play true

Understanding the Prohibited List and Dietary Supplements; Keeping you and your athletes out of trouble

IOC Advanced Team Physician course; Sept. 2018; Marrakech

Dr. Alan Vernec, Medical Director, WADA
Know the Prohibited List
The List of Prohibited Substances and Methods

- Updated on (at least) an annual basis
- Harmonized across all sports
- Strict Liability
The rule which provides that it is not necessary that intent, fault, negligence, or knowing use on the Athlete’s part be demonstrated by the Anti-Doping Organization in order to establish an Anti-Doping Rule Violation (ADRV);

Sufficient proof of an ADRV is established by presence of a Prohibited Substance or its metabolite(s).

(i.e. the athlete is responsible and it is up to him or her to prove innocence)
4.1 of ISTUE:

a) The absence of treatment would cause a significant impairment to the athlete’s health

b) Treatment will produce no performance enhancing effect, other than the return to the athlete’s normal state of health

c) There is no reasonable permitted therapeutic alternative

d) The use is not a consequence of prior use…
2018 WADA List of Prohibited Substances and Methods

Prohibited At All Times

Prohibited Substances
- S0: Non-approved Substances
- S1: Anabolic Agents
- S2: Peptide Hormones, Growth Factors, Related Substance, and Mimetics
- S3: Beta-2 Agonists
- S4: Hormone and Metabolic Modulators
- S5: Diuretics and Masking Agents

Prohibited Methods
- M1: Manipulation of Blood and Blood Components
- M2: Chemical and Physical Manipulation
- M3: Gene Doping

Prohibited In-Competition
- S6: Stimulants
- S7: Narcotics
- S8: Cannabinoids
- S9: Glucocorticoids

Prohibited in Particular sports
- P1: Beta-blockers
Where to check if a medication is prohibited?

1. World Anti-Doping Agency
2. National Anti-Doping Organization
3. Global DRO http://globaldro.com or other national anti-doping databases, for example:
   - Ireland - www.eirpharm.com
   - Norway – www.antidoping.no
Pseudoephedrine:

- **IOC List:**
  Prohibited at urinary threshold of 25 ug/mL

- **WADA 2004:**
  Removed from List and put on Monitoring list

- **WADA 2014:**
  Reintroduce to the List but at much higher threshold: 150 ug/mL
Pseudoephedrine Cases (pre-WADA)

- **Silken Laumann:**
  Canadian Rower; Pan Am 1995; Benadryl Plus

- **Andrea Raducan:**
  Romanian Gymnast; Sydney 2000; Decongestant
Vancouver Winter Olympics 2010: Slovakian ice hockey player; Ludomir Visnovsky; Advil Cold & Sinus

Sochi Winter Olympics 2014; Swedish hockey player; Zyrtec-D

"Nicklas was tested several times before the Olympics. Nicklas also asked me before the Games if he could use this pill, and I told him he could take one.”
Zyrtec D on Global DRO

Athletes, check your medications!

User Type: Medical Professional
Sport: Hockey
Nation of Purchase: United States
Search for: zyrtec D
## Brand Status

**Zyrtec-D Allergy + Congestion 12 Hour 5mg-120mg Extended-Release Tablet**

### Overall Status

<table>
<thead>
<tr>
<th>Route of Administration</th>
<th>In Competition</th>
<th>Out of Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Independent *</td>
<td>Conditional</td>
<td>Not Prohibited</td>
</tr>
</tbody>
</table>

* The intravenous infusion or injection of more than 50 mL/6 hours of any substance is a prohibited method unless it is received during a hospital admission, a surgical procedure, or a clinical investigation, even if the substance itself is not prohibited. [Read more.](#)

### Additional Information 📝

> Pseudoephedrine is prohibited when the urinary concentration exceeds 150 microgram/mL. Further information can be found from WADA at:


This threshold is not valid in the presence of diuretics. If you are using a diuretic you must have a Therapeutic Use Exemption to use both the diuretic and pseudoephedrine.
Pseudoephedrine

- The established threshold levels may be reached (rarely, but possibly) by some individuals within 6-20 hours of intake of some long-lasting therapeutic formulations.

