



Guide to Prohibited Substances and Prohibited Methods of Doping



2008





DRO

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Drug Reference Online™ is a searchable, Web-accessible database containing accurate and up-to-date information about the status of specific U.S. prescription medications and some over-the-counter products that may be used by athletes. The information is not provided as medical advice; it is only intended to represent the rules of sport in the Olympic Movement as it relates to the use of medications.

REVISION OF THE USADA GUIDE

The mission of the World Anti-Doping Agency (WADA) is to work with the International Olympic Committee (IOC), National Anti-Doping Organizations (NADOs), sports federations and the athletes for the purpose of achieving the common objective of controlling doping in sport. The World Anti-Doping Program (WADP) harmonizes worldwide efforts in doping control and includes the World Anti-Doping Code (the Code), the Prohibited List, the International Standard for Therapeutic Use Exemptions (TUEs), the International Standard for Testing, the International Standard for Laboratories, and Models of Best Practice. The Guide has been revised to reflect the Code and current international Standards.

This Guide should be read in its entirety.

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United States Anti-Doping Agency

2008 Guide to Prohibited Substances and Prohibited Methods of Doping

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TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Athlete Advisory for 2008.....	4
Introduction.....	7
Definition of Doping.....	8
WADA 2008 Prohibited List.....	10
I. Substances and Methods Prohibited at All Times (In- and Out-of- Competition).....	10
A. Prohibited Substances.....	10
S1. Anabolic Agents.....	10
S2. Hormones and Related Substances.....	19
S3. Beta-2 Agonists.....	22
S4. Hormone Antagonists and Modulators.....	24
S5. Diuretics and Other Masking Agents.....	26
B. Prohibited Methods.....	29
M1. Enhancement of Oxygen Transfer.....	29
M2. Chemical and Physical Manipulation.....	30
M3. Gene Doping.....	30
II. Substances Prohibited (Only) In-Competition.....	31
S6. Stimulants.....	31
S7. Narcotics.....	38
S8. Cannabinoids.....	40
S9. Glucocorticosteroids.....	41
III. Substances Prohibited in Particular Sports.....	43
P1. Alcohol.....	43
P2. Beta-Blockers.....	44
IV. Specified Substances.....	46
2008 Monitoring Program.....	47
Therapeutic Use Exemptions (TUE).....	48
A. Abbreviated TUE.....	48
B. Standard TUE.....	50
Urinary Concentrations in Testing.....	54
Transdermal Delivery Systems.....	55
Vitamins, Minerals, Herbs, Amino Acids, Proteins, and Other Dietary Supplements.....	56
Other Frequently Asked Questions (FAQs).....	61
Precautions.....	63
USADA List of Permitted Medications.....	64
Important Facts.....	70
References.....	71
Explanation of DRO™ Screen.....	72

Tables

Page

1. Examples of Anabolic Agents..... 17

2. Beta-2 Agonists Permitted with an Acceptable Abbreviated TUE..... 23

3. Examples of Prohibited Diuretics..... 27

4. Examples of Prohibited Masking Agents and Methods..... 28

5. Examples of Prohibited Stimulants..... 34

6. Specifically Prohibited Narcotics..... 39

7. Examples of Prohibited Beta-Blockers..... 45

8. Threshold Concentrations Applied in Testing..... 54

9. Examples of Permitted Medications..... 65

USADA does not provide advice on medical matters or treatments. Treatment for routine or emergency medical conditions is between the athlete and his/her physician. USADA provides the status of medications for athletes' information only, in accordance with the World Anti-Doping Code. The athlete is responsible for managing his/her medical care and for using medications in a manner consistent with the World Anti-Doping Code. Anti-doping rules, like competition rules, are rules governing conditions under which sport is played.

ATHLETE ADVISORY

The World Anti-Doping Agency (WADA) has published the 2008 Prohibited List. For a full copy of the 2008 Prohibited List, visit the USADA Web site at www.usada.org/go/prohibitedlist.

KEY CHANGES FOR 2008

SUBSTANCES AND METHODS PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

S1. Anabolic Agents

Anabolic Steroids: WADA, International Federations and National Anti-Doping Organizations are now starting to monitor the pattern (or profile) of steroids in the urine of individual athletes. These profiles will change in an athlete with use of anabolic steroids and certain other performance-enhancing substances and the changes in an athlete's pattern can be relied upon as an indicator of doping. The 2008 Prohibited List requires that an unusual pattern in a steroid screen be reported as an "atypical" result rather than as an "adverse analytical finding." A laboratory will still report an adverse analytical finding for an anabolic agent when the presence of an anabolic agent is proven by laboratory testing.

Other Anabolic Agents: Selective Androgen Receptor Modulators (SARMs) are prohibited under this section. Members of this new family of non-steroidal substances can be designed to be anabolic and have the potential to be used in doping.

S4. Hormone Antagonists and Modulators

The title of the S4 category, formerly "Agents with Anti-Estrogenic Activity," has been changed to "Hormone Antagonists and Modulators."

Myostatin is a hormone normally produced by the body that controls (limits) muscle size – blocking myostatin allows increased muscle size. Agents that will block (or reduce) the effect of myostatin and thus allow additional muscle development have been added to the 2008 Prohibited List as substances in this category.

M2. Chemical and Physical Manipulation

The use of intravenous (IV) infusions continues to be prohibited. According to the 2008 Prohibited List an IV infusion may be administered only in “an acute medical situation” and must be followed immediately by the submission of a retroactive Therapeutic Use Exemption (TUE) to document the need for the infusion. This means that IV infusions may only be used for emergency medical situations and must be followed by a TUE submission to the proper authority.

IV. Specified Substances

Propecia, Proscar (finasteride) and Avodart (dutasteride) are prohibited as masking agents for androgenic steroids. These alpha reductase inhibitors are now considered Specified Substances and have been added to that list.

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P2. Beta-Blockers

The International Federation for Powerboating (UIM) has added beta-blockers to the list of substances prohibited in-competition. The UIM believes these drugs can be used to enhance performance in Powerboating.

IMPORTANT POINTS TO REMEMBER

1. Beta-2 agonists are prohibited both in- and out-of-competition. There are four beta-2 agonists that may be used by inhalation following the submission of an Abbreviated TUE- salbutamol, salmeterol, formoterol, and terbutaline. Albuterol (salbutamol) concentrations greater than 1000 ng/mL in the urine will result in an adverse analytical finding even if an Abbreviated TUE has been filed.
2. Glucocorticosteroids used as dermal (topical, iontophoresis, phonophoresis), eye drops, ear drops, nasal sprays and mouth (buccal) treatments are permitted and do not require an Abbreviated TUE.
3. Insulin use requires the submission of a Standard TUE.
4. Certain International Federations (IFs) have requirements for Abbreviated TUEs that are beyond the WADA Code requirements. Check the rules of your IF to determine any specific requirements that apply.
5. Use of gaseous (bottled) oxygen is prohibited.
6. The substances listed in the 2008 Monitoring List are not prohibited and their presence in the body will not result in a doping violation.

IT'S A JUNGLE OUT THERE

Over the past 15 to 20 years there has been a resurgence of interest in herbs as supplements and as medications. A common advertising approach is to claim that supplements are “all natural,” with the implication that “all natural” herbs are inherently better than many other more common fruits and vegetables that are somehow not “all natural.” The “all natural” description may be true; however, the implication that the products are safe and beneficial may be far from the truth. For example, cashew nuts may be considered all natural; however, the tree (*Anacardium occidentale*) producing the cashew nut belongs to the same plant family as poison ivy, poison oak and poison sumac and coats the nut with a toxic oily substance. The toxin is removed during processing and roasting to allow the safe sale and use of cashews.

Walking through a meadow or a field filled with green plants and flowers may generate a feeling of quiet and peacefulness, depending on the insects that inhabit the area; however, the truth is that “it is a jungle out there” and plants and insects compete with each other to survive. As a result of that competition, many of the substances produced by plants are designed to protect against predatory insects and disease. The toxic substances produced may, at the same time, be toxic to certain organs or lethally toxic to man. The message is that consumers of herbal supplements need to educate themselves, not by relying on promotional materials, but by checking less-biased sources of information that can point out the true impact of “natural” ingredients upon the human body.

INTRODUCTION

Anti-doping programs seek to preserve what is intrinsically valuable about sport. This intrinsic value is often referred to as “the spirit of sport;” it is the essence of Olympism; it is how we play true. The spirit of sport is the celebration of the human spirit, body and mind and is characterized by the following values (Reference 1):

- Ethics, Fair Play and Honesty
- Health
- Excellence in performance
- Character and Education
- Fun and Joy
- Teamwork
- Dedication and Commitment
- Respect for rules and laws
- Respect for self and other participants
- Courage
- Community and Solidarity

This is a Guide to the Prohibited List and the International Standard for Therapeutic Use Exemptions and should be read in its entirety.

Doping is fundamentally contrary to the spirit of sport.

The World Anti-Doping Agency (WADA) was established by the International Olympic Committee (IOC) in November 1999 as a foundation with the support and participation of intergovernmental organizations, governments, public authorities, and other public and private bodies. Its mission is to work with the IOC, National Anti-Doping Organizations, sports federations and athletes with the common objective of controlling doping in sport.

The United States Anti-Doping Agency (USADA) is the independent anti-doping agency for the Olympic Movement in the United States. USADA began operations on October 1, 2000, with full authority for testing, education, research and results management for U.S. Olympic, Pan Am and Paralympic athletes. Both WADA and USADA are independent of the bodies responsible for the advancement of sport competitions. USADA is a signatory to the World Anti-Doping Code (WADC) and has implemented the requirements to meet the Code, including The WADA 2008 Prohibited List (see Reference 2).

NOTICE

Anti-doping rules established by the World Anti-Doping Agency are implemented by the International Federation (IF) for each sport. All IFs abide by the WADA Prohibited List; however, each may have specific procedures to request Therapeutic Use Exemptions.

DEFINITION OF DOPING (EXCERPT FROM WADC)

The WADC defines doping as the occurrence of one or more of the anti-doping rule violations set forth in Article 2.1 through Article 2.8 of the Code as shown below. (Note: The numbering system and capitalization reflects that of the Articles of the WADC, Reference 1).

2.1 The presence of a Prohibited Substance or its Metabolites or Markers in an Athlete's bodily Specimen.

2.1.1 It is each Athlete's personal duty to ensure that no Prohibited Substance enters his or her body. Athletes are responsible for any Prohibited Substance or its Metabolites or Markers found to be present in their bodily specimens. Accordingly, it is not necessary that intent, fault, negligence or knowing use on the Athlete's part be demonstrated in order to establish an anti-doping violation under Article 2.1.

2.1.2 Excepting those substances for which a quantitative reporting threshold is specifically identified in the Prohibited List, the detected presence of any quantity of a Prohibited Substance or its Metabolites or Markers in an Athlete's Sample shall constitute an anti-doping rule violation.

2.1.3 As an exception to the general rule of Article 2.1, the Prohibited List may establish special criteria for the evaluation of Prohibited Substances that can also be produced endogenously.

2.2 Use or Attempted Use of a Prohibited Substance or a Prohibited Method.

2.2.1 The success or failure of the Use of a Prohibited Substance or Prohibited Method is not material. It is sufficient that the Prohibited Substance or Prohibited Method was used or attempted to be used for an anti-doping rule violation to be committed.

- 2.3 Refusing, or failing without compelling justification, to submit to Sample collection after notification as authorized in applicable anti-doping rules or otherwise evading Sample collection.
- 2.4 Violation of applicable requirements regarding Athlete availability for Out-of-Competition testing including failure to provide required whereabouts information and missed tests which are declared based on reasonable rules.
- 2.5 Tampering, or attempting to tamper, with any part of Doping Control.
- 2.6 Possession of Prohibited Substances and Methods.
 - 2.6.1 Possession by an Athlete at any time or place of a substance that is prohibited in Out-of-Competition Testing or a Prohibited Method unless the Athlete establishes that the Possession is pursuant to a Therapeutic Use Exemption granted in accordance with Article 4.4 (Therapeutic Use) or other acceptable justification.
 - 2.6.2 Possession of a substance that is prohibited in Out-of-Competition Testing or a Prohibited Method by Athlete Support Personnel in connection with an Athlete, Competition or training, unless the Athlete Support Personnel establishes that the Possession is pursuant to a Therapeutic Use Exemption granted to an Athlete in accordance with Article 4.4 (Therapeutic Use) or other acceptable justification.
- 2.7 Trafficking in any Prohibited Substance or Prohibited Method.
- 2.8 Administration or Attempted Administration of a Prohibited Substance or Prohibited Method to any Athlete, or assisting, encouraging, aiding, abetting, covering up or any other type of complicity involving an anti-doping rule violation or any Attempted violation.

Note: The USADA Abbreviated and Standard Therapeutic Use Exemption (TUE) Forms are available on the USADA Web site at www.usada.org. Please note that some International Federations (IFs) require their own form. It is the responsibility of the athlete to know the rules of their IF.

WADA 2008 PROHIBITED LIST

This Guide provides examples of substances in prohibited classes. Not all prohibited substances are specifically listed in this Guide or on the WADA Prohibited List (Reference 2). The list is subject to change and is updated and revised as necessary. Check to make sure you have the most up-to-date information. Consult either the USADA Drug Reference Online™ (www.usada.org/dro) or the WADA Prohibited List for the most up-to-date information (www.usada.org/go/prohibitedlist).

Note: The text presented as the WADA List contains the spelling and format of the published WADA List.

The use of any drug should be limited to medically-justified indications.

SUBSTANCES AND METHODS PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

A. PROHIBITED SUBSTANCES

S1. ANABOLIC AGENTS

WADA List

Anabolic agents are prohibited.

