements secure.
 - 6.1.3.4 Attain and secure copies of third-party testing Certificates of Analysis (COA) for the supplement (See Appendix A).
- 6.1.4 Provision of third-party tested Medical Supplements (e.g., iron, vitamin D) and/or Sport Foods is also preferred where possible, but is not mandatory.

7. SUPPLEMENT SPONSORSHIP

7.1 Operational Best Practices for Supplement Sponsorship

The following criteria are required for COPSIN to engage in a sponsorship agreement with a supplement manufacturer. If an athlete, NSO or MSO decides to align with a supplement manufacturer in a sponsorship agreement continued support with Supplement Transactions from COPSIN employees and contractors will only occur if the following criteria are met:



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- 7.1.1 The Dietary Supplement(s) meets the AIS Supplement Classification framework as a safe and evidence-based product that may be beneficial for health and/or performance in specific situations in sport (Section 5 & Appendix A).
- 7.1.2 The Dietary Supplement(s) have been third-party tested by an accredited lab (Section 8) and provide a copy of the Certificate of Analysis (COA) for the third-party screening of the supplement in question. If the Dietary Supplement(s) does not require third-party testing (medical or sport food), it is still encouraged to get a letter of acknowledgement from the supplement manufacturer to declare that they do not produce supplements that contain banned ingredients according to the WADA List of Prohibited Substances.
- 7.1.3 The athlete should consult with an IST member (i.e., dietitian, medical physician, exercise physiologist, etc.) for the most safe and effective protocol for use of the supplement to support health and/or performance.
- 7.1.4 The Dietary Supplements are tracked according to the specifications in the OBP. Refer to section 9 for information on Supplement Tracking.

8. THIRD-PARTY SUPPLEMENT CERTIFICATION

Dietary Supplements, whenever possible, should be third-party tested according to the ISO 17025 lab accreditation. This will reduce the risk of consuming a product contaminated with substances on the WADA Prohibited List. Refer to Appendix A regarding supplement safety as well as frequently asked questions on this topic. Appendix A has been designed to provide to athletes for information on these topics as well.

8.1 Operational Best Practices for Verifying Third-Party Supplement Certification

If an athlete, NSO, MSO, or COPSIN staff or contractor is involved in verifying third-party supplement certification the following criteria should be met:

- 8.1.1 Ensure the supplements have been tested by a third-party accredited lab according to the ISO 17025 lab accreditation standard. Appendix A describes the ISO 17025 accredited labs that provide supplement screening for banned ingredients according to the WADA List of Prohibited Substances.
- 8.1.2 Verify, through the certification company website or CAST, that the supplement in possession has a matching Batch or Lot number compared to the Batch or Lot numbers posted by the testing organization.



- 8.1.3 When the testing is being coordinated by an NSO, MSO, or COPSIN for a supplement, a Certificate of Analysis (COA) should be obtained for each new supplement Batch or Lot Number that has been tested by an accredited third-party supplement testing lab. This is an essential practice for NSOs, MSOs, and IST members who dispense supplements to athletes or are involved in any type of Supplement Transaction with Canadian athletes.
- 8.1.4 Athletes should record all the Batch or Lot Numbers of the supplements that they take in their personal records or using CAST (Section 9).

9 SUPPLEMENT TRACKING

9.1 Operational Best Practices for Supplement Tracking

If an athlete, NSO, MSO, or COPSIN staff or contractor is involved in a Supplement Transactions the following criteria should be met:

- 9.1.1 A record of all supplements provided to the athlete by the MSO or NSO Staff will be stored in a confidential Supplement Inventory/Transaction Log in a location accessible by the NSO, MSO, designated MD and/or RD.
- 9.1.2 Any athlete, NSO, MSO or IST Staff engaging in a Supplement Transaction should keep record of supplement usage with CAST or another record accessible by the NSO or MSO.
- 9.1.3 Athletes should keep records of the following and share with the appropriate Staff involved in any Supplement Transaction:
- The effects of a supplement (positive and negative);
 - Any known or suspected allergies or intolerances (food or medication);
 - All medications concurrently used with supplements;
 - Any potentially conflicting sponsorship commitments (personal and national).



