DOPING CONTROL HANDBOOK

A Publication of National Anti Doping Agency of India

First Edition - June, 2008

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Dear Stakeholders,

On the occasion of launching the 1st Edition of the Doping Control Handbook, I take this opportunity of welcoming you and inviting you to join us in the campaign against 'Doping in Sport' in India. It is an honour and privilege for me to inform you that the Government of India, Ministry of Youth Affairs & Sports has established the National Anti Doping Agency (NADA) as an autonomous body with the mandate to take all measures in conjunction with sports bodies and other stakeholders to rid sports of this menace and create a clean and healthy environment for Sports in India. This launch is an important step in our commitment and resolve to ensure that we uphold the highest values of fair play and honesty, which are the very essence and ethos of Sports.

The NADA will strive to discourage and prevent Indian athletes and supporting personnel from using illegal and artificial performance enhancing drugs and to promote a healthy life style among our athletes. It will also reinforce in our youth the age-old Indian values of fairness and honesty.

It is well known that India has one of the lowest levels of doping in the world. The responsibility of NADA will now be to ensure that this evil is completely eradicated.

The NADA looks forward to the support of all sports and related bodies in this endeavor. I am sure that with your cooperation we will achieve the objective that we have all set for ourselves; Dope Free Sport and a level playing field for all athletes.

We also welcome your comments and suggestions on this Hand Book so as to make it more useful for all stakeholders. These will be incorporated in the following editions. NADA will also soon be launching its website which will contain all relevant information for your use.

RAHUL BHATNAGAR

Doping Control Handbook

CONTENTS

The best part of being an athlete is rising to the challenge, doing your best under the circumstances, and enjoying the process. It is the celebration of the human spirit, body, and mind. It is what we call “the Spirit of Sport,” and is characterized by health, fair play, honesty, respect for self and others, courage, and dedication. Doping in sport is the complete antithesis of the Spirit of Sport. Doping destroys all that is good and noble about sport. Doping jeopardizes the health and well-being of athletes and erodes public confidence. In addition to risking serious health consequences, athletes who test positive for doping ruin their good name and reputation. The purpose of this handbook is to give athletes useful information on anti-doping.

NADA

The National Anti-Doping Agency (NADA) is the national organization responsible for promoting, coordinating, and monitoring the doping control programme in sports in all its forms in the country. NADA works towards a vision of ’dope free’ sport in India.

NADA’s Primary Functions

- Adopting and implementing anti-doping rules and policies which conform with the World Anti-Doping Code,
- Cooperating with other sports related organizations and other anti-doping organizations,
- Encouraging reciprocal testing between National Anti-Doping Organizations, and
- Promoting anti-doping research & education.

Code

The World Anti-Doping Code (Code) is the document that harmonizes regulations regarding anti-doping in sport across all sports and all countries of the world. The Code provides a framework for anti-doping policies, rules, and regulations for sport organizations and public authorities so that there may be a level playing field for all athletes worldwide.

Prohibited Substances and Methods

The World Anti-Doping Agency annually updates the List of Prohibited Substances and Methods. The list is the International Standard defining what is prohibited in-competition and out-of-competition. The list also indicates whether particular substances are banned in particular sports.

Athletes Responsibility

In accordance with WADA Code the athletes are responsible whenever a prohibited substance is found in their bodily specimen. This means that a violation occurs whether or not the athlete intentionally or unintentionally, knowingly or unknowingly, used a prohibited substance or was negligent or otherwise at fault.

Latest Information

Athletes should always check with their National Federations/ International Federations (IFs) to find out what additional substances and methods are prohibited in their sports. Also, athletes should always make their doctor aware that they are bound by the specific rules of their sport. Those who are unsure of what a product contains should not take it until they are sure it is not prohibited. Ignorance is never an excuse.

Doping Control

Doping controls or athlete testing are carried out in accordance with the Code and the International Standard for Testing. Athletes who compete at the international and national level may be tested anytime, anywhere. Specially trained and accredited doping control personnel carry out all tests.

Testing

NADA is responsible to implement an effective number of in-competition and out-of-competition tests on the athletes in its registered testing pool. This includes international and national level athletes being tested by NADA. The NADA develops a test distribution plan and allocates the number of samples for each sport or discipline required for effective deterrence. The plan includes out-of-competition testing, in-competition testing, and may include blood as well as urine collection.

In-Competition Testing

NADA coordinates in-competition testing so that there is only one organization testing at one event. Criteria for the selection of athletes are predetermined, based on the regulations of the relevant IF or event ruling body. Athletes are notified of their selection for testing immediately following competition, and sample collection takes place in accordance with the International Standard for Testing. Samples are analyzed for “in-competition substances” as outlined in the WADA Prohibited List.

Out-of-Competition Testing

Out-of-competition testing or any testing done outside of an event ensures that all athletes can be tested at any time and at any place. An athlete identified in the registered testing pool by NADA is required to provide accurate and current whereabouts information. This information is usually required on a half-yearly basis, although NADA may have specific requirements, and updates are required if the athlete’s plans change. Whereabouts information may include details such as home address, work schedule, training venues and schedule, and competition schedule anything which will help a Doping Control Officer (DCO) find the athlete on any given day. International or national level athletes identified in a registered testing pool are responsible under the Code for providing whereabouts information to NADA. Failure to do so in accordance with anti-doping regulations may be considered an anti-doping rule violation and may result in a sanction.

Rights and Responsibilities

Athletes' Obligations:

- Be knowledgeable of and comply with all anti-doping policies and rules applicable to them, namely the *Code,* these rules, and the policies and rules of *NADA* and their *National* or *International Federations*;
- Take responsibility, in the context of anti-doping, for what they ingest and use; and
- Inform medical personnel of their obligation not to *Use Prohibited Substances* and *Prohibited Methods* and to take responsibility to make sure that any medical treatment received does not violate the anti-doping policies and rules applicable to them.
- All *Athletes* who are not regular members of a *National Federation* must be available for *Sample* collection conducted according to the *Code* and provide accurate and up-to-date whereabouts information on a regular basis, if required, during the year before the Olympic Games as a condition of participation in the Olympic Games as a member of the Indian Olympic Team.

Athlete Support Personnel's Obligations:

All *Athlete Support Personnel* must:

- Be knowledgeable of and comply with all anti-doping policies and rules applicable to them or *Athletes* whom they support, namely the *Code*, these