1. Anabolic Androgenic Steroids (AAS)

a. Exogenous* AAS, including:

1-androstendiol (5 α -androst-1-ene-3 β ,17 β -diol); **1-androstendione** (5 α -androst-1-ene-3,17-dione); **bolandiol** (19-norandrostenediol); **bolasterone**; **boldenone**; **boldione** (androsta-1,4-diene-3,17-dione); **calusterone**; **clostebol**; **danazol** (17 α -ethynyl-17 β -hydroxyandrost-4-eno[2,3-d]isoxazole); **dehydrochlormethyltestosterone** (4-chloro-17 β -hydroxy-17 α -methylandrosta-1,4-dien-3-one); **desoxymethyltestosterone** (17 α -methyl-5 α -androst-2-en-17 β -ol); **drostanolone**; **ethylestrenol** (19-nor-17 α -pregn-4-en-17-ol); **fluoxymesterone**; **formebolone**; **furazabol** (17 β -hydroxy-17 α -methyl-5 α -androsta[2,3-c]-furazan); **gestrinone**; **4-hydroxytestosterone** (4,17 β -dihydroxyandrost-4-en-3-one);

mestanolone; mesterolone; metenolone; methandienone (17 β -hydroxy-17 α -methylandrosta-1,4-dien-3-one); **methandriol**; **methasterone** (2 α , 17 α -dimethyl-5 α -androstane-3-one-17 β -ol); **methyldienolone** (17 β -hydroxy-17 α -methylestra-4,9-dien-3-one); **methyl-1-testosterone** (17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one); **methylnortestosterone** (17 β -hydroxy-17 α -methylestr-4-en-3-one); **methyltrienolone** (17 β -hydroxy-17 α -methylestra-4,9,11-trien-3-one); **methyltestosterone; mibolerone; nandrolone; 19-norandrostenedione** (estr-4-ene-3,17-dione); **norboletone; norclostebol; norethandrolone; oxabolone; oxandrolone; oxymesterone; oxymetholone; prostanazol** ([3,2-c]pyrazole-5 α -etioallocholane-17 β -tetrahydropyranol); **quinbolone; stanozolol; stenbolone; 1-testosterone** (17 β -hydroxy-5 α -androst-1-en-3-one); **tetrahydrogestrinone** (18 α -homo-pregna-4,9,11-trien-17 β -ol-3-one); **trenbolone and other substances with a similar chemical structure or similar biological effect(s).**

b. Endogenous** AAS:

androstenediol (androst-5-ene-3 β ,17 β -diol); **androstenedione** (androst-4-ene-3,17-dione); **dihydrotestosterone** (17 β -hydroxy-5 α -androstan-3-one); **prasterone** (dehydroepiandrosterone, DHEA); testosterone and the following metabolites and isomers:

5 α -androstane-3 α ,17 α -diol; 5 α -androstane-3 α ,17 β -diol; 5 α -androstane-3 β ,17 α -diol; 5 α -androstane-3 β ,17 β -diol; androst-4-ene-3 α ,17 α -diol; androst-4-ene-3 α ,17 β -diol; androst-4-ene-3 β ,17 α -diol; androst-5-ene-3 α ,17 α -diol; androst-5-ene-3 α ,17 β -diol; androst-5-ene-3 β ,17 α -diol; 4-androstenediol (androst-4-ene-3 β ,17 β -diol); **5-androstenedione** (androst-5-ene-3,17-dione); **epidihydrotestosterone; 3 α -hydroxy-5 α -androstan-17-one; 3 β -hydroxy-5 α -androstan-17-one; 19-norandrosterone; 19-noretiocholanolone.**

Where an anabolic androgenic steroid is capable of being produced endogenously, a Sample will be deemed to contain such Prohibited Substance and an Adverse Analytical Finding will be reported where the concentration of such Prohibited Substance or its metabolites or markers and/or any other relevant ratio(s) in the Athlete's Sample so deviates from the range of values normally found in humans that it is unlikely to be consistent with normal endogenous production. A Sample shall not be deemed to contain a Prohibited Substance in any such case where an Athlete proves that the concentration of the Prohibited Substance or its metabolites or markers and/or the relevant ratio(s) in the Athlete's Sample is attributable to a physiological or pathological condition.

In all cases, and at any concentration, the Athlete's Sample will be deemed to contain a Prohibited Substance and the laboratory will report an Adverse Analytical Finding if, based on any reliable analytical method (e.g., IRMS), the laboratory can show that the Prohibited Substance is of exogenous origin. In such case, no further investigation is necessary.

When a value does not so deviate from the range of values normally found in humans and any reliable analytical method (e.g., IRMS) has not determined the exogenous origin of the substance, but if there are indications, such as a comparison to endogenous reference steroid profiles, of a possible Use of a Prohibited Substance, or when a laboratory has reported a T/E ratio greater than four (4) to one (1) and any reliable analytical method (e.g., IRMS) has not determined the exogenous origin of the substance, further investigation shall be conducted by the relevant Anti-Doping Organization by reviewing the results of any previous test(s) or by conducting subsequent test(s).

When such further investigation is required the result shall be reported by the laboratory as atypical and not as adverse. If a laboratory reports, using an additional reliable analytical method (e.g., IRMS), that the Prohibited Substance is of exogenous origin, no further investigation is necessary, and the Sample will be deemed to contain such Prohibited Substance.

When an additional reliable analytical method (e.g., IRMS) has not been applied, and the minimum of three previous test results are not available, a longitudinal profile of the Athlete shall be established by performing three no-advance-notice tests in a period of three months by the relevant Anti-Doping Organization. The result that triggered this longitudinal study shall be reported as atypical. If the longitudinal profile of the Athlete established by the subsequent tests is not physiologically normal, the result shall then be reported as an Adverse Analytical Finding.

In extremely rare individual cases, boldenone of endogenous origin can be consistently found at very low nanograms per milliliter (ng/mL) levels in urine. When such a very low concentration of boldenone is reported by a laboratory and the application of any reliable analytical method (e.g., IRMS) has not determined the exogenous origin of the substance, further investigation may be conducted by subsequent test(s).

For 19-norandrosterone, an Adverse Analytical Finding reported by a laboratory is considered to be scientific and valid proof of exogenous origin of the Prohibited Substance. In such case, no further investigation is necessary.

Should an Athlete fail to cooperate in the investigations, the Athlete's Sample shall be deemed to contain a Prohibited Substance.

2. Other Anabolic Agents, including but not limited to:
**Clenbuterol, selective androgen receptor modulators (SARMs),
tibolone, zeranol, zilpaterol.**

For purposes of this section:

* "exogenous" refers to a substance which is not ordinarily capable of being produced by the body naturally.

** "endogenous" refers to a substance which is capable of being produced by the body naturally.

Explanatory Comments

Any anabolic androgenic substance that is listed or any substance that has a similar chemical structure or biological effect is prohibited.

- a. In case a substance that is not normally found in the body is reported from the laboratory, the report will be considered an adverse analytical finding, as is.
- b. If the substance reported by the laboratory is normally found in the body and the laboratory has completed additional definitive testing, the result will be considered an adverse analytical finding. A higher than normal concentration can be considered definitive information for an adverse analytical report.
- c. If the substance reported is normally found in the body and the laboratory has not completed any additional definitive testing, then additional samples will be collected and sent to the laboratory for analysis. Any adverse analytical finding will depend on the completion of the study.
- d. The 2008 Prohibited List requires that if a specimen has indications of doping (such as a suspicious steroid profile) but there is no proof of the doping violation by a reliable analytical (or other) method, the specimen must be reported as "atypical" rather than as an "adverse analytical finding." For example, if an endogenous steroid profile does not fit the athlete's normal pattern but the T/E ratio is under 4 and the carbon isotope ratio does not show pharmaceutical testosterone, the report from the laboratory would be "atypical." The result would be an investigation to determine the status of the athlete.
- e. Selective Androgen Receptor Modulators (SARMs) are used medically to avoid the negative aspects of the treatment of diseases with testosterone or related anabolic steroids.

The therapeutic use of testosterone may have adverse effects on the prostate and testosterone is not useful for oral administration. As a result of these concerns the SARMs have been developed because of their anabolic effect on muscle and bone but limited effect on the prostate tissue. The SARMs may be selectively designed to maximize or minimize certain effects, as desired. The SARMs are non-steroidal but can have anabolic effects and are a concern due to the potential for doping.

Anabolic Androgenic Steroids (AAS)

This prohibited class is made up of the male hormone testosterone, substances which can be metabolized to testosterone in the body, and substances with a similar activity or chemical structure. Natural testosterone regulates, promotes, and maintains physical and sexual development, primarily in the male, but with effects in the female as well. In combination with training, muscular size and strength may increase from the use of AAS. As these drugs are hormones, they interfere with normal hormonal balance, thereby producing detrimental and sometimes permanent side effects.

Recent findings indicate that steroid use may result in an increased potential for muscle strains or ruptures and tears of tendons as muscle strength increases more rapidly than the strength of tendons. Additionally, the risk of acquiring AIDS, hepatitis and other blood-borne diseases increases greatly with unsafe practices of injection of AAS.

Medical Uses of Anabolic Steroids

- For weight gain in wasting (as in burn injury, HIV-infection or muscular dystrophy)
- Decreased or absent gonadal function in males
- Delayed puberty in males
- Relief of bone pain from osteoporosis
- Severe anemia
- Hereditary angioedema
- Metastatic breast cancer in women

The Federal Government designated AAS as Schedule III controlled substances in 1990. Updated legislation was signed into law on October 22, 2004, which took effect on January 20, 2005 (Reference 3). The update to the law restricts the availability and use of a number of anabolic steroids and "prohormones" (substances converted into active anabolic agents by the body). Substances produced by and available on today's underground market may include impurities, or ingredients added intentionally, which can produce unpredictable and potentially severe side effects.

Despite the Anabolic Steroid Control Act of 2004, some AAS and “related substances” continue to be marketed as dietary supplements. Some substances not listed by the 2004 law are presented as “legal” and are included in supplements of various types; however, any substance that has “a similar chemical structure or similar biological effect(s)” to the class of AAS is prohibited in sport. In addition, these substances are subject to the strict liability clause contained in the World Anti-Doping Code.

Side Effects Of Androgenic Anabolic Steroid Use Include:

- Acne ♂♀
- Liver dysfunction* ♂♀
- Damage to brain tissue (neurons)* (Reference 4) ♂♀
- Premature closure of the growth centers of long bones (in adolescents) which may result in stunted growth* ♂♀
- Increased aggressiveness and sexual appetite, sometimes resulting in aberrant sexual and criminal behavior ♂♀
- Impotence with chronic or repeated use ♂
- Testicular shrinkage (testicular atrophy)* ♂
- Breast enlargement (gynecomastia)* ♂
- Enlargement of prostate gland ♂
- Reduction of sperm production (cessation of spermatogenesis) ♂
- Male pattern baldness* ♂♀
- Masculinization* ♀
- Excessive hair growth on the face and body* ♀
- Deepening of the voice* ♀
- Enlargement of the clitoris* ♀
- Abnormal menstrual cycles (suppression of ovarian function and menstruation) ♀

♂ - Side effects observed in males

♀ - Side effects observed in females.

* - Effects may be permanent

A recent survey of 500 users (494 males) of AAS identified a number of disturbing practices in the use of AAS (Reference 5). The way athletes use AAS creates the same concern as for the way non-competitive bodybuilders or non-athletes use AAS. Most of the users admitted taking the AAS by intramuscular injection. More than 1 in 7 of the study group admitted the use of injection practices that were a hazard to health. The unsafe practices included reuse of a needle, sharing a vial of drug or sharing needles with others. Most of the drugs used were obtained from illegal sources and most of the users admitted using other drugs as well. The side effects listed above were frequently encountered and any potential bad effect on health did not seem to deter the users.

Androstenedione, Androstenediol and Prohormones

Androstenedione, androstenediol and other substances are precursors to testosterone production in the human body. Prior to the Anabolic Steroid Control Act of 2004, they were widely available in dietary supplements sold over-the-counter, in health food stores and over the Internet.

Their presence may, or may not, be noted on the list of ingredients of the supplements. Many of these substances are now illegal for sale as supplements in the U.S. and are specifically included on the WADA 2008 Prohibited List.

DHEA was not made a controlled substance in the U.S. by the legislation, but is prohibited by WADA. The supplement industry has replaced some of the substances that were made illegal with new AAS that have minor modifications to the steroid molecule. These substances continue to be prohibited by WADA as “substances with similar chemical structure or biological effect.” DHEA and testosterone have been widely advertised by some physicians and companies as anti-aging substances. A recent study published in *The New England Journal of Medicine* found that “neither DHEA nor low-dose testosterone replacement in elderly people has physiologically relevant beneficial effects on body composition, physical performance, insulin sensitivity, or quality of life” (Reference 6).

19-Norandrostenedione and 19-Norandrostenediol

19-Norandrostenedione and 19-Norandrostenediol are prohibited steroids that are precursors of nandrolone. Even though these substances are now scheduled under the Controlled Substances Act, they continue to be a matter of concern for athletes. Claims made for beneficial effects include increased muscularity, strength, endurance and recovery, as well as fat loss.

TABLE 1: EXAMPLES OF ANABOLIC AGENTS

Generic Name	Pharmaceutical Preparations
Androstenediol	4-androstenediol, 5-androstenediol
Androstenedione	Andro
Bolasterone	Dimethyltestosterone
Boldenone	Equipoise, Pace, Vebonol
Boldione	
Clenbuterol	Broncodil, Clenasma, Clenbutol, Contrasma, Monores, Novegam, Prontovent, Spiropent, Ventolase
Clostebol	Steranabol
Danazol	Cyclomen, Danatrol, Danocrine, Danokrin, Danol, Ladogar, Winobanin
Dehydrochlor-Methyltestosterone	Turinabol
Dehydroepiandrosterone	DHEA
Delta1-dihydrotestosterone	"1-Testosterone"
Desoxymethyl testosterone	DMT, Madol
Dihydrotestosterone	Stanolone
Dromostanolone	Drolban, Masteril
Fluoxymesterone	Android F, Halotestin, Ora-Testryl, Ultradren
Formebolone	Esiclene, Hubernol
Gestrinone	Tridomose
Methasterone	
Mestanolone	
Mesterolone	Androviron, Proviron
Methandienone	Danabol, Dianabol, Methandrostenolone
Methenolone	Primobolan, Primonabol-Depot
Methandriol	Stenediol, Trofomone
Methyldienolone	
Methyl-1-testosterone	
Methyltestosterone	Android, Estratest, Metandren, Oreton, Methyl, Testred, Virilon
Methyltrienolone	
Mibolerone	Cheque Drops

Nandrolone	Deca-Durabolin, Durabolin, Kabolin, Nandrobolic
19-Norandrostenediol	
19-Norandrostenedione	
Norbolethone	Genabol
Norethandrolone	Nilevar
Oxabolone	
Oxandrolone	Anavar, Lonavar
Oxymesterone	Oranabol 10
Oxymetholone	Anadrol, Anapolon, Oxydrol
Stanozolol	Prostanzol, Stromba, Winstrol
Testosterone (T:E >4:1)	Androderm, Delatestryl, Testim
Tetrahydrogestrinone	THG, "The Clear"
Trenbolone	Finajet, Parabolan

Frequently Asked Questions about AAS:

WHAT ABOUT CLENBUTEROL?

Clenbuterol, a foreign drug not legally available for human use in the U.S., is prohibited as an anabolic agent and as a beta-2 agonist. Some athletes have abused it because of its reported effect in building muscle mass in livestock. It is often used in combination with other anabolic agents and growth hormone.

BIRTH CONTROL PILLS ARE STEROIDAL HORMONES. ARE THEY PROHIBITED?

Birth control pills consist of estrogen(s) and/or progesterone steroids and are permitted. Certain medications, such as Estratest, used in the treatment of conditions associated with menopause are prohibited because they contain methyltestosterone.

THERE ARE NUMEROUS ARTICLES ABOUT ATHLETES TESTING POSITIVE FOR NANDROLONE, AN ANABOLIC STEROID, WHICH IS BELIEVED TO BE INCLUDED IN THEIR DIETARY SUPPLEMENTS. DO YOU NEED A PRESCRIPTION TO OBTAIN IT?

There have been confirmed reports of traces of norandrostenedione and norandrostenediol (close chemical relatives of nandrolone) and other anabolic steroids in vitamins, minerals, herbs, amino acids, proteins and other dietary supplements. When any of the "19-nor steroids" are consumed, intentionally or unintentionally, the metabolites of nandrolone are found in the urine and if a threshold is exceeded will result in an adverse analytical finding. Nandrolone requires a prescription for legal medical use.

S2. HORMONES AND RELATED SUBSTANCES

WADA List

The following substances, including other substances with a similar chemical structure or similar biological effect(s), and their releasing factors, are prohibited:

1. Erythropoietin (EPO);
2. Growth Hormone (hGH), Insulin-like Growth Factors (e.g., IGF-1), Mechano Growth Factors (MGFs);
3. Gonadotrophins (e.g., LH, hCG), prohibited in males only;
4. Insulins;
5. Corticotrophins and other substances with similar chemical structure or similar biological effect(s).