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10 SUPPLEMENT EDUCATION & AWARENESS

10.1 Operational Best Practices for Supplement Education & Awareness

- 10.1.1 Athletes, coaches, COPSIN, NSOs, MSOs and IST Staff are to complete their mandatory annual education requirement under the CADP, via the online learning provided by the CCES.
- 10.1.2 On an ongoing basis the COPSIN will make available supplement education and awareness for Canada's High Performance Coaches and High Performance Directors.



Appendix A – Athlete Information on Supplement Safety

The word, Supplement, can represent an Ergogenic Supplement, a Performance Supplement, a Sports Supplement, a Health Supplement, a Medical Supplement, or a Sports Food.

Repeated study has shown that supplements may contain prohibited performance-enhancing substances intentionally to produce a desired effect, may be adulterated without having prohibited substances listed on the label, or may be contaminated unintentionally. While no product can provide a 100% "free of banned substances" guarantee, there are several programs that work closely with manufacturers and suppliers to test supplements to reduce the risk of potential banned substance contamination. Third-party accredited labs that meet the ISO 17025 accreditation standard are testing supplements according to the current WADA List of Prohibited Substances. There are four third-party supplement testing accredited programs that are recognized in Canada by OTP, these are:

- NSF International Certified for Sport, <https://www.nsf-sport.com/contact.asp>
- Informed Sport: Sports Supplements Certification, <https://sport.wetestyourtrust.com>
- Informed Choice: Certified Dietary Supplements, <https://choice.wetestyourtrust.com>
- BSCG (Banned Substances Control Group), <https://www.BSCG.ORG>

All these quality assurance programs help athletes identify Sport Supplements that have been tested for prohibited substances and are manufactured to high quality standards minimizing the risk of inadvertent doping. These companies list the brand name and Batch or Lot number of supplements that have been tested in their laboratories and are deemed to be free of banned substances.

In addition, LGC, the company that provides testing for Informed Sport and Informed Choice, also provides independent third-party testing for specific batches of otherwise untested supplements. These are not available to the general public; however, an NSO, MSO or COPSIN can contract LGC for testing a specific batch of a supplement and a Certificate of Analysis (COA) will be provided for that batch.

The Canadian App for Supplement Tracking (CAST) is a new free app available to all Canadian athletes in the National Athlete Pool (NAP) and Registered Testing Pool (RTP) under the Canadian Anti-Doping Program (CADP) that allows individuals to search for and track supplements that have been third party tested by the companies listed above. See Appendix D for more information.

FREQUENTLY ASKED QUESTIONS ABOUT SUPPLEMENT SAFETY

Why does OTP only recognize these third-party supplement testing programs?

These third-party supplement testing programs use testing methods validated and accredited to the ISO 17025 standard in supplements/ingredients. This is the standard for analytical laboratory testing providing confidence that if contamination exists above the defined limit of detection, then it will be identified. Laboratories that do not meet this testing standard may call a "negative" simply because they are unable to find the contamination, NOT because a banned substance is absent.



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Some Sport Supplements companies claim to be certified with Good Manufacturing Practices (GMP). Does this mean the supplement is free of banned substances?

No. GMP certification, which many companies claim is adequate, only certifies that the manufacturer has processes and controls in place to ensure product quality, traceability and competence. GMP certification does not require the product to be tested for banned substances at an ISO 17025 accredited laboratory. Inadvertent contamination from banned substances is still highly possible in GMP certified manufacturing facilities.

Some Sport Nutrition Supplements claim to be WADA certified. Does this mean the supplement is banned substance free and/or approved by WADA?

No. **WADA's** role is to bring consistency to anti-doping policies and regulations within sport organizations and governments across the world. **WADA** is not involved in the testing of banned substances in supplements or the supplement certification process and therefore **WADA** does not certify or endorse manufacturers or their supplement products. For more information, please visit the WADA quiz game on Sports Supplements: <https://quiz.wada-ama.org/>

What about the terms Athlete Tested or NPN (Natural Product Number) do these mean that a supplement is free of banned substances?

No. The term, Athlete Tested, on a supplement label does NOT mean it has been reliably third-party tested and does NOT indicate that the supplement in question is free of banned substances. In Canada, an NPN designation simply means that the product has been tested for safety, claims and quality according to Health Canada criteria, but again, NPN is not a designation to indicate that the supplement has been tested for banned substances as per the WADA List of Prohibited Substances.