- Advise athletes to stop taking PSE pills at least 24 hours before competition.

- For therapeutic applications during the In-Competition period, consider the use of alternative permitted medications upon previous consultation with a physician. Apply for a Therapeutic Use Exemption (TUE) for the use of PSE for therapeutic purpose(s).
Pseudoephedrine or Phenylephrine?
Beta-2 Agonist: Vilanterol

- American swimmer with bronchitis before Rio Olympics
- Writes medication on Doping Control Form; no AAF
- Retroactive TUE refused
- 3 month sanction reduced to ADRV with reprimand after appeal
Beta-2 Agonist: Tretoquinol

- Old product used in many parts of Asia as asthma medication and OTC for colds/asthma

  e.g. “X-cough” for cough, phlegm, asthma

Ingredients:  chloropheniramine 3.00 mg
              trimetoquinol  2.00 mg
              guaifenecine   75.00 mg
              dextromethorphan 15.00 mg
Norwegian X-C skier
Treated with Trofodermin cream for sunburned lips in Italy
Tested positive for clostebol
13 month ban; later increased to 18 months following appeal by FIS to CAS
National Team doctor resigns
Summary: Read the label!
Medical Information to Support the Decisions of TUE (Therapeutic Exemptions) Committees - also called TUE Physician Guidelines.

All TPGs are reviewed annually by the WADA TUE EG Committee to ensure that they remain consistent with best medical practice and the WADA standards. The date on each TPG reflects the last time any revisions were made.
Be wary of dietary supplements
Dietary Supplements (DS)

- Many athletes use DS
  - >80% of athletes in Pyeongchang
  - 85% of elite track and field athletes, Maughan et al 2007

- DS may contain Prohibited Substances via spiking or contamination
  - 14.8% of supplements tested contain prohormones (T, nandrolone), Geyer al 2004
  - 14.5 % black market products tested contained Prohibited Substances, Krug et al: 2014
Case: Footballer takes Caffeine Tablet

- Advised by friend
- Oxyburn Pro Superthermotech
- Asked shop owner, Google search
- MHA not on label
- + Test; ADRV plus 3 month ban
- No Significant Fault; no intent
IOC Dietary Supplement Consensus
May 2017

- DS do not compensate for inadequate diet
- May be beneficial if specific nutrient deficiency is medically diagnosed and no food based option
- A few supplements among the thousands may provide performance benefits for some athletes in some sports, when optimum training, nutrition and recovery are already achieved
- Products may be of poor quality or contaminated
- The athletes should carefully evaluate benefits vs risks
IOC Dietary Supplement Consensus Publications
International Journal of Sport Nutrition 2018 (28:)

- IOC Consensus Statement: Dietary Supplements and the High Performance Athlete; Ronald J. Maughan, Louise Burke et al;

- Making Decisions About Supplement Use; Ronald J. Maughan, Susan M. Shirreffs, and Alan Vernec

- Assessment of Nutrient Status in Athletes and the Need for Supplementation; D. Enette Larson-Meyer, Kathleen Woolf, and Louise

- Athletes and Supplements: Prevalence and Perspectives; Ina Garthe and Ronald J. Maughan
Summary Supplements: Benefit vs Risk

- Risk Reduction: (Vernec et al; Br J Sports Med 2013)
  - Check if necessary; with qualified MD, nutritionist
  - Avoid counsel from friends, coaches
  - Avoid if exaggerated claims; Testo-boost; burner, stimulant…
  - Avoid multiple ingredient products
  - Avoid products from less reputable companies/countries
  - Consider 3rd party testers (Informed Choice or NSF) – no guarantees