Unless the *Athlete* can demonstrate that the concentration was due to a physiological or pathological condition, a *Sample* will be deemed to contain a *Prohibited Substance* (as listed above) where the concentration of the *Prohibited Substance* or its metabolites and/or relevant ratios or markers in the *Athlete's Sample* so exceeds the range of values normally found in humans that it is unlikely to be consistent with normal endogenous production.

If a laboratory reports, using a reliable analytical method, that the *Prohibited Substance* is of exogenous origin, the *Sample* will be deemed to contain a *Prohibited Substance* and shall be reported as an *Adverse Analytical Finding*.

Explanatory Comments

The presence of an abnormal concentration of an endogenous hormone (included above) or its diagnostic marker(s) in the urine (or other specimen) constitutes doping, unless it has been conclusively documented to be solely due to a physiological or pathological condition. The hormones listed are very carefully controlled within the human body and the administration of pharmaceutical hormones causes major changes to the normal production by the body. These differences can be detected and may be the basis for testing and resultant sanctions for doping.

Erythropoietin (EPO, Epogen, Procrit) and Darbepoetin (Aranesp, NESP, Novel Erythropoiesis Stimulating Protein)

Erythropoietin (EPO) is a naturally-occurring substance that stimulates red blood cell production and is produced in the kidney in response to low levels of oxygenation of the blood. Pharmaceutical preparations that mimic the effect of the body's own production of EPO have been developed. Recombinant human EPO (rhEPO) is readily available as a synthetic drug and other similar drugs, such as Darbepoetin Alfa, have been developed and are in use. A variety of generic pharmaceutical preparations of EPO are in development. The pharmaceutical preparations of EPO are designed and used to increase the oxygen carrying capacity of the blood by increasing the number of red blood cells and hemoglobin, the oxygen carrying protein in the blood. Unfortunately, athletes create a risk to their health when red blood cells are increased to levels that are unnatural. The increased number of cells carried in the blood causes the heart to work harder. In addition, the increased number of cells may increase the possibility of heart attack, pulmonary embolism or stroke. Dehydration as seen in endurance athletes would only increase the threat of a problem from the unnatural increase in the number of cells in the blood.

NOTE: Amgen, the manufacturer of Epogen and Aranesp, recommends that those products not be used to increase the hemoglobin concentration above 12 g/dL (Reference 7). The company emphasizes the increased chance of serious adverse effect if hemoglobin is increased above this level. 12 g/dL is well below the normal hemoglobin level found in a trained athlete.

Human Growth Hormone (Somatropin, Somatrem)

Anecdotal stories of the abuse of human growth hormone (hGH) by athletes have been circulating for many years. Until recently there has not been a reliable test available to detect abuse among athletes; however, at this time, there is a reliable test which has been used at recent athletic events. HGH is a normal substance in the human body and is produced over the lifetime of a person. The hormone is responsible for growth and can increase protein synthesis when administered to an adult whose growth has stopped. The use of hGH in large quantities to increase normal levels produces long-term and irreversible changes to the body of persons whose growth has stopped. These changes are known as acromegaly and include enlargement of the hands, changes to the shape of the forehead and jaw, and other distinctive abnormal changes to the body. Growth hormones should not be used for growth promotion in adults whose bone growth has stopped. The use of growth hormone may result in other adverse effects such as development of immune response to growth hormone and diabetes. Contamination of some growth hormone prepared from human cadavers can cause Creutzfeldt-Jacob Disease, a fatal neurological

condition. Preparation of hGH from human cadavers is rare at this time; however, there are continuing reports of preparations from cadavers in certain countries. This particular disease has a long development period and may not be detected for years after exposure (Reference 8).

Gonadotropins

The class of hormones known as the gonadotropins includes follicle-stimulating hormone (FSH), luteinizing hormone (LH), thyrotropin (TSH) and human chorionic gonadotropin (hCG).

The LH and FSH are released by the pituitary gland and are important in the phases of the menstrual cycle and to ovulation. LH and FSH administration is used to enhance fertility in women and requires very careful medical oversight. The effect of LH is primarily on ovaries; however, one effect is that androgens are secreted in response to LH. Normal production of LH is decreased or stopped with exogenous administration of testosterone.

HCG is used medically for administration to males to produce male changes or male characteristics such as descent of the testes. Administration leads to an increased rate of production of endogenous male hormones and is considered equivalent to the administration of testosterone.

Insulins (long- and short-acting)

Insulin is a normal substance within the human body and has reportedly been used by athletes to increase muscle stores of glycogen and reduce protein breakdown. The immediate effect of an overdose of insulin is the reduction of blood sugar to a point that a person can lapse into unconsciousness and die. The use of insulin to enhance athletic performance is very risky and can have immediate and severe effects on an athlete's health.

Corticotrophins (ACTH, tetracosactide, Corticotropin)

Corticotropin releasing hormone causes the pituitary to release ACTH. ACTH, in turn, causes the production of glucocorticosteroids which are important in glucose metabolism and inflammation. This class of hormones has been used to increase blood levels of endogenous corticosteroids. Use is dangerous and may result in acute allergic reactions. Administration is considered to be equivalent to the systemic administration of corticosteroids (see page 39).

S3. BETA-2 AGONISTS

WADA List

All beta-2 agonists including their D- and L-isomers are prohibited.

As an exception, formoterol, salbutamol, salmeterol and terbutaline when administered by inhalation require an Abbreviated Therapeutic Use Exemption.

Despite the granting of any form of Therapeutic Use Exemption, a concentration of salbutamol (free plus glucuronide) greater than 1000 ng/mL will be considered an Adverse Analytical Finding unless the Athlete proves that the abnormal result was the consequence of the therapeutic use of inhaled salbutamol.

Explanatory Comments

All beta-2 agonists are prohibited both in- and out-of-competition. There are several beta-2 agonists which are listed above and, though prohibited, are exceptions and can be used by inhalation if the appropriate Anti-Doping Organization receives notification that the drug is being used. This notification is by the Abbreviated Therapeutic Use Exemption (TUE) form. In the case of salbutamol (known in the U.S. as albuterol) a concentration in the urine that is greater than 1000 ng/mL is an adverse analytical finding even if an Abbreviated TUE has been filed. There are no concentration limits on the other beta-2 agonists that can be used with the Abbreviated TUE. The use of any beta-2 agonist by systemic administration requires the Standard TUE. If any of the four beta-2 agonists listed above are administered by routes other than inhalation, a Standard TUE must be submitted and approved prior to use in sport.

- The choice of medications in the treatment of asthma and respiratory ailments has traditionally posed challenges in sport. Many commonly prescribed beta-2 agonists are powerful stimulants and may also possess anabolic properties, especially when taken orally or by injection. **Beta-2 agonists are prohibited both in- and out-of-competition.**
- Certain beta-2 agonists are only permitted via nebulizer or inhalation to treat respiratory conditions when an Abbreviated TUE is properly completed and submitted prior to testing.
- Inhaled beta-2 agonists, other than those listed in Table 2, may only be used in sport with an approved Standard TUE.
- All beta-2 agonists are prohibited when administered orally or by injection and may only be used with an approved Standard TUE.
- Bambuterol is an oral beta-2 agonist that is metabolized to terbutaline.

Bambuterol is not available in the U.S. but is specifically listed as a prohibited stimulant as well as being prohibited as an oral beta-2 agonist.

- Abbreviated TUEs may be submitted to: United States Anti-Doping Agency, 1330 Quail Lake Loop, Suite 260, Colorado Springs, CO 80906 or by faxing the form to (719) 785-2029.
- Currently, many IFs require documentation such as medical records or pulmonary function tests to accompany an Abbreviated TUE for beta-2 agonists. It is the responsibility of the athlete to know their sport's IF requirements.

A Prohibited Substance or Prohibited Method does not have to enhance performance to be prohibited. It is enough that the Prohibited Substance or Prohibited Method was present in the sample, or attempted to be used, for a doping violation to have occurred.

TABLE 2: BETA-2 AGONISTS PERMITTED WITH AN ACCEPTABLE ABBREVIATED TUE

Generic Name	Pharmaceutical Preparation Examples
Formoterol	Brovana, Foradil, Proforomist
Salbutamol	Albuterol (Albuterol HFA, Proventil, Proventil HFA, Ventolin, Ventolin HFA); levalbuterol (Xopenex, Xopenex HFA); Combivent and Duoneb (albuterol + ipratropium)
Salmeterol	Serevent, Advair and Advair HFA (salmeterol + fluticasone)
Terbutaline	Brethaire

Frequently Asked Questions about Beta-2 Agonists:

IF I CARRY ONE OF THE FOUR INHALERS LISTED AS EXCEPTIONS BUT I ONLY NEED TO USE THE INHALER RARELY (NOT DAILY), DO I STILL NEED TO FILE AN ABBREVIATED TUE?

Yes, for your own protection you should file the Abbreviated TUE. The reason is that if you have an emergency need for the inhaler and you happen to be tested either out-of-competition or at a competition, the laboratory may report an adverse analytical finding. If you have properly completed and filed the Abbreviated TUE you will have an acceptable explanation for the presence of the drug.

54. HORMONE ANTAGONISTS AND MODULATORS

WADA List

The following classes are prohibited:

- 1. Aromatase inhibitors including, but not limited to: anastrozole, letrozole, aminoglutethimide, exemestane, formestane, testolactone.**
- 2. Selective Estrogen Receptor Modulators (SERMs) including, but not limited to: raloxifene, tamoxifen, toremifene.**
- 3. Other anti-estrogenic substances including, but not limited to: clomiphene, cyclofenil, fulvestrant.**
- 4. Agents modifying myostatin function(s) including, but not limited to: myostatin inhibitors.**

An additional category of Hormone Antagonists has been added for 2008. That category includes the substances which may block or minimize the effects of myostatin. Myostatin is a normal substance in the body that limits the size of muscles during the growth phase. If the myostatin is inhibited the size of the fibers and the number of fibers in the muscle increase. As a result, strength is increased and these materials are very likely to be used for their anabolic effects. **All agents that modify the function of myostatin are prohibited both in- and out-of-competition.**

Several substances are being advertised on the Internet as aromatase inhibitors. These substances (such as androstenetrione and 4-etioallocholen-3,6,17-trione) are prohibited by WADA and the use will result in an adverse analytical finding.

Explanatory Comments

Any substance which blocks the conversion of testosterone to estrogen is prohibited. Any substance which blocks the effects of estrogen on the human body is prohibited. These prohibitions apply to both males and females, both in- and out-of-competition.

The anti-estrogenic substances are prohibited in- and out-of-competition and are prohibited for use by both men and women. These substances work to change the very sensitive balance of the sex hormones in the body and can cause serious side effects and changes in the body of both males and females. There are two major ways in which the anti-estrogenic substances work.

First are the “aromatase inhibitors.” These substances block the conversion of testosterone to the feminizing hormones (estrogens). This may result in enhanced levels of masculinizing hormones. Aromatase inhibitors may also block the production of other necessary corticosteroids, such as adrenocorticosteroids, with serious side effects. The use of these drugs must be carefully monitored and proper medical treatment obtained to prevent the side effects. Examples of this type of anti-estrogen are aminoglutethimide, testolactone and anastrozole.

The other anti-estrogenic substances prevent the body from responding to the estrogens that are present or change (minimize) the response to the estrogen. These substances are known as “Selective Estrogen Receptor Modulators” (SERMs), estrogen receptor “antagonists,” or “Estrogen Receptor Down-regulators” (ERDs). An example of this is fulvestrant (Faslodex). These substances block or change the estrogen receptors so the feminizing effects of estrogen are minimized. The estrogen may be present, but its ability to work is blocked. Examples of these compounds are tamoxifen and clomiphene.

Frequently Asked Questions about Agents with Anti-Estrogenic Activity:

WHY WOULD SOMEONE TAKE AN ANTI-ESTROGEN TO ENHANCE PERFORMANCE? An athlete would take an anti-estrogen to reduce the unwanted side effects of anabolic steroids (such as growth of breast tissue) and to make as much testosterone available for anabolic effects as possible (i.e., don’t waste the testosterone to make estrogens).

55. DIURETICS AND OTHER MASKING AGENTS

WADA List

Masking agents are prohibited. They include:

Diuretics*, **epitestosterone**, **probenecid**, **alpha-reductase inhibitors (e.g., finasteride, dutasteride)**, **plasma expanders (e.g., albumin, dextran, hydroxyethyl starch)** and other substances with similar biological effect(s).

Diuretics include:

Acetazolamide, **amiloride**, **bumetanide**, **canrenone**, **chlorthalidone**, **etacrynic acid**, **furosemide**, **indapamide**, **metolazone**, **spironolactone**, **thiazides (e.g., bendroflumethiazide, chlorothiazide, hydrochlorothiazide)**, **triamterene**, and other substances with a similar chemical structure or similar biological effect(s) (except for drospirinone, which is not prohibited).

* A Therapeutic Use Exemption is not valid if an Athlete's urine contains a diuretic in association with threshold or sub-threshold levels of a Prohibited Substance(s).

Explanatory Comments

Masking is the use of a specific substance or a method to prevent anti-doping authorities from otherwise detecting doping by a prohibited substance or method. Basically, any attempt to cover doping is prohibited either under this category of substances or under the M2 category which prohibits methods of manipulation. In addition to masking, the diuretics may be used to "make weight" and create a danger to the well-being of the athlete.

Diuretics (see Table 3) are drugs that help the body to eliminate fluids (water and salts) by increasing the rate of urine formation. Although diuretics, under strict medical supervision, have important therapeutic uses for the elimination of excess fluid from the body for certain diseases and for management of high blood pressure, they are prohibited both in- and out-of-competition. Diuretics may be abused by athletes for two main reasons:

1. To reduce weight quickly in sports where weight categories are involved; and/or
2. To produce a more rapid excretion of urine to reduce the concentration of prohibited substances in the urine in an attempt to minimize detection.

Masking agents (see Table 4) are substances that are used to prevent the detection of other substances or methods used by an athlete for doping. An example would be the attempt to change the pH of the urine to enhance excretion of a doping substance.

- Drastic reduction of weight in sport cannot be medically justified. The potential for serious side effects such as dehydration, muscle cramps, volume depletion, drop in blood pressure and severe electrolyte imbalance exists. Deliberate attempts to reduce weight artificially, in order to compete in lower weight classes or to dilute urine, constitutes clear manipulation, which is ethically unacceptable.
- Taken without medical supervision, diuretics can result in potassium depletion and death.