If a banned substance is not listed on the label, does this mean the product is safe?

This is a common mistake that has resulted in the suspension of some elite athletes due to an ADRV. Prohibited substances may appear on the label, but under a different name than what is on the WADA list. For example, a product may contain an ingredient called geranamine. While this name, geranamine, does not appear on the WADA list its chemical name, methylhexaneamine does, so this supplement WOULD contain a banned substance. In this case, an athlete could unknowingly use a supplement they believed to be safe, only to fail a drug test because they did not do their homework.

Additionally, some raw materials used by a manufacturer to prepare a supplement may have low levels of cross-contamination or even contain naturally occurring steroidal compounds often found in herbal ingredients. Supplement manufacturers unfortunately may deliberately contaminate their supplements with banned substances and choose not to report these ingredients on their supplement label. It is very important to research each ingredient that you do not 100% understand. It is recommended to only use products that have been screened for banned substances using ISO 17025 accredited methods.

Can an athlete use an untested supplement?

Some supplements an athlete may consider using are not currently third-party tested such as a multivitamin supplement. Many of these Medical Supplements and some Sport Foods are considered low-risk. Low-risk supplements include products from large multi-national companies, Canadian sourced multivitamin and mineral supplements, or pharmaceutical grade vitamin and mineral supplements.



Remember that no product can provide a 100% “free of banned substances” guarantee and that even with third party testing certification it is important to remember that not EVERY supplement container from a certified batch is tested (only a sample is tested). So, there is still a small risk of potential supplement contamination. The athlete is strictly liable if they test positive with an ADRV as a result of taking Dietary Supplements. Furthermore, those who advise athletes about supplementation or those who provide supplements to athletes (involved in a Supplement Transaction) are equally liable if the athlete were to have an ADRV as a result of taking a Dietary Supplement. To help assess the risk profile of any supplement, an athlete should always seek advice from a qualified Staff member (Registered Dietitian, Medical Doctor, Physiologist) prior to the purchase and use of any supplement.

HOW TO SOURCE THIRD PARTY TESTED SUPPLEMENTS

In Canada there are three ways to source third-party tested products:

1. **At the Store** - Look for products that carry the following labels:



Old logo



New logo



Old Logo



New logo



Old logo



New logo



BSCG (Banned Substances Control Group)

Some companies test only a few of their products so it is critical to look carefully for the third-party supplement testing logos on each product every time you make a purchase. It is also important to cross-check your supplement purchase against the lot or batch numbers which are listed on the websites for NSF Certified for Sport, Informed Sport, Informed Choice, and BSCG or in the CAST. It is also a good idea to take a screenshot of your search and save it to your own files in case it is ever needed in the future.

Unfortunately, supplement logos for testing can be very confusing. Some companies produce “NSF Certified” products which is a different certification than “NSF Certified for Sport™”. “NSF Certified” **products are not tested** for WADA prohibited substances. Be sure to know the difference between these labels.



OR



YES - These symbols represent the NSF Certified for Sport Program



OR



NO - Not certified for sport = **AVOID!**

2. Online

- http://www.nsf-sport.com/listings/certified_products.asp to search for NSF for Sport Certified Products by product name, company name, nutrient or supplement type, goal, or mode of consumption and for a printable list of NSF Certified for Sport™ products.
- The NSF for Sport App – available for download at: http://www.nsf-sport.com/sport_app.asp



- <https://sport.wetestyoutrust.com/supplement-search> to download a regularly updated list of Informed Sport registered product summary
- <https://choice.wetestyoutrust.com/supplement-search> to download a regularly updated list of Informed Choice registered product summary
- Or BSCG, <http://BSCG.org/>



3. The Canadian App for Supplement Tracking (CAST)

- The new CAST app by ZoneIn helps Canadian athletes make more informed decisions when choosing their supplements. It searches a variety of certified third-party testing databases for current products on the market. It allows you to track the supplements you are taking so you have a secure and confidential record. See Appendix D for more information.
- The app is free for all Canadian athletes in the NAP and the RTP.