TABLE 3: EXAMPLES OF PROHIBITED DIURETICS

Generic Name	Pharmaceutical Preparations
Acetazolamide	AK-ZOL, Dazamide, Diamox
Amiloride	Midamor
Bendroflumethiazide	Naturetin
Benzthiazide	Aquatag, Exna, Hyres, Marazide, Proaqua
Bumetanide	Bumex
Chlormerodrin	Orimercur
Chlorthalidone	Hygroton, Hylidone, Thalitone
Diclofenamide	Daranide, Fenamide, Oratrol
Ethacrynic Acid	Edecrin
Furosemide	Lasix
Hydrochlorothiazide	Esidrix, Hydro-Diuril, Maxzide, Oretic, Thiuretic
Indapamide	Lozol, Natrilix, Servier
Mersalyl	Salyrgan
Spironolactone	Alatone, Aldactone, Soldactone
Torsemide	Demadex
Triamterene	Dyazide, Maxzide

TABLE 4: EXAMPLES OF PROHIBITED MASKING AGENTS AND METHODS

METHODS	ACTION
Alterations of testosterone and epitestosterone measurements	Epitestosterone administration to alter T/E ratio
Diuretics	Can be used to dilute the urine and mask other substances
Catheterization	A way of obtaining a urine sample using a thin tube inserted through the urethra into the bladder
Sample substitution and/or tampering	Providing a "clean" urine sample from another person using an artificial device in an attempt to deceive the collection officer; tampering with the Doping Control Official Record or other documents
Inhibition of renal excretion	Probenecid and related compounds
Adulterating Agents	Includes commercially produced products such as "Whizzies," "Jamaica Me Clean" and "UrinAid" or detergents and enzymes.

The addition of chemicals or other contaminants to the actual specimen during or following collection, with the intent of preventing the detection of a doping substance, is prohibited as sample tampering. Basically, any means used by an athlete to interfere with the testing process or to prevent detection of doping by laboratory testing is prohibited.

Frequently Asked Questions about Diuretics and Other Masking Agents:

I AM INVOLVED IN A SPORT THAT DOES NOT HAVE WEIGHT CLASSES. WHY ARE DIURETICS FOR HIGH BLOOD PRESSURE PROHIBITED?

Diuretics have been used to rid the body of extra fluids to make body weight for competitions; however, they also have been abused in an attempt to dilute or reduce the concentration of other prohibited substances (i.e., anabolic steroids). If you have a legitimate medical need for a diuretic, you may, with certain restrictions, apply for a TUE as described under Standard Therapeutic Use Exemptions.

B. PROHIBITED METHODS

M1. ENHANCEMENT OF OXYGEN TRANSFER

WADA List

The following are prohibited:

1. Blood doping, including the use of autologous, homologous or heterologous blood or red blood cell products of any origin.
2. Artificially enhancing the uptake, transport or delivery of oxygen, including but not limited to perfluorochemicals, efaproxiral (RSR13) and modified haemoglobin products (e.g., haemoglobin-based blood substitutes, microencapsulated haemoglobin products).

Explanatory Comments

Any method that may be used to increase or attempt to increase oxygen transport to the tissues is prohibited. The method may be infusion of blood, red cells or other substances that may enhance oxygen transport. Products such as stored whole blood, red cells, blood expanders, hemoglobin-based blood substitutes, microencapsulated hemoglobin products, perfluorochemicals and efaproxiral are all prohibited. NOTE: The use of gaseous (compressed) oxygen is prohibited both in- and out-of-competition.

Risks involved in the transfusion of blood and blood-related products include: Allergic reactions (e.g., rash, fever); acute hemolytic reaction with kidney damage if incorrectly-typed blood is used; delayed transfusion reactions resulting in fever and jaundice, which can be fatal; transmission of infectious diseases (e.g., viral hepatitis and AIDS); overload of the circulatory system; blood clots; and metabolic shock.

M2. CHEMICAL AND PHYSICAL MANIPULATION

WADA List

1. Tampering, or attempting to tamper, in order to alter the integrity and validity of Samples collected during Doping Controls is prohibited. These include but are not limited to catheterisation, urine substitution and/or alteration.

2. Intravenous infusion is prohibited. In an acute medical situation where this method is deemed necessary, a retroactive Therapeutic Use Exemption will be required.

Explanatory Comments

Any attempt by an athlete to alter the integrity or validity of a specimen is prohibited. These methods include, but are not limited to:

- a. Manipulation of blood parameters by use of intravenous infusions.**
- b. Tampering with a specimen during or following collection by adding a chemical adulterant or a diluent.**
- c. Manipulation of urine concentration by use of intravenous infusions.**
- d. Tampering with the collection form to invalidate the collection.**
- e. Destruction of the sample by any means.**

M3. GENE DOPING

WADA List

The non-therapeutic use of cells, genes, genetic elements, or of the modulation of gene expression, having the capacity to enhance athletic performance, is prohibited.

Explanatory Comments

The use of any means of genetic manipulation as an attempt to increase or decrease a physiological factor is prohibited. This includes attempts to change hormonal control of production of normal substances in the body, such as growth hormone or erythropoietin. Gene doping is prohibited and any medical use of genetic manipulation requires an approved Standard Therapeutic Use Exemption (TUE) prior to use in sport.

II. SUBSTANCES PROHIBITED (ONLY) IN-COMPETITION

S6. STIMULANTS

WADA List

In addition to the categories S1 to S5 and M1 to M3 defined above, the following categories are prohibited in-competition:

All stimulants (including both their (D- & L-) optical isomers where relevant) are prohibited, except imidazole derivatives for topical use and those stimulants included in the 2008 Monitoring Program*.

Stimulants include:

Adrafinil, adrenaline**, amfepramone, amiphenazole, amphetamine, amphetaminil, benzphetamine, benzylpiperazine, bromantan, cathine***, clobenzorex, cocaine, cropropamide, crotetamide, cyclazodone, dimethylamphetamine, ephedrine****, etamivan, etilamphetamine, etilefrine, famprofazone, fenbutrazate, fencamfamin, fencamine, fenetylline, fenfluramine, fenproporex, furfenorex, heptaminol, isometheptene, levmethamphetamine, meclofenoxate, mefenorex, mephentermine, mesocarb, methamphetamine (D-), methylenedioxyamphetamine, methylenedioxymethamphetamine, p-methylamphetamine, methylephedrine****, methylphenidate, modafinil, nikethamide, norfenefrine, norfenfluramine, octopamine, ortetamine, oxilofrine, parahydroxyamphetamine, pemoline, pentetrazol, phendimetrazine, phenmetrazine, phenpromethamine, phentermine, 4-phenylpiracetam (carphedon), prolintane, propylhexedrine, selegiline, sibutramine, strychnine, tuaminoheptane and other substances with a similar chemical structure or similar biological effect(s).

* The following substances included in the 2008 Monitoring Program (bupropion, caffeine, phenylephrine, phenylpropanolamine, pipradol, pseudoephedrine, synephrine) are not considered as Prohibited Substances.

** **Adrenaline** associated with local anaesthetic agents or by local administration (e.g., nasal, ophthalmologic) is not prohibited.

*** **Cathine** is prohibited when its concentration in urine is greater than 5 micrograms per milliliter.

**** Each of **ephedrine** and **methylephedrine** is prohibited when its concentration in urine is greater than 10 micrograms per milliliter.

A stimulant not expressly mentioned as an example under this section should be considered as a Specified Substance only if the Athlete can establish that the substance is particularly susceptible to unintentional anti-doping rule violations because of its general availability in medicinal products or is less likely to be successfully abused as a doping agent.

Explanatory Comments

Stimulants may be used out-of-competition; however, their use must be discontinued prior to a competition to allow clearance from the body (including the urine). The stimulants listed above are prohibited by name; however, there is a phrase that includes substances with similar structure or function as being prohibited (this is an open class of substances). The use of a stimulant (including ADD medications) in-competition requires an approved Standard TUE. Some of the stimulants are subject to a concentration threshold that must be exceeded before the laboratory result is reported as an adverse finding.

Although these drugs can produce both psychological and physical stimuli during athletic performance, it is important to note that the side effects can be harmful. Amphetamines and related compounds are notorious for producing health problems in athletes. The stimulants can be used to increase ability to train at a high level, to act as appetite suppressants to make weight, or to increase awareness and responsiveness.

Effects include:

- Anxiety
- Tremor
- Insomnia
- Increased alertness
- Reduced fatigue
- Inhibited judgment/decision making
- Aggressiveness
- Increased heart rate and blood pressure
- Addiction/withdrawal phenomena
- Increased risk of stroke, heart attack, cardiac arrhythmia and sudden death

Metabolism of Medications to Amphetamines

Athletes should be aware that a number of medications listed as stimulants on the 2008 Prohibited List are metabolized by the body to produce amphetamine or methamphetamine. The laboratory will detect the amphetamine(s) and the result will be an adverse analytical finding.

U.S. athletes should be particularly aware of Eldepryl (deprenyl or selegiline), Didrex (benzphetamine), and Gewodin (famprofazone, a non-steroidal anti-inflammatory from Germany), which are metabolized to amphetamines. Several of the drugs that metabolize to amphetamine are not available in the United States.

ADD and ADHD Medications

The most commonly prescribed medications to treat ADD and ADHD (e.g., Ritalin, Adderall, Focalin and Concerta) are prohibited stimulants. Stimulants are tested in-competition only, and athletes prescribed these medications may, in consultation with their physician, discontinue use in advance of competition in order for the medication to clear their system. If the prohibited medication is absolutely essential and there are no alternatives, the athlete should check with the USADA Web site at www.usada.org for the Standard TUE form or with his/her respective International Federation for information on how to request a TUE for use of the medication. The TUE must be obtained according to WADA guidelines and **prior to competition.** **Strattera** is a permitted medication, in- or out-of-competition, for the treatment of ADD or ADHD and does not require the TUE application.

Use of Injected Epinephrine (Epipen)

If an athlete has an allergy which may produce an allergic reaction that is dangerous to health and requires that an epinephrine injector be carried, the athlete should carry the injector and take the medication as needed for an emergency. Systemic epinephrine is prohibited in-competition. If, following the use of epinephrine for a medical emergency, the athlete competes, an emergency request for a TUE, under Section 7 of Reference 9, should be completed and submitted to the relevant anti-doping organization as soon as possible. In cases where the athlete is tested in-competition and has used the injection for a medical emergency, a full description of the medical situation that required the prohibited substance(s), all medications administered (including corticosteroids or other pharmaceuticals), the dose and length of time each medication will be administered must be included. **Note: In the process of considering an Emergency TUE the committee of physicians is making the decision after the fact.**

Over-the-Counter Products Containing Stimulants

Prohibited stimulants are sometimes present in over-the-counter substances such as cold medications, dietary supplements, diet aids and headache remedies. This is less of an issue than in the past because pseudoephedrine is now allowed in sport under WADA and the U.S. has placed various controls on the sale of pseudoephedrine. The U.S. Food and Drug Administration (FDA) has placed controls on the sales of ephedrine. There are still substances that require caution, such as the presence of L-methamphetamine in Vicks Vapor Inhaler, ephedrine in Bronkaid and Primatene tablets, and epinephrine in Primatene Mist. Over-the-counter medications that contain prohibited substances continue to be available and commonly used. **Athletes must be very cautious to not use items containing prohibited substances.**

The following over-the-counter medications contain epinephrine which is prohibited in-competition: MicroNefrin (solution for inhalation), Nephron (solution for inhalation), S 2 (solution for inhalation), Epinephrine mist (aerosol), Primatene mist (aerosol).

The following over-the-counter medications contain ephedrine which is prohibited in-competition:

Mini Two-Way Action tablets
Primatene tablets
DynaFed Asthma Relief tablets
Bronkaid Dual Action tablets
Ephedrine Sulfate (tablets/capsules)
Pretz-D nasal spray

TABLE 5: EXAMPLES OF PROHIBITED STIMULANTS

Generic Name	Pharmaceutical Preparations
4-phenylpiracetam	Carphedon
Adrafinil	Olmifon
Amfepramone (Diethylpropion)	Apisate, Tenuate, Tepanil
Amphetaminil	AN-1
Amiphenazole	Amphisol, Dapti, Daptizole
Amphetamine	Adderall, Benzedrine, bennies, Delcobese, Dexedrine, Obetrol
Armodafinil	Nuvigil
Bambuterol	Bambec
Bemegride	Megimide
Benzphetamine	Didrex

Bromantan	Bromantan
Chlorphentermine	Lucofen, Pre Sate
Clobenzorex	Asenlix, Dinintel
Clorprenaline	Asthone, Vortel
Cocaine	candy, coke, crack, flake, snow
Cropropamide	Micoren
Crotethamide	Micoren
Desoxyephedrine	Vicks Vapor Inhaler
Dexmethylphenidate	Focalin, Focalin XR
Dimethamphetamine	Metrotonin
Ephedrine >10 mcg/mL	Bronkaid, Tedral
Etafedrine	Mercodal, Decapryn, Nethaprin
Etilefrine	Bioflutin N, Circupon, Confidol, Effortil, Eti-Pure
Ethamivan	Clairvan, Vandid
Ethylamphetamine	Apetinil
Famprofazone	Gewodin
Fencamfamine	Altimine, Envirol, Phencamine
Fenetylline	Captagon
Fenfluramine (Dexfenfluramine)	Dima-Fen, Fenured, Pesos, Pondimin, Pondimin, Redux
Fenproporex	Antiobes Retard, Appetizugler
Furfenorex	Frugal, Frugalan
Heptaminol	Eoden, Heptanol
Isoetharine HCl	Bronkosol, Bronkometer, Dilabron, Numotac
Isoproterenol	Isuprel, Metihaler-ISO, Norisodrine
Levmetamfetamine	Vicks Vapor Inhaler
Lisdexamfetamine	Vyvanse
Meclofenoxate	Brenal, Lucidril
Mefenorex	Doracil, Podinil, Rondimen
Mephentermine	Wyamine
Mesocarb	Mesocarbi, Sydnocarb
Metaproterenol	Alupent, Metaprel

Methamphetamine	Crank, Crystal Meth, Desoxyn, glass, speed, Vicks Inhaler
MethylBenzoyllecgonine	Cocaine, Crack, Ecgonine
Methylenedioxy-amphetamine (MDA)	Ecstasy, XTC
Methylenedioxy-methamphetamine (MDMA)	XTC, X, Ecstasy, STP
Methoxyphenamine	Orthoxicol Cough Syrup
Methylephedrine >10 mcg/mL	Tossamine Plus
Methylphenidate	Concerta, Daytrana, Ritalin, Metadate(ER & CD), Methylin
Modafanil	Provigil
Morazone	Rosimon-Neu
Nikethamide	Coramine
Norfenfluramine	
Norpseudoephedrine >5 mcg/mL	Cathine, Adiposetten N
Pemoline	Cylert, Dynalert, Tradon
Pentetrazol/Pentylene-tetrazol	Leptazol
Phendimetrazine	Bontril, Phenzine, Plegine
Phenmetrazine	Preludin
Pentermine	Apidex-P, Fastin, Ionamin
Pholedrine	Adyston, Jatamasin, Kontagripp-RR, Ortho-Maren Retard, Pentavenon, Venosan
Picrotoxin	Cocculin
Prolintane	Katovit, Promotil, Villescon
Propylhexedrine	Benzedrex Inhaler
Pyrovalerone	Centroton, Thymergix
Reproterol	Bronchodil
Selegiline	Anipryl, Eldepryl, Plurimen
Sibutramine	Meridia
Strychnine	

Frequently Asked Questions about Stimulants:

WHAT IF I HAVE A COLD OR THE FLU? CAN I TAKE MEDICINE TO GET WELL?

If an athlete has a cold, flu or hay fever, there are a number of permitted medications. Antihistamines, in general, are permitted, as are many decongestants commonly found in over-the-counter cold medications. To ensure a medication does not contain a prohibited stimulant, check the USADA Drug Reference Online™ (DRO™) at www.usada.org/dro, or the Drug Reference Line™ at (800) 233-0393 [outside the U.S. at (719) 785-2020], or e-mail drugreference@usada.org.

WHAT IS THE STATUS OF PRESCRIPTION TABLETS FOR ALLERGIES?

Antihistamines (prescription or over-the-counter) are not prohibited (e.g., Benadryl, Claritin, Allegra, Zyrtec) and may be used plain or in combination products that contain pseudoephedrine or phenylephrine (e.g., Sudafed Sinus and Allergy, Benadryl-D, Claritin-D, Allegra-D, Zyrtec-D).

WHY ARE STIMULANTS PROHIBITED IN-COMPETITION BUT NOT DURING TRAINING?

Stimulants have only a short-term effect on performance and if the drug is out of the body at the time of competition there will not be an advantage to the athlete. The stimulants are used for a number of medical conditions and can be useful away from a competition without being unfair at the competition.

S7. NARCOTICS

WADA List

The following narcotics are prohibited:

Buprenorphine, dextromoramide, diamorphine (heroin), fentanyl and its derivatives, hydromorphone, methadone, morphine, oxycodone, oxymorphone, pentazocine, pethidine.

Explanatory Comments

Pain medications may be used out-of-competition; however, their use must be discontinued prior to a competition to allow clearance from the body (including the urine). Only the pain medications listed above are prohibited in-competition. The use of a pain medication listed above in-competition requires an approved Standard TUE. Local anesthetics are not prohibited.

The drugs belonging to this class are represented by morphine and its chemical and pharmacological analogues. Narcotics other than those specifically listed in Table 6 are permitted in- or out-of-competition.

Narcotics are typically used for the relief of pain. Some of the effects include:

- Sensation of euphoria
- Psychological stimulation
- A false feeling of invincibility
- Illusions of athletic prowess beyond an athlete's inherent ability
- Increased pain threshold and failure to recognize injury
- Perception of dangerous situations as safe, resulting in an increased risk for injury
- Physical and psychological dependence, leading to addiction and withdrawal symptoms
- Narcotic overdose and a medical emergency with resultant respiratory depression and death

TABLE 6: SPECIFICALLY PROHIBITED NARCOTICS

Generic Name	Pharmaceutical Preparations
Buprenorphine	Buprenex
Dextromoramide	D-Moramid, Dimorlin, Jetricum, Palfium
Diamorphine	Heroin
Fentanyl (and Derivatives)	Actiq, Duragesic, Fentanyl, Sublimaze
Hydromorphone	Dilaudid
Methadone	Amidon, Dolophine, Methadose
Meperidine (Pethidine)	Centralgine, Demerol, Dolantin, Dolosal
Morphine	Cyclimorph, Duromorph, Kadian, MS Contin, Oramorph, Roxanol, Kadian
Oxycodone	Oxycontin, Percocet, Percodan, Roxicodone, Tylox
Oxymorphone	Numorphan
Pentazocine	Talwin

Frequently Asked Questions about Narcotics:**WHAT IF THE ATHLETE NEEDS A PAINKILLER FOR AN INJURY?**

Slight to moderate pain can be effectively treated using non-narcotic drugs. For example, most non-steroidal anti-inflammatory drugs (NSAIDs: aspirin, naproxen, ibuprofen, Advil, Aleve, Motrin and acetaminophen) are permitted. NSAIDs have anti-inflammatory and analgesic (pain-killing) actions. For management of more severe pain, there are a number of substances that are permitted, such as codeine, propoxyphene, Tramadol and hydrocodone. For other narcotics, the athlete should ensure the medication considered is not specifically listed on the Prohibited List. Narcotics are only tested in-competition and are not tested out-of-competition. A Standard TUE is required for use of the prohibited narcotics prior to or in-competition.

CAN POPPYSEED MUFFINS LEAD TO A POSITIVE TEST? Yes, poppy seed products can be contaminated. The poppy seeds themselves do not contain prohibited narcotics (morphine); however, some morphine may be left on the outside of the seeds if seed collection and preparation are not done carefully. There can be enough morphine to result in an adverse analytical finding by the laboratory.

S8. CANNABINOIDS

WADA List

Cannabinoids (e.g., hashish, marijuana) are prohibited.

Explanatory Comments

Marijuana and related products are prohibited in-competition for all sports. The metabolite of marijuana detected in the urine in testing is THC carboxylic acid (11-nor-tetrahydrocannabinol carboxylic acid) and is subject to a 15 ng/mL threshold. Remember that the marijuana metabolite can be detected for a long period of time after administration, and thus can be detected by an “in-competition” test even though the drug was not used at the competition.

Frequently Asked Questions about Cannabinoids:

WHY IS MARIJUANA PROHIBITED?

There are several reasons for the prohibition on marijuana. Marijuana is illegal in the U.S. and involvement with illegal substances may be determined to go against the spirit of sport. In addition, the use of a substance, including marijuana or alcohol, that may impair a competitor's reaction time or judgment may create a safety hazard for that athlete and other competitors. Impaired judgment is a risk in any sport.

IF I AM AROUND A PERSON WHO IS SMOKING WILL I HAVE A

POSITIVE TEST? The test for marijuana has a threshold of 15 ng/mL for the metabolite. A number of studies have been completed to determine if passive inhalation will produce an adverse analytical finding. Even in studies where the marijuana smoke was so thick the participants had to wear goggles to protect their eyes the testing threshold prevented adverse analytical findings. No inadvertent exposure to marijuana smoke by passive inhalation is going to cause the test result to exceed the threshold.

HOW LONG DOES MARIJUANA STAY IN THE BODY?

THC (the active substance in marijuana) can accumulate in fatty tissues of the user during long periods of heavy use. Thus, the clearance of marijuana is more variable than for many other drugs. The clearance depends on the individual metabolism, body fat, THC content of the marijuana, and how frequently and how heavily the marijuana was used. Thus, there is not a way to predict how long THC metabolite can be detected in a given individual athlete.

S9. GLUCOCORTICOSTEROIDS

WADA List

All glucocorticosteroids are prohibited when administered orally, rectally, intravenously or intramuscularly. Their use requires a Therapeutic Use Exemption approval.

Other routes of administration (intraarticular/periarticular/peritendinous/epidural/intradermal injections and inhalation) require an Abbreviated Therapeutic Use Exemption except as noted below.

Topical preparations when used for dermatological (including iontophoresis/phonophoresis), auricular, nasal, ophthalmic, buccal, gingival and perianal disorders are not prohibited and do not require any form of Therapeutic Use Exemption.

Explanatory Comments

Systemic glucocorticosteroids may be used out-of-competition; however, their use must be discontinued prior to a competition to allow clearance from the body (including the urine). The use of a systemic corticosteroid in-competition requires an approved Standard TUE prior to the event.

If systemic use of a corticosteroid is required for emergency treatment before or during a competition due to a medical emergency, an Emergency TUE must be submitted after the fact. The Emergency TUE must present full medical documentation of the emergency and the treatment including all medications that were administered.

Local injections (such as intra-articular, epidural, around a tendon) and inhalation require that an Abbreviated TUE be filed to notify doping control authorities of the use.

Topical preparations used to treat skin, ear, eye, nose or mouth (not swallowed) conditions do not require any form be filed.

The use of glucocorticosteroids is prohibited for performance and health reasons. Glucocorticosteroids are widely used as topical treatment for many conditions on the skin and in the eyes, ears and nose. In addition, they are applied by iontophoresis, used by inhalation for asthma and by local injection to treat a variety of medical conditions such as inflammation of joints. The overuse of glucocorticosteroids can produce negative effects on long-term health. For example, the metabolic effects of extended administration of glucocorticosteroids include the mobilization of calcium which may lead to weakness of bones, impaired tissue repair and reduced immune function with increased susceptibility to infection. The infection may be masked by the anti-inflammatory and analgesic effect of the corticosteroids. One major concern related to abuse of glucocorticosteroids is that the body's own ability to produce the adrenal corticosteroids may be reduced and ultimately become insufficient. The onset of this effect has been seen in relatively short courses of administration, such as a week to two weeks, and may persist for weeks to months depending on the individual.

The use of corticosteroids:

- a) Topical use via nasal drops/sprays, ear drops, eye drops, dermal creams/lotions and buccal applications are permitted in- and out-of-competition. In addition, the dermal application of corticosteroids by iontophoresis and phonophoresis is now permitted and does not require any type of TUE.
- b) Use via inhalation, local injection, intra-articular injection and epidural injection is prohibited in-competition and requires an Abbreviated TUE to be filed.
- c) Systemic applications are prohibited in-competition and require a Standard TUE to be filed and approved. If the systemic application will clear from the body prior to a competition, a TUE is not necessary and the medication may be used. Check with the prescribing physician or a pharmacist for clearance information.

WHAT IF THE ATHLETE NEEDS CORTICOSTEROIDS FOR TREATMENT OF AN ALLERGIC REACTION PRIOR TO OR AT A COMPETITION?

The athlete should take the medication as needed for an emergency. Systemic corticosteroids are prohibited in-competition, and if used for a medical emergency while the athlete is competing, an emergency request for a TUE, under Section 7 of Reference 9, should be completed and submitted to the relevant Anti-Doping Organization as soon as possible after the emergency use. The Emergency TUE must include a full description of the medical emergency that required the use of the prohibited substance(s), all medications administered, the dose and length of time each medication will be administered.

III. SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P1. ALCOHOL

WADA List

Alcohol (ethanol) is prohibited In-Competition only, in the following sports. Detection will be conducted by analysis of breath and/or blood. The doping violation threshold (haematological values) for each Federation is reported in parenthesis.

- Aeronautic (FAI) (0.20 g/L)
- Archery (FITA, IPC) (0.10 g/L)
- Automobile (FIA) (0.10 g/L)
- Boules (IPC Bowls) (0.10 g/L)
- Karate (WKF) (0.10 g/L)
- Modern Pentathlon (UIPM) (0.10 g/L) for disciplines involving shooting
- Motorcycling (FIM) (0.10 g/L)
- Powerboating (UIM) (0.30 g/L)

Explanatory Comments

Alcohol is prohibited in-competition for the sports listed above. If alcohol is used prior to a competition, sufficient time must be allowed for the alcohol to be cleared from the body (including the urine). The threshold listed above as tested in urine or blood must be exceeded for the laboratory to report an adverse analytical finding.

Ignorance is never an excuse. It is the personal responsibility of each athlete to ensure that he/she does not allow any prohibited substance to enter his/her system, or use or allow the use of any prohibited method.

P2. BETA-BLOCKERS

WADA List

Unless otherwise specified, beta-blockers are prohibited In-Competition only, in the following sports.

- Aeronautic (FAI)
- Archery (FITA, IPC) (also prohibited Out-of-Competition)
- Automobile (FIA)
- Billiards (WCBS)
- Bobsleigh (FIBT)
- Boules (CMSB, IPC bowls)
- Bridge (FMB)
- Curling (WCF)
- Gymnastics (FIG)
- Motorcycling (FIM)
- Modern Pentathlon (UIPM) for disciplines involving shooting
- Nine-pin Bowling (FIQ)
- Powerboating (UIM)
- Sailing (ISAF) for match race helms only
- Shooting (ISSF, IPC) (also prohibited Out-of-Competition)
- Skiing/Snowboarding (FIS) in ski jumping, freestyle aerials/halfpipe and snowboard halfpipe/big air
- Wrestling (FILA)

Beta-blockers include, but are not limited to, the following:

Acebutolol, alprenolol, atenolol, betaxolol, bisoprolol, bunolol, carteolol, carvedilol, celiprolol, esmolol, labetalol, levobunolol, metipranolol, metoprolol, nadolol, oxprenolol, pindolol, propranolol, sotalol, timolol.

Explanatory Comments

Beta-blockers (not limited to the list above) are prohibited in-competition for the sports listed. Shooting and archery prohibit the beta-blockers out-of-competition, as well. If beta-blockers are used prior to a competition, sufficient time must be allowed for the substances to be cleared from the body (including the urine) to prevent an adverse analytical finding from the laboratory (this does not apply to shooting or archery).

There are many effective alternatives to beta-blocker drugs that are available to control hypertension, cardiac arrhythmias, angina pectoris, migraine, and nervous or anxiety-related conditions. Due to the continued misuse of beta-blockers in some sports, tests for beta-blockers are required by certain International Federations (see above). It is the athlete's responsibility to check whether beta-blockers are prohibited in- or out-of-competition by his/her International Federation.

TABLE 7: EXAMPLES OF PROHIBITED BETA-BLOCKERS

Generic Name	Pharmaceutical Preparations
Acebutolol	Sectral
Alprenolol	Aptine
Atenolol	Tenoretic, Tenormin
Betaxolol	Kerlone
Bisoprolol	Zebeta
Levobunolol	Betagan
Bunitrolol	Stresson
Carteolol	Cartrol
Carvedilol	Coreg, Coreg CR
Celiprolol	Selecor
Esmolol	Brevibloc
Labetalol	Normodyne, Trandate
Metoprolol	Lopressor, Toprol XL
Nadolol	Corgard, Corzide
Oxprenolol	Trasicor, Trepress
Pindolol	Viskin
Propranolol	Inderal, Inderal LA, Inderide, InnoPran XL
Sotalol	Betapace, Betapace AF
Timolol	Blocadren

Note: Beta-blockers are also prohibited by the following: Paralympic Archery (in- and out-of-competition), Paralympic Wheelchair Curling (in-competition), Paralympic Shooting (in- and out-of-competition), Paralympic Bowles (in- and out-of-competition).

IV. SPECIFIED SUBSTANCES

WADA List

“Specified Substances”* are listed below:

- All inhaled Beta-2 Agonists, except salbutamol (free plus glucuronide) greater than 1000 ng/mL and clenbuterol (listed under S1.2: Other Anabolic Agents);
- Alpha-reductase inhibitors (e.g., finasteride, dutasteride), probenecid;
- Cathine, cropropamide, crotetamide, ephedrine, etamivan, famprofazone, heptaminol, isometheptene, levmethamphetamine, meclofenoxate, p-methylamphetamine, methylephedrine, nikethamide, norfenefrine, octopamine, ortetamine, oxilofrine, phenpromethamine, propylhexedrine, selegiline, sibutramine, tuaminoheptane, and any other stimulant not expressly listed under section S6 for which the Athlete establishes that it fulfils the conditions described in section S6;
- Cannabinoids;
- All Glucocorticosteroids;
- Alcohol;
- All Beta-Blockers.

* “The Prohibited List may identify specified substances which are particularly susceptible to unintentional anti-doping rule violations because of their general availability in medicinal products or which are less likely to be successfully abused as doping agents.” A doping violation involving such substances may result in a reduced sanction provided that the “...Athlete can establish that the Use of such a specified substance was not intended to enhance sport performance...”

THE 2008 MONITORING PROGRAM*

The following substances are placed on the 2008 Monitoring Program:

1. Stimulants:

a) In-Competition Only: Bupropion, caffeine, phenylephrine, phenylpropanolamine, pipradrol, pseudoephedrine, synephrine.

b) Out-of-Competition: Adrafinil, adrenaline, amfepramone, amiphenazole, amphetamine, amphetaminil, benzphetamine, benzylpiperazine, bromantan, clobenzorex, cocaine, cyclazodone, dimethylamphetamine, etilamphetamine, etilefrine, fenbutrazate, fencamfamin, fencamine, fenetylline, fenfluramine, fenproporex, furfenorex, mefenorex, mephentermine, mesocarb, methamphetamine (D-), methylenedioxyamphetamine, methylenedioxymethamphetamine, methylphenidate, modafinil, norfenfluramine, parahydroxyamphetamine, pemoline, pentetrazol, phendimetrazine, phenmetrazine, phentermine, 4-phenylpiracetam (carphedon), prolintane, strychnine.