FURTHER REDUCING RISKS ASSOCIATED WITH DIETARY SUPPLEMENTATION

Safety Considerations for Un-Tested Products

If an athlete chooses to use supplements that are not third party tested, they should take the following additional precautions to minimize risk. These precautions *may* help demonstrate that the athlete was not significantly at fault if a doping violation occurs as a result of supplement use. Although in many circumstances an ADRV will still be declared, proof that the utmost caution was observed may be taken into consideration when the sanction is imposed.

- Choose products from reputable companies only
- Avoid products from, or manufactured from ingredients that may have come from China, India or Mexico
- Make a direct inquiry to the manufacturer and get a written guarantee that the product is free of any substances on the WADA Prohibited List. Be aware though that in the case of a small company or a company that primarily services the general public, a positive test associated with their product may not matter to them at all.
- Ask if the manufacturer makes any products that do contain prohibited substances at the plant where the supplement is produced. If prohibited substances are present in a manufacturing plant, the risk of cross-contamination with the supplement is very high – DO NOT USE!
- Ask if the manufacturer is prepared to stand behind its product. If they are not – do not use their products.
- Have proof showing the sensible and obvious precautions you took before taking the supplement to address the various risk factors associated with its use.
- Record all batch numbers of the Supplements that you take or enter into CAST for potential presentation to WADA, the CCES and/or your NSO or MSO in the event of an inadvertent doping offence occurs.



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Safety Considerations for Sports Foods

Most Sports Foods (e.g., sports drinks, sports bars, and gels) available to purchase have not been tested for banned substances by a third-party testing organization. While Sports Foods are considered lower risk for an ADVR, an athlete needs to acknowledge strict liability for anything that they ingest in regard to a potential ADVR. Whenever possible choose Sports Foods that have been screened by third-party testing (refer to the four websites that provide supplement screening as mentioned previously). If an athlete is uncertain about whether a particular Sports Food is the right choice for training and competition, they should contact a Medical Doctor or Registered Dietitian for advice. The athlete may also wish to record the batch number of the Sport Foods you use as an added precaution.

Guidelines for Untested Sport Foods

If the Sports Food of preference is not third-party tested consider the following guidelines to select a low-risk product, always keeping in mind the principle of strict liability (i.e., the athlete is responsible for whatever supplement they choose to ingest).

Choose:

- Major companies without a publicly documented history of a positive analytical finding for WADA banned substances in any of their products
- Larger, established companies (i.e. 1 million or greater in annual sales) producing low risk products such as sport drinks or sport bars.
- Canadian companies since they must comply with Health Canada's quality control regulations which are very stringent. Purchasing products sourced and made in Canada may be lower risk than products made in other countries with differing manufacturing practices and legislation.

If a Sports Food contains High Risk ingredients, such as creatine, caffeine, or extracts such as Eria Jarensis or Juglans regia among others, then the Sports Food should be avoided. If in doubt about an ingredient contact a Medical Doctor or Registered Dietitian for advice.

If there are any questions related to Sports food selection an athlete should seek expert advice from a Medical Doctor, Registered Dietitian, or other knowledgeable IST members.



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Athlete Guidelines & Check Points Prior To and During Supplementation:

1. Complete an assessment with a Medical Doctor and/or a Registered Dietitian.
2. Consider the pros and cons associated with supplement use (including anti-doping risk, health risks, evidence for use and cost).
3. Discuss with your coach.
4. Purchase/Use only third-party tested supplements; source the supplement that matches the Batch or Lot number as reported on the website of the organization that has successfully screened this supplement or via CAST.
5. Get a protocol outlined from a Registered Dietitian and/or Physiologist before taking supplements.
6. Trial supplements in training and at several competitions before use in a major competition.
7. Supplements need to be reviewed prior to each international competition; the Health Services Team, NSO and IST should be made aware of ALL supplements you are using by direct communication or by an entry into the appropriate major games Electronic Medical Records.
8. If asked to declare the use of supplements during doping control, remember to provide a thorough list containing ALL the supplements you have been or are currently using.