2. Narcotics:

In-Competition Only: Morphine/codeine ratio.

* The WADA Code (4.5) states: "WADA, in consultation with other Signatories and governments, shall establish a monitoring program regarding substances which are not on the Prohibited List, but which WADA wishes to monitor in order to detect patterns of misuse in sport."

THERAPEUTIC USE EXEMPTIONS

A. ABBREVIATED THERAPEUTIC USE EXEMPTIONS

WADA established an Abbreviated TUE process that applies to:

The in-competition and out-of-competition use of the beta-2 agonists (arformoterol, formoterol, salbutamol – also known as albuterol, levalbuterol, salmeterol and terbutaline) by inhalation.

The in-competition use of glucocorticosteroids by inhalation and local or intra-articular injection.

All new and renewal submissions to USADA must be on the Abbreviated TUE form and in accordance with Section 8 of the WADA International Standard for TUEs (Reference 9). Remember that a new Abbreviated TUE must be submitted if a prohibited medication is replaced by another prohibited medication that can be used with an Abbreviated TUE. The same is true if one or more additional prohibited medications are added to your treatment plan and all medications call for the Abbreviated form to be filed. Changes of dose only do not require the submission of a new form.

NOTE: You may submit your Abbreviated TUE notification to the IF for your sport; however, do not submit the application to more than one organization. All forms may be submitted to USADA; USADA will forward as necessary.

Abbreviated TUE Application Process:

To use a prohibited substance that requires the submission of an acceptable Abbreviated TUE, the athlete must fully complete the Abbreviated TUE form (available on the USADA Web site at www.usada.org). The Abbreviated TUE must justify the notification and shall describe the name of the drug, dosage, route of administration and duration of the treatment. In addition, the diagnosis and a summary of any tests undertaken in order to establish that diagnosis (including dates of performed tests) should be included.

Abbreviated TUE notifications of use of any of the four listed beta-2 agonists must be received prior to the athlete being tested in- or out-of-competition.

Abbreviated TUEs that are notification for the use of the corticosteroids (by inhalation and local or intra-articular injection) must be received prior to the competition at which the substance will be in the body. If the corticosteroid will be clear of the system by the time of the competition, no form is required. Your physician or pharmacist can provide assistance with the time required for a medication to clear from your body. If you are unsure of the clearance, submit the form to err on the side of caution. The notification to use the prohibited substance requiring an Abbreviated TUE is approved effective upon receipt of a complete notification by the relevant Anti-Doping Organization. **NOTE: Some IFs have specific procedures for approval of TUEs.**

National-level athletes (those who are not in their IF testing pool and do not compete internationally) must submit their Abbreviated TUE directly to USADA. International-level U.S. athletes, and those who enter an international competition, may submit an Abbreviated TUE to USADA or directly to their IF. If submitted to USADA, we will immediately forward the Abbreviated TUE to the IF. For international-level athletes the IF, not USADA, is the granting authority. **In some cases the IF has given USADA the responsibility for handling Abbreviated TUE notifications for that IF.**

Incomplete or illegible Abbreviated TUE forms will be returned to the applicant.

An Abbreviated TUE will not be considered for retroactive approval except: In emergency treatment, treatment of an acute medical condition, or due to exceptional circumstances where there was insufficient time or opportunity for an applicant to submit, or for USADA to receive, an application.

USADA or WADA (or the IF) can review and change the approval of an Abbreviated TUE at any time during the duration of the Abbreviated TUE. The athlete, his/her IF, and WADA shall be notified immediately.

The cancellation of an Abbreviated TUE shall take effect immediately following notification of the decision to the athlete. The athlete will nevertheless be able to apply under Section 7 for a Standard TUE. An athlete may request a review of the denial of an Abbreviated TUE.

Summary of Requirements for an ACCEPTABLE Abbreviated TUE

Please refer to Reference 9 for all specific requirements of receiving an exemption. Below is only a summary of the requirements for an exemption, but failure to follow these instructions will delay the processing of the request(s).

1. The correct Abbreviated Therapeutic Use Exemption (TUE) form must be completed fully. International Federations for some sports require the use of their own form. The athlete is responsible for knowing the rules of his/her IF. USADA will accept all IF Abbreviated TUE forms.
2. All information written on the form **MUST BE COMPLETELY LEGIBLE** (to allow faxing). Typed or block letters work best. Applications with blocks or sections that are illegible (i.e., physician's notes, prohibited substances, etc.) may be returned and delay the processing of your request. These forms will be faxed to the IF and WADA and must be legible and understandable to the international medical community (to whom English may be a second language). It is also best to avoid using abbreviations (for example, to describe physical examinations/tests performed).
3. The doctor **MUST** use the generic rather than the brand name (for example: salbutamol rather than Ventolin). These forms will be faxed to IFs and WADA, and brand names differ from country to country.
4. All signatures by the doctor, the athlete, or the athlete's parent/guardian (if applicable) must be included.
5. All athlete or doctor contact information including, but not limited to, address, city, state, zip code and phone number must be listed.
6. All medical information including, but not limited to, diagnosis, medical examination(s) performed, the Prohibited Substances, the dose, route of administration and frequency of the Prohibited Substance must be noted on the Abbreviated TUE.
7. Failure to fully comply with the WADA International Standard and/or your IF procedures may delay your request(s).

B. STANDARD THERAPEUTIC USE EXEMPTIONS

A Standard Therapeutic Use Exemption (TUE) may be requested for the use of an otherwise prohibited substance and for which an Abbreviated TUE is not allowed (Reference 9). Assistance with the preparation and submission of a Standard TUE may be obtained from the U.S. Olympic Committee (USOC) Division of Sports Medicine at (719) 866-4668.

International-level athletes and those who have entered an international competition must have the Standard TUE approved by their IF. International-level athletes may send the completed application to USADA for forwarding to the IF. National-level athletes must have the

Standard TUE approved by USADA. USADA has established a process for reviewing the Standard TUEs. This includes a Therapeutic Use Exemption Committee (TUEC), decision management, review, and appeal processes for the Standard TUE for national-level athletes.

A Standard TUE will only be considered following the receipt of a fully-completed application form and all relevant medical documents.

NOTE: The WADC requires that a Standard TUE be submitted for the use of insulin for the treatment of insulin-dependent diabetes.

An athlete may not apply to more than one Anti-Doping Organization for a TUE. The application must identify the athlete's sport and, where appropriate, the discipline, and specific position or role.

The application must list any previous and/or current requests for permission to use an otherwise Prohibited Substance or Prohibited Method, the body to whom that request was made and the decision of that body.

The application must include a comprehensive medical history and the results of all examinations, laboratory investigations and imaging studies relevant to the application. Any additional relevant investigations, examinations or imaging studies requested by the TUEC will be undertaken at the expense of the applicant. The application must include a statement by an appropriately-qualified physician describing the necessity of the otherwise Prohibited Substance or Prohibited Method in the treatment of the athlete and describing why an alternative permitted medication cannot, or could not, be used. The dose, frequency, route and duration of administration of the otherwise Prohibited Substance or Prohibited Method in question must be specified. The decision on the TUE request will be conveyed in writing to the athlete by the relevant anti-doping authority (IF or USADA.) Where a TUE has been granted to an athlete under the authority of USADA, the athlete and WADA will be promptly provided with a notification of approval and information pertaining to the duration of the exemption and any conditions associated with the TUE.

The criteria which the TUEC considers are:

1. Would the athlete suffer significant impairment without the use of the prohibited medication?
2. Will the medication produce significant performance enhancement above what would be obtained with a return to normal health?
3. Are/is there a reasonable therapeutic alternative(s)?
4. Is the need a result of a prior non-therapeutic use of an otherwise prohibited medication or method?

In the case of the denial of a request for a TUE, international-level U.S. athletes, those who enter an international competition, or national-level athletes included in the National Anti-Doping Organization's registered testing pool may submit a request for a review of the decision.

Currently there is no time limitation in accepting a request to review a TUE after a denial by an IF or National Anti-Doping Organization (NADO) in the TUE Standard; however, there is a fee associated with the request for review. WADA will review the initial decision taken by the IF or NADO on the basis of the initial submission of the athlete. No additional information may be submitted. For information on how to request a review or file an appeal, see Section 7 of the WADA International Standard for Therapeutic Use Exemptions (Reference 9).

WADA may reverse or uphold the initial decision. The WADA decision may then be appealed to the Court of Arbitration for Sport (CAS). There may be a time limit on the appeal to CAS based on the rules of the IF of the particular sport. USADA or the athlete may appeal a decision on a TUE to CAS. WADA may appeal a decision of a national-level reviewing body to CAS.

If the decision regarding the granting of a TUE is reversed on review, the reversal shall not apply retroactively and shall not disqualify the athlete's results during the period that the TUE had been granted and shall take effect no later than 14 days following notification of the decision to the athlete.

In the case of the denial of a request for a TUE by athletes other than those listed above, the athlete may request a review of the decision from USADA. The review will be conducted by an independent physician(s) and will be based on the material included in the initial submission of the athlete. There will be a fee associated with this request for review and the request must be made within 30 days of the receipt of the decision from the initial TUE Committee.

The athlete may appeal the USADA review decision to the American Arbitration Association (AAA) as a final appeal. There may be a time limit on the appeal to AAA based on the rules of the IF of the particular sport.

TUE Requirements for ADD and ADHD Medications

For a TUE to be considered for the use of an ADD or ADHD medication, there are basic medical information requirements. The following information must be submitted, in a legible format, with the TUE application.

1. A thorough clinical history, including the initial report(s) that led to the diagnosis of ADD/ADHD, discussion of the measures used and their interpretation, age of onset, and family history of related diagnoses. Be sure to include documentation from all medical evaluations, teacher or other school evaluations, and psychological evaluations.
2. The results of any laboratory testing that was done during the workup (e.g., TSH) and discussion of any abnormalities or tests out of range.
3. A description of the deficit in performance, physical or mental, exhibited by the athlete and the description of how the proposed medication improved that performance.
4. Evaluation of the efficacy of the medications used (including dosage and dosing regimen). In addition, any observations and consequences when the medication is not taken for a brief period of time should be reported.
5. Evidence that allowed medications have been considered or tried and that the outcome of use of the allowed medications is such that the prohibited medication must be used. This issue is of particular importance and all alternative treatments and trials, including drug holidays, should be described. The treating physician must justify the need for the stimulant medication.
6. Any clinical, educational or consultative reports with comments on related performance issues such as anxiety or depression.
7. A statement provided by the athlete outlining how he/she feels when the medication is being taken and not taken. This statement is helpful to the physicians and should, in fact, be written by the athlete. **Statements written by parents over the athlete's signature are not helpful and should not be used.**

URINARY CONCENTRATIONS IN TESTING

Below is a summary of urinary concentrations the WADA-accredited laboratories must use in reporting findings for specific prohibited substances.

- A case is considered positive when the analytical laboratory test gives a result that is above the threshold.
- In case of a T/E ratio > 4, an investigation may result (see Reference 2 for complete explanation).

TABLE 8: THRESHOLD CONCENTRATIONS APPLIED IN TESTING

SUBSTANCE	LEVEL
Carboxy-THC (marijuana)	> 15 nanograms/milliliter (mL)
Ephedrine/Methylephedrine	> 10 micrograms/mL
Epitestosterone	> 200 nanograms/mL
Morphine	> 1 microgram/mL
19-Norandrosterone	> 2 nanograms/mL (males and females)
Norpseudoephedrine (Cathine)	> 5 micrograms/mL
Salbutamol (Albuterol)	> 100 nanograms/mL requires an Abbreviated TUE; > 1000 nanograms/mL is prohibited
T/E Ratio	> 4:1 or positive carbon isotope ratio analysis (or other data)

TRANSDERMAL (THROUGH SKIN) DELIVERY SYSTEMS

Certain prescription drugs and some dietary supplements may be delivered to the body through the skin by the use of a “patch” or other transdermal delivery system. All athletes must be aware it is their personal responsibility to ensure that no prohibited substance enters their system or that no prohibited method is used. The use of the patches and supplements may result in an adverse drug test result.

Athletes should exercise extreme caution when considering whether to take any dietary supplement, including any product that may work through a transdermal delivery system. If you choose to take dietary supplements or use products that deliver substances into the body through the skin, you do so at your own risk. If you are unsure of what you are taking or using, and the product is a supplement, do not use the product. If you have questions about the status of a prescribed medication, check Drug Reference Online™ (DRO™) (www.usada.org/dro) or call USADA’s Drug Reference Line™ at (800) 233-0393 (in U.S.) or (719) 785-2020 (outside of U.S.). USADA does not provide medical advice. If your physician has a question about the status of a medication, DRO™ and the Drug Reference Line™ are available.

VITAMINS, MINERALS, HERBS, AMINO ACIDS, PROTEINS AND OTHER DIETARY SUPPLEMENTS

The Dietary Supplement Health and Education Act of 1994 specifically exempted vitamins, minerals, amino acids, herbs and botanicals and their extracts and concentrates from evaluation for safety and efficacy by the Food and Drug Administration (FDA). Thus, the commonly-held belief that the government approves these over-the-counter dietary supplements is incorrect. In addition, there is evidence that many products may not contain the amount of ingredient listed on the label, may not contain the ingredient listed at all, or may be contaminated or adulterated with other prohibited substances not listed on the label. In January of 2006, the U.S. Food and Drug Administration issued a warning (Reference 10) concerning certain products produced in Brazil and sold in the United States as weight-loss supplements. The products were found to contain Librium, Prozac and fenproporex. The fenproporex is metabolized in the body to amphetamine and would be detected in doping control testing. A State of California study documented the presence of other toxins such as arsenic and strychnine in herbal products (Reference 11). Since there are no regulations guaranteeing the actual content of these products, the use of any of these products may result in a doping violation.

THE USE OF VITAMINS, MINERALS, HERBS, AMINO ACIDS, PROTEINS, AND OTHER DIETARY SUPPLEMENTS IS COMPLETELY AT THE ATHLETE'S OWN RISK OF COMMITTING A DOPING VIOLATION. The contents and safety of these products cannot be guaranteed (Reference 12).

Adverse Effects and Toxicity

Use of herbal materials as supplements has soared in the past fifteen years. The result has been that many herbal materials are now taken as essential additions to the diet without regard to potential toxicity, to interactions with other medications, or to the lack of evidence of any benefit to their use. Herbal materials can be very toxic and the notion that a substance is safe because it is "natural" is not true. There are a number of compounds that can cause liver damage (for example, comfrey, chaparral, germander, kava, pennyroyal oil and skullcap). Other compounds such as aristolochic acid cause kidney damage and failure while yohimbe and bitter orange can cause hypertension and heart arrhythmias (Reference 13). Aristolochic acid may be a human carcinogen, as well.