Appendix B - Australian Institute of Sport (AIS) Supplement Classification System

While “food first” is the focus for athlete’s health and performance, the Australian Institute of Sport (AIS) recognizes that there needs to be a balance between potential rewards and risks associated with the use of supplements and sports foods for athletic performance. As such, the AIS has created a Sports Supplement Framework <https://www.ais.gov.au/nutrition/supplements> that classifies supplements into four groups according to scientific evidence, safety and other practical considerations using an ‘ABCD’ Classification System. This supplement ranking system considers whether a product is safe, legal (i.e., in regards to anti-doping), and effective in improving health and/or sport performance. The classification is made through the consensus of an expert group affiliated with the AIS and can change over time based on new knowledge and practical issues.

The Canadian sport system will adopt and use the AIS Supplement Classifications and categorized list of supplements until such time that a Canadian Supplement Classification system is created.

Australian Institute of Sport (AIS) Supplementation Group Classification System (February, 2022)
<https://www.ais.gov.au/nutrition/supplements>

Category	Supplement
<p>Group A - Sports Foods</p> <p>Canadian Recommendations for Supplement Use: May be used in support of a nutrition program.</p> <p>Rationale: Shown to benefit performance or health, when used according to a specific protocol.</p>	<ul style="list-style-type: none"> • Sport Drinks • Sport Gels • Sport Confectionary, such as gummies, beans, or blocks • Electrolyte Supplements • Isolated ‘Tested’ Protein Supplements • Mixed Macronutrient Supplements (Bar, Powder, Liquid Meal)
<p>Group A – Medical Supplements</p> <p>Canadian Recommendations for Supplement Use: May be used in support of a nutrition program under the expert guidance of a medical physician or dietitian.</p> <p>Rationale: Shown to benefit performance or health, when used according to a specific protocol.</p>	<ul style="list-style-type: none"> • Iron • Calcium • Vitamin D • Multivitamin • Probiotics • Zinc • Other single source vitamins and minerals



<p>Group A – Performance Supplements</p> <p>Canadian Recommendations for Supplement Use: May be used in support of a nutrition program under the expert guidance of a dietitian or medical physician within the IST.</p> <p>Rationale: Shown to benefit performance or health, when used according to a specific protocol.</p>	<ul style="list-style-type: none"> • Caffeine • Beta-Alanine • Sodium Bicarbonate • Sodium Citrate • Beetroot Juice (nitrate) • Creatine • Glycerol
<p>Group B</p> <p>Canadian Recommendations for Supplement Use: Considered for use by identified individual athletes within research or clinical monitoring situations.</p> <p>Rationale: Supplements with emerging scientific support, deserving of further research.</p>	<ul style="list-style-type: none"> • Food Polyphenols – Fruit derived polyphenols • Antioxidants – Vitamin C, N-Acetyl Cysteine • Tastants – Menthol, Transient receptor potential channel agonists, quinine • Other – collagen, curcumin, ketone supplements, fish oils/omega-3, carnitine
<p>Group C</p> <p>Canadian Recommendations for Supplement Use: Not advocated for use by athletes within supplement programs. However, may be used by identified athletes when there is specific approval, or reporting to an IST.</p> <p>Rationale: scientific evidence is not supportive of benefit amongst athletes OR insufficient research is available on the efficacy of these supplements.</p>	<ul style="list-style-type: none"> • Magnesium • Alpha Lipoic Acid • HMB • BCAA • Leucine • Phosphate • Prebiotics • Vitamin E • Tyrosine