There are other concerns in addition to the toxicity of supplements. For example, there is a common misconception that the body consumes large amounts of vitamins and that there is a need to replace those vitamins. The opposite is true - the body uses vitamins in metabolism, but the vitamins are mostly regenerated and not consumed in the metabolic process. The user of supplements frequently thinks that if one tablet is good than more must be much better. Again, this is a serious misconception. A recent copy of "The Medical Letter" (Reference 14) provides information on the overuse of vitamins. Several vitamins were found to have serious adverse effects. In summary the newsletter says:

"Supplements are necessary to assure adequate intake of folic acid in young women and possibly of vitamins D and B12 in the elderly. There is no convincing evidence that vitamin C prevents any disease. Women should not take Vitamin A supplements during pregnancy or after menopause. No one should take high dose beta-carotene supplements. A balanced diet rich in fruits and vegetables may be safer than taking supplements. No biologically-active substance taken for a long period can be assumed to be free of risk."

Another concern related to natural products is the use of glandular extracts. These extracts are taken from tissue combined from many different animals and may transfer infectious elements from the animal. Some of the infectious diseases are slow to develop and may not be evident for long periods of time (years) following exposure.

PROHORMONES

The Anabolic Steroid Control Act of 2004 adds 18 specific substances to the list of anabolic agents that are scheduled as controlled substances by the Drug Enforcement Agency (Reference 3). Many of these substances have been included in so called "supplements." Other substances may be scheduled in the future.

EPHEDRA

The Food and Drug Administration (FDA) issued a ban prohibiting the sale of dietary supplements containing ephedrine alkaloids (ephedra) because such supplements present an unreasonable risk of illness or injury. This would include the herbal material Ma Huang. Under the Dietary Supplement Health and Education Act (DSHEA) of 1994, the FDA may remove a dietary supplement from the market if it presents a significant or unreasonable risk of illness or injury when used according to its labeling or under ordinary conditions of use.

MANY SUPPLEMENT PRODUCTS CONTAINING EPHEDRINE, EPHEDRA OR MA HUANG CONTINUE TO BE MARKETED BY NUTRITION STORES AND AVAILABLE OVER THE INTERNET.

Examples of medications containing ephedrine that are available over-the-counter for treating breathing difficulties are: Pretz-D nasal solution, Primatene tablets, Dynafed Asthma Relief tablets, Bronkaid dual action tablets, Mini Two-Way action tablets, and ephedrine sulfate tablets/capsules. Prescription medications containing ephedrine are also available. For example: Broncholate syrup, KIE syrup, Quad Tann tablets, and Rynatuss tablets and pediatric suspension.

Legislation signed into law on October 22, 2004, and effective January 20, 2005, added 18 anabolic steroids or their precursors to Schedule III of the Controlled Substances Act. The quality-control practices of the supplement industry are still HIGHLY UNREGULATED. All athletes must continue to exercise caution in use of supplements.

The use of ALL dietary supplements is “at the athlete’s own risk of committing a doping violation.”

CREATINE is a natural compound that is a critical part of the energy storage system in the body. Energy is stored in the cells as creatine phosphate. Under anaerobic conditions, the creatine phosphate is used to regenerate adenosine triphosphate (ATP), the main form of cellular energy. Creatine is obtained primarily from meat in the diet.

Creatine supplementation presumes that additional intake will provide additional cellular levels, and therefore provide larger amounts of stored energy. In general, any creatine ingested in excess is excreted in the urine. Creatine is marketed to speed muscle recovery, increase initial work output and delay fatigue in anaerobic (high intensity, short duration) exercise. Research studies are not clear on whether creatine actually has the effects that are advertised. The long-term effects of taking supplemental creatine have not yet been established, but there appears to be a greater incidence of dehydration, nausea, stomach cramps, diarrhea, muscle cramping, pulled muscles and muscle tightness according to a survey of creatine users (Reference 15). Although other studies have not seen such effects (Reference 16), there are two published reports of individuals with preexisting liver and kidney problems having further complications while using creatine (Reference 17).

GLUTAMINE levels have been shown to decrease significantly after intense training. It has been proposed that this deficiency can lead to a suppressed immune system in over-trained athletes. Glutamine supplementation studies in athletes have failed to show improvements in athletic performance or immune function (Reference 18).

COENZYME Q-10 is associated with energy transport within muscle and heart cells at basic levels. This supplement is marketed to be beneficial in treating various heart conditions and other diseases. Advocates have proposed that Coenzyme Q-10 improves exercise performance and recovery time. Studies of its performance-enhancing abilities have had mixed results with some reporting an increase in performance and others showing no effect. No serious side effects are proven with Coenzyme Q-10, but decreased appetite, nausea and diarrhea are potential adverse effects.

PYRUVATE has been promoted to enhance weight loss and to improve endurance. In studies pyruvate, a product of glucose metabolism, has been substituted for a portion of an individual's carbohydrate intake in low-calorie diets. These studies of obese individuals demonstrated slightly increased weight loss in the pyruvate-substituted group. In non-athletes, studies have shown increased muscle endurance (Reference 19); however, these results are not repeated in studies of athletes. Companies promoting pyruvate recommend supplementation with doses that have not been studied or shown to improve weight loss or endurance.

CHONDROITIN, GLUCOSAMINE and MSM supplementation is marketed to promote the regeneration of cartilage in patients with osteoarthritic joints (damage due to overuse). Improvement may occur as pain relief, reduced morning or walking stiffness, and the ability to perform general activities. There is no research available on the ability of these substances to prevent osteoarthritis in the athlete. Gastrointestinal discomfort and distress and allergic reactions are reported adverse effects.

MISCELLANEOUS SUBSTANCES such as octacosanol, chromium picolinate, boron and dibenzozide are found in a variety of supplemental products that claim to have ergogenic effects. They are often sold in combination with other supplements and have not been proven to be performance-enhancing in athletes. Similarly, they may actually be in combination with prohibited diuretics or stimulants such as Ma Huang and ephedrine. Health food and nutrition stores, pharmacies, grocery stores, mail order companies or Internet companies often sell these products. Unfortunately, there are no approved medical references that identify all of them by brand name or active ingredient.

Frequently Asked Questions about Supplements:

MANY PRODUCTS ON THE MARKET CLAIM TO BE ALL-NATURAL. DO I HAVE ANYTHING TO BE CONCERNED ABOUT WHEN I AM TESTED?

YES. Do not be fooled by the “all-natural” claim. Many substances that come from plants are considered natural but are prohibited. In addition, the regulations that oversee the nutritional industry and requirements for quality control are minimal and there is no guarantee that the product contents are as advertised. There may be contamination of the product by ingredients that are not listed on the product’s label. **It is important to remember that the use of ALL dietary supplements (including vitamins, minerals, herbs and amino acids) is at the athlete’s own risk.**

WHY CAN’T USADA TELL ME WHAT DIETARY SUPPLEMENTS ARE OKAY TO TAKE?

A product’s compliance with requirements of the official Homeopathic Pharmacopeia of the United States (HPUS), United States Pharmacopeia (USP), or official National Formulary (NF) does not establish that it has been shown by appropriate means to be safe, effective and not misbranded for its intended use (Reference 20). Therefore, the exact ingredients in any nutritional product may be a mystery and may vary from one batch to the next.

CAN I HAVE A SUPPLEMENT TESTED TO FIND IF IT IS SAFE TO TAKE?

Unfortunately, testing one batch of a specific nutritional product may present a false sense of security to the athlete. It is important to understand that dietary supplements and homeopathic products may not contain the same ingredients from one batch to the next in the exact same product. The manufacturing process, as well as the process of obtaining raw materials and ingredients for a specific product, may not be consistent. These variations in the manufacturing process can lead to changes in the purity and consistency of a product from one batch to the next.

OTHER FREQUENTLY ASKED QUESTIONS

WHAT MAKES A MEDICATION PROHIBITED? A substance can be included on the World Anti-Doping Agency Prohibited List if it meets two of the three major criteria defined by WADA, or if it is a potential masking agent. The three criteria are that the substance is performance-enhancing, that there are potential health risks to the athlete with use of the substance and that use of the substance violates the “spirit of sport.”

IS THE INFORMATION PRESENTED BY USADA MEDICAL ADVICE? USADA does not provide advice on medical matters or treatments. Treatment for routine or emergency medical conditions is between the athlete and his/her physician. USADA provides the status of medications for athletes’ information only, in accordance with the World Anti-Doping Code. The athlete is responsible for managing his/her medical care and for using medications in a manner consistent with the World Anti-Doping Code. Anti-doping rules, like competition rules, are rules governing conditions under which sport is played.

HOW LONG DOES IT TAKE PROHIBITED SUBSTANCES TO BE OUT OF MY BODY? Individual metabolism, amount of substance used, frequency of use and duration of use cause variation in the time needed for elimination of substances from the body. In addition, some drugs are stored in the body and have highly variable elimination rates. Elimination-time estimates for specific substances may be obtained by contacting the manufacturer, the prescribing physician or the dispensing pharmacist. Also note that prohibited substances must be eliminated first from the blood and then from the urine – a process that takes some additional time over clearance from the blood. It is the athlete’s responsibility to ensure that any substance prohibited in-competition has been cleared from the body by the time he/she is tested at a competition.

IS IT ALLOWABLE TO USE A PROHIBITED MEDICATION THAT HAS BEEN PRESCRIBED BY A DOCTOR? Some medications prescribed by physicians for treatment of legitimate medical conditions may be prohibited. A prohibited substance is still prohibited, even if prescribed by a doctor. The only allowable way to take a prohibited substance and participate in sport is with the submission of an acceptable Abbreviated TUE or an approved Standard TUE. The Prohibited List is not intended to provide medical advice or deny an athlete an essential treatment. The List pertains only to the rules of sport.

WHAT SHOULD AN ATHLETE DO IF A PROHIBITED MEDICATION IS NEEDED?

Alternative medications that are not prohibited may be available and can be used in treatment. An athlete's personal physician may not be aware of the drug restrictions in sports. The athlete should visit USADA's Drug Reference Online™ (DRO™) at www.usada.org/dro or call the Drug Reference Line™ at (800) 233-0393 [outside the U.S. at (719) 785-2020] for drug status information. In cases where the medication is essential and no permitted alternatives exist, a TUE may be requested. WADA requires that all Anti-Doping Organizations have procedures for handling requests for TUEs. Submission of a request does not mean automatic approval of a TUE. See information on how to submit an Abbreviated TUE or Standard TUE.

HOW CAN AN ATHLETE BE SAFE?

Visit USADA's Drug Reference Online™ (DRO™) at www.usada.org/dro; call the Drug Reference Line™ at (800) 233-0393 [outside the U.S. at (719) 785-2020]; or e-mail drugreference@usada.org for information about contents of medications that may be taken in- or out-of-competition. Do not take any unknown substances.

IS THERE A COMPLETE LIST OF DRUGS THAT DO NOT CAUSE A POSITIVE TEST?

No list can ever be complete. New names and products come on the market daily. International products may not appear in the U.S. Drug Reference books or be included in the Drug Reference Online™ (DRO™). In addition, different formulations of the same brand name may not be permitted. For any of these reasons, a "complete" or "safe" list that is accurate and up-to-date is not available for distribution. This is why it is important for athletes to review substances on the USADA Drug Reference Online™ at www.usada.org/dro, call USADA's Drug Reference Line™ or e-mail USADA at drugreference@usada.org to find out the current status of any questionable substance. USADA will clarify the status of medications with WADA as needed.

The use of foreign medications is strongly discouraged.

WHAT IS THE DIFFERENCE IN TESTING MENUS BETWEEN IN-COMPETITION (EVENT) AND OUT-OF-COMPETITION TESTING?

In-competition (event) testing includes testing for all classes of substances and methods on the WADA Prohibited List. This includes stimulants, narcotics, anabolic agents, diuretics, peptide hormones and analogues, corticosteroids, marijuana, and in specific cases, alcohol and beta-blockers. Note that "in-competition" includes a time period before the competition

for the substance to clear from the body and urine. In addition, methods of doping are prohibited. During out-of-competition testing, there is a shorter menu of prohibited substances (i.e., anabolic agents, diuretics, peptide hormones and analogues, and blood doping).

In-competition or out-of-competition testing menus may vary based on IF rules or specific requirements (e.g., beta-blockers).

EACH ATHLETE MUST BE FAMILIAR WITH THE RULES OF THE INTERNATIONAL FEDERATION FOR HIS/HER SPORT!

PRECAUTIONS

The testosterone to epitestosterone (T/E) ratio that indicates a need for additional investigation is 4:1. If this ratio is exceeded, USADA must complete an investigation of the T/E ratio only if an additional reliable analytical method (e.g., IRMS) has not been applied. Please note that no additional investigation must be completed to determine if a doping violation has occurred if the laboratory has reliable evidence that the prohibited substance causing the change in the T/E ratio originated outside the body.

Use of foreign medications is discouraged. In an emergency, the USADA Drug Reference Line™ will attempt to provide information; however, if the information is not certain, the athlete will be advised that the use of the medication is at his/her OWN RISK.

Unless you know the status of a medication, check before taking the medication to see if the substance is permitted, prohibited or requires the submission of an Abbreviated TUE. You may check the status of the medication online at the Drug Reference Online™ (DRO™) at www.usada.org/dro, by calling the Drug Reference Line™ at (800) 233-0393 [outside the U.S. at (719) 785-2020], or by e-mailing drugreference@usada.org for information.

Know the exact name and spelling of your medication since many products sound alike.

The detection of a Prohibited Substance in a specimen is deemed a doping offense even if the substance is not one that is specifically listed as an example in the current Prohibited List. The term “substances with similar chemical structure or similar biological effect” describes substances that may be prohibited because they are chemically related to a Prohibited Substance or produce a similar effect in the body.

If no TUE is approved, the use of a Prohibited Substance for legitimate medical treatment is a doping violation even with a proper prescription from a physician. In addition, the presence of that Prohibited Substance, its Metabolites or Markers in a specimen is deemed to be a doping violation. The commonly held belief that the government approves all vitamins, minerals, herbs, amino acids, proteins, energy products and other dietary supplements that are sold over-the-counter or through the Internet is not correct. These products may contain prohibited substances, even when not listed on the label.

It is the athlete's responsibility to check the status of all medications.

USADA LIST OF PERMITTED MEDICATIONS

WARNING

• THIS LIST IS BASED ON THE WADA PROHIBITED LIST EFFECTIVE JANUARY 1, 2008. YOUR INTERNATIONAL FEDERATION MAY HAVE SPECIFIC RULES RELATED TO REQUESTING A STANDARD TUE OR AN ABBREVIATED TUE. YOU HAVE A RESPONSIBILITY TO KNOW THE RULES FOR YOUR SPORT AND THE SPECIFIC PROVISIONS OF THE WADA PROHIBITED LIST FOR THE CURRENT YEAR.

- Be especially cautious with any over-the-counter medications. Formulations may be changed resulting in a change of status (from permitted to prohibited).
- Be aware that many brand names sound alike. One may be permitted, while the other may be prohibited. When checking the Drug Reference Online™, be sure to verify the spelling of your medication.
- Vitamins, minerals, amino acids and proteins are not prohibited, in and of themselves. They may be in combination with prohibited substances shown on the label or may be included in a preparation that contains substances that are not disclosed on the label. **This may result in a doping violation. These substances are taken at the athlete's own risk.**
- **USADA's Drug Reference Online™ (DRO™) at www.usada.org/dro, the Drug Reference Line™ at (800) 233-0393 [Outside the U.S. at (719) 785-2020] or drugreference@usada.org** cannot guarantee the status of supplements and other health food store products.
- References to specific products are for example only and **do not constitute an endorsement by USADA.**

Topical corticosteroids for the treatment of a medical condition are permitted and do not require the submission of an Abbreviated TUE. This includes, for example, skin treatments, iontophoresis and phonophoresis, eye drops, ear drops and nasal sprays. Inhalers and intra-articular, epidural and local injections require an Abbreviated TUE for use in-competition. Systemic uses of corticosteroids (intramuscular, intravenous, oral and rectal administration) are prohibited and require the submission and approval of a Standard TUE before their use in-competition.

TABLE 9: EXAMPLES OF PERMITTED MEDICATIONS

Remember this list is intended for use as a guideline for treatment of certain medical conditions. It is not a complete list, nor should it be considered an endorsement or recommendation of these drugs.

ANALGESIC/ANTI-INFLAMMATORY

- Acetaminophen
- Advil
- Aspirin
- Celebrex
- Codeine
- Coducept (Darvon N)
- Darvocet
- Dihydrocodeine
- Hydrocodone
- Ibuprofen
- Naprosyn
- Propoxyphene
- Tylenol
- Ultracet
- Ultram (ER)

ANTACID/ULCER

- Aciphex
- Axid
- Carafate
- Di Gel
- Gaviscon
- Maalox
- Mylanta
- Nexium
- Pepcid
- Prevacid
- Prilosec

ANTACID/ULCER

[continued]

- Propulsid
- Protonix
- Tagamet
- Tums
- Zantac

**ANTI-ANXIETY/
ANTI-DEPRESSANT**

- Atarax
- Ativan
- Buspar
- Celexa
- Effexor
- Elavil
- Lexapro
- Librium
- Pamelor
- Paxil
- Prozac
- Valium
- Vistaril
- Wellbutrin (XR, SR)
- Xanax
- Zoloft

ANTIBIOTIC

All Permitted

ANTI-DIABETIC

- Actose
- Amaryl
- Avandia
- Diabeta
- Diabinese
- Glipizide
- Glucophage
- Glucotrol
- Glyburide
- Glynase
- Matformin
- Micronase
- Prandin
- Precose
- Rezulin

ANTI-DIARRHEAL

- Diphenoxylate w/ atropine
- Donnagel
- Imodium
- Kaopectate
- Lomotil
- Lonox
- Loperamide
- Pepto Bismol

ANTIFUNGAL

Crux
 Diflucan
 Desenex
 Lamisil
 Lotrimin
 Micatin
 Monistat
 Mycostatin
 Nystatin
 Sporonox
 Tinactin

**ANTI-HISTAMINE/
ALLERGY/COLD**

Allegra
 Allegra-D
 Benadryl
 Cetirizine
 Chlorpheniramine
 Chlor-Trimeton
 Clemastine
 Clarinex
 Claritin
 Claritin-D
 Diphenhydramine
 Fexofenadine
 Loratadine
 Tavist I
 Zyrtec
 Zyrtec-D

**ANTI-NAUSEA/
ANTI-VERTIGO**

Antivert
 Bonine
 Bucladin S
 Compazine
 Diphenhydramine
 Dramamine
 Emetrol
 Kytril
 Motion-aid
 Phenergan
 Promethazine

**ANTI-NAUSEA/
ANTI-VERTIGO**

[continued]
 Reglan
 Tigan
 Zofran

ANTIVIRAL

Acyclovir
 Amantadine
 Didanosine
 Famciclovir
 Famvir
 Flumadine
 Relenza
 Stavudine
 Tamiflu
 Valtrex
 Zidovudine
 Zovirax

ANTI-SEIZURE

Depakote
 Dilantin
 Gabapentin
 Lyrcia
 Neurontin
 Phenobarbital
 Tegretol
 Topamax

ASTHMA PRODUCT

Accolate
 Aminophylline
 Atrovent
 Cromolyn sodium
 Intal
 Ipratropium
 Nedocromil sodium
 Singulair
 Theophylline
 Tilade
 TioTropium
 Zflo

COLD MEDICATION

Actifed cold & sinus
 Advil cold & sinus
 Aleve cold & sinus
 Alka-Seltzer Plus (cold & cough, cold & sinus, cold & flu)
 Chlor-Trimeton (-D, allergy)
 Comtrex
 Coricidin (-D, HBP, cold, flu & sinus, cough & cold)
 Dimetapp cold & allergy
 Drixoral (cold & allergy, allergy sinus)
 Mucinex (plain, DM, D)
 Robitussin (severe congestion, cold & cough, CF, PE, DM)
 Sinutab sinus allergy
 Sudafed (PE, sinus, cold & cough, cold & allergy, cold & sinus, multi-symptom)
 Theraflu (flu, cold, congestion & cough)
 Triaminic (cold & cough, allergy congestion, cold, allergy & sinus)
 Tylenol (allergy sinus, flu, cold, sinus, multi-symptom)
 Vicks (44D, cough & congestion, Dayquil, Nyquil)

**COUGH
MEDICATION**

Codeine
 Dextromethorphan
 Guaifenesin
 Hydrocodone

**CHOLESTEROL
LOWERING**

Lescol
Lipitor
Lopid
Lovaza (Omacor)
Mevacor
Niacin
Niaspan
Pravachol
Tricor
Vytorin
Zetia
Zocor

CONTRACEPTIVE

Allesse
Demulen
Desogen
Genora
Loestrin
Lo-Ovral
Modicon
Nelova
Nordette
Ortho-Cept
Ortho-Evra
Ortho-Cyclen
Ortho-Tri-Cyclen
Ovcon
Ovral
Triphasil
Yasmin
Yaz

DECONGESTANT

4-Way Long Lasting
Nasal
Afrin Nasal Spray
Afrin Children's Drops
Allerest 12-Hour Nasal
Spray
Dristan Nasal Spray
Naphazoline

DECONGESTANT

[continued]
Neo-Synephrine Nasal
Spray
Nostrilla Nasal
Otrivin
Oxymetazoline
Privine
Psuedoephedrine
Sinex
Tetrahydrozoline
Tyzine
Xylometazoline

**EXPECTORANT/
ANTI-TUSSIVE**

Benzonatate
Cheracol plain
Cheracol-D
Delsym
Dextromethorphan
Guaifenesin
Robitussin (plain, DM,
AC, CF, DAC)
Tessalon Pearls

EAR PRODUCT

*(Note: All plain
antibiotic eardrops are
permitted.)*
Auralgan
Auro Ear Drops
Cerumenex
Cipro HC
Ciprodex
Cortisporin Otic
Debrox
Domeboro Otic
Murine Ear Drops
Otocort
Pediotic

EYE PRODUCT

*(Note: All antibiotic eye
drops are permitted)*
Artificial Tears
Boric acid
Cortisporin Ophth
Crolom
Dexamethasone ophth
Murine Plus
Naphcon-A
Neo-Synephrine
Oxymetazoline
Pred Forte
Relief
Tetrahydrozoline
Vasidicin
Vasocon-A
Visine

HEMORRHOIDAL

*[Caution: Suppositories
and foams used
internally (rectal)
and containing
hydrocortisone are
prohibited.]*
Anusol
Preparation-H

LAXATIVE

Citrucel
Colace
Correctol
Dulcolax
Ex-Lax
Fibercon
Fleet Enema
Metamucil
Milk of Magnesia
Peri-Colace

MIGRAINE

Imitrex
Amerge
Zomig

MISCELLANEOUS

Accutane
 Amino Acids (alone)
 DDAVP
 Estrace
 Levoxy
 Minerals (alone)
 Premarin
 Provera
 Strattera
 Synthroid
 Viagra
 Vitamins (alone)

MUSCLE RELAXER

Baclofen
 Carisoprodol
 Cyclobenzaprine
 Flexeril
 Norflex
 Norgesic
 Norgesic Forte
 Parafon Forte
 Robaxin
 Skelaxin
 Soma
 Zanaflex

NASAL PRODUCT

Astelin
 Atrovent Nasal
 AYR Saline
 Nasalcrom
 Ocean
 Salinex
 Veramyst

SLEEP AID/SEDATIVE

Ambien (plain, CR)
 Antivert
 Ativan
 Compoz
 Dalmane
 Halcion
 Lunesta

SLEEP AID/SEDATIVE

[continued]

Meclizine
 Nytol
 Restoril
 Roserem
 Sominex
 Sonata
 Unisom
 Valium
 Xanax

TOPICAL including corticosteroids for skin

Acloate
 Ala-Quin
 Aristocort
 Aspercreme
 Ben-Gay
 Betamethasone (Valerate, Dipropionate)
 Capsaicin
 Carmol HC
 Cetacort
 Clobetasol Propionate
 Clobex
 Cloderm
 Cordran
 Cormax
 Cort-Dome
 CortaGel
 Cortisporin
 Cortizone
 Cutivate
 Cyclocort
 Decadron (topical)
 Decaspray
 Derma-Smoothe/FS
 Dermacort
 Dermatop
 Desonide
 Desowen
 Desoximetasone

TOPICAL including corticosteroids for skin [continued]

Dexamethasone (topical)
 Diprolene (AF)
 Diprosone
 Elocon
 Eldecort
 Embeline
 FS Shampoo
 Flex-All 454
 Florone
 Fluticasone (topical)
 Fluocinolone
 Fluonex
 Flutex
 Fungoid HC
 Gynecort
 Halog
 Halog-E
 Hycort
 Hydrocortisone (topical)
 Hysone
 Hytone
 Icy Hot Balm
 Kenalog (topical)
 LactiCare HC
 Lanacort
 Lidex
 Lidex-E
 Locoid
 LoKara
 Lotrisone
 Luxiq
 Maxiflor
 Maxivate
 Myco-Biotic
 Mycolog (II)
 Myconel
 Myoflex cream
 Mytrex
 Nutracort
 Pandel

**TOPICAL including
corticosteroids for
skin** *[continued]*

Penecort

Procort

Psorcon

Psorion

Scalpicin

Sports Cream

Synacort

Synalar

T/Scalp

Teladar

Temovate

Topicort

Triamcinolone (topical)

Triderm

Tridesilon

Ultravate

Valisone

Vanoxide HC

Vicks Vaporub

Vytone

Westcort

Zostrix

Zovirax

IMPORTANT FACTS

A doping violation occurs whether or not a Prohibited Substance or Prohibited Method actually enhanced performance.

The presence of a Prohibited Substance in an athlete's urine (or blood, when applicable) constitutes an offense, regardless of the manner in which the Prohibited Substance came to be in the athlete's system.

Ignorance is never an excuse. It is the personal responsibility of an athlete to ensure that he or she does not allow any Prohibited Substance to enter his or her body or use or allow the use of any Prohibited Method (in other words, the concept of "strict liability" applies).

The inclusion of a Prohibited Substance or Method in the WADA Prohibited List is not subject to appeal.

The WADA Prohibited List and information in this Guide may be changed at any time. It is the athlete's responsibility to stay current with changes. Changes will be posted on the USADA Web site at www.usada.org.

WADA has established a "monitoring list." Use of substances on the monitoring list will not result in a doping violation. Patterns of use will be monitored to detect abuse and, if abuse is occurring, the substance may be added to the Prohibited List.

Each International Federation (IF) follows the WADA Prohibited List; however, each athlete must know the specific rules of his/her IF concerning the process to request exemptions to use Prohibited Substances (Abbreviated TUEs and Standard TUEs).

References in this Guide to specific substances are for example only and do not in any manner, actual, perceived or otherwise, constitute an endorsement or recommendation of these drugs by USADA.

The presence of a Prohibited Substance in an athlete's sample constitutes an offense, regardless of the manner in which the Prohibited Substance came to be in the athlete's system.

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Explanation of DRO™ Screen From www.usada.org/dro

When the Drug Reference Online™ (DRO™) is used to search for the status of a medication, there are several important information items that are shown on the screen. For reference, see the screen shown on the inside of the back cover (opposite page) of this Guide.

- 1) The date and time the search was completed is printed at the bottom of the page.
- 2) The information printed between the two blue lines gives the status of each of the individual active ingredients in the medication for use both in- and out-of-competition.
- 3) Note that on the example there are two “Individual Active Ingredients,” aspirin and oxycodone.
 - a) Aspirin is followed by a green check that shows it to be a permitted medication both in- and out-of-competition.
 - b) Oxycodone is followed by a green check for out-of-competition use and a red prohibited icon for in-competition use.
- 4) Under “Search Results/Status” the status of the brand name searched is shown. This gives the status of the combination of all the active ingredients as a medication.
 - a) In the example, Percodan is prohibited only in-competition because of the presence of oxycodone. (Oxycodone is permitted out-of-competition.)
 - b) In addition, the mode of administration is presented to ensure that any modes of administration that are prohibited are identified.
- 5) The top of the screen has several bits of information.
 - a) The sport is printed to ensure that the athlete has inquired about the status of a medication for the proper sport, since there are sport-related differences.
 - b) The **Reference Number should be retained** so that the results of the search can be reproduced in case of an inquiry.
- 6) If the medication is prohibited but can be used if an Abbreviated TUE is filed, the red printed “Prohibited” will be replaced by the orange-colored triangle and words “Requires Abbreviated TUE.”

Example of DRO™ Screen

The screenshot shows a web browser window with the URL <http://www.usadadoping.org/dro/printar/frendus.aspx?refid=11706-62277>. The page features the USADA logo and the title "DRO™ Drug Reference Online™".

Legend: Permitted Rescued, Administered, TSE Prohibited

SEARCH RESULTS/STATUS

Details of Brand: Percodan®
Record your Reference Number for future use **11706-62277**
Sport: **Fencing**
Discipline: **Epee**

	<u>Mode of Administration</u>	<u>Status</u>
In Competition:	Oral	<input type="checkbox"/> Prohibited
Out Of Competition:	Oral	<input checked="" type="checkbox"/> Permitted

Status of Individual Active Ingredients

In-Competition	
Aspirin, ASA (Oral):	<input checked="" type="checkbox"/> Permitted
Doxycycline (Oral):	<input type="checkbox"/> Prohibited
Out-of-Competition	
Aspirin, ASA (Oral):	<input checked="" type="checkbox"/> Permitted
Doxycycline (Oral):	<input checked="" type="checkbox"/> Permitted

date & time of search: 11/7/2006 1:10:43 PM

U.S. ANTI-DOPING AGENCY

1330 Quail Lake Loop, Suite 260
Colorado Springs, CO 80906-4651

Drug Reference Line™:

(800) 233-0393 (in the U.S.)

(719) 785-2020 (outside the U.S.)

Drug Reference Online™:

www.usada.org/dro

drugreference@usada.org

QUICK REFERENCE GUIDE TO USADA.ORG

- **Drug Information**
www.usada.org/go/druginformation
- **Athlete Express™**
www.usada.org/ae
- **USADA Protocol for Olympic Movement Testing**
www.usada.org/go/protocol
- **USADA Athlete Location Form (ALF) & Change of Plan (COP) Form**
www.usada.org/ae
- **Links to NGBs, IFs, and other anti-doping organizations**
www.usada.org/go/links
- **Therapeutic Use Exemption (TUE) Process**
www.usada.org/go/TUEs
- **USADA Education Program**
www.usada.org/go/education
- **Drug Reference Online™ (DRO)**
www.usada.org/dro