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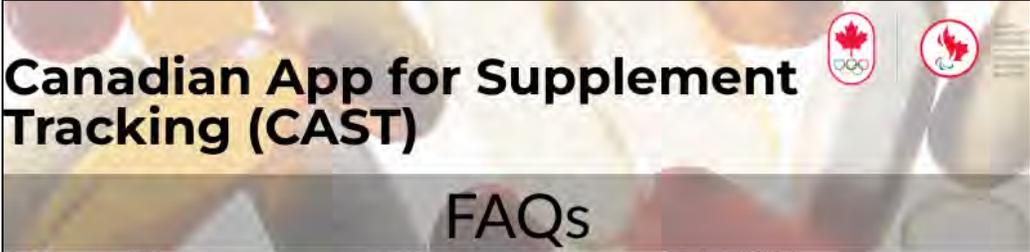
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<p>Group D</p> <p>Canadian Recommendations for Supplement Use: Prohibited and strongly discouraged.</p> <p>Rationale: Prohibited or at high risk of contamination with substances that could lead to a positive doping outcome (ADRV).</p>	<p>All products and substances listed on the WADA prohibited list.</p> <p>Stimulants (Ephedrine, Strychnine, Sibutramine, Methylhexanamine-DMAA, 1,3-dimethylbutylamine-DMBA, other herbal stimulants)</p> <p>Prohormones & Hormone Boosters (DHEA, Androstenedione, 19-norandrostenedione/norandrostenediol, other prohormones, tribulus terrestris & other testosterone boosters, maca root powder)</p> <p>GH Releasers and Peptides Beta-2 Agonists (Higenamine)</p> <p>Selective Androgen Receptor Modulators – SARMS (Andarine, Ostarine, Ligandrol)</p> <p>Metabolic Modulators (GW1516-Cardarine)</p> <p>Colostrum</p>
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Appendix C - Canadian App for Supplement Tracking FAQs



Canadian App for Supplement Tracking (CAST)




FAQs

What is CAST?

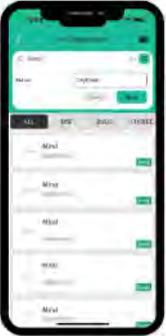
- The new CAST app, developed in partnership with Own the Podium, helps Canadian athletes make more informed decisions when choosing supplements.
- Searches a variety of certified third-party testing databases.
- Confidentially tracks ALL supplement consumption and can integrate with National Sport Organization (NSO) databases.

Who is it for?

- FREE for all Canadian athletes in the National Athlete Pool (NAP) and Registered Testing Pool (RTP) under the Canadian Anti-Doping Program (CADP) .

Why is this needed?

- CAST will support the Operational Best Practices (OBP) by providing a secure tracking system with access to an up-to-date database of all third-party tested supplements available on the market.
- CAST is integral to delivery of the OBP with a focus on education and tracking for athletes, coaches, and sport organizations to inform best practices for supplement use.
- Supplement usage presents associated risks, and it is in the best interest of everyone involved in sport in Canada to align with initiatives that support safety in sport.

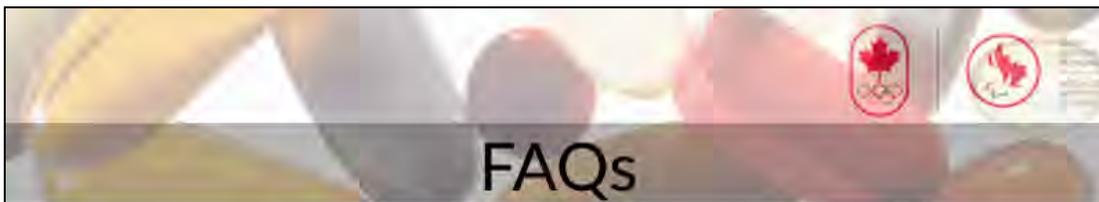








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FAQs

How does CAST support safe supplementation?

- Select companies with the specialized lab accreditation (ISO17025) are qualified to provide third-party testing to screen supplements for banned substances on the WADA Prohibited List.
- Third-party testing reduces the risk that a product contains any of the 290 substances banned by WADA. It also checks that the contents of the supplement actually match what is on the label and that there are no levels of contaminants in the tested products.

The CAST database searches all tested supplements including those from the following accredited companies: BSCG, NSF Certified for Sport, Informed-Choice & Informed-Sport (LCG)



Recognized in Canada



Recognized in Canada and United States



Recognized globally in over 36 countries



And remember...



No supplement is 100% risk free.

Canadian athletes can minimize their risk of accidental cross-contamination from a WADA-banned substance by choosing ONLY supplements that are found as third-party tested on the CAST.

Logging all supplements is important to reduce risks of an inadvertent doping violation.

Privacy Concerns

- Information is kept private & used solely for the purpose of athlete monitoring, tracking, and guidance of supplement use.
- Information may be shared with the National Sport Organization (NSO) for athlete monitoring purposes with athlete consent.
- Information is collected & stored in a secure manner and accessed by authorized personnel only.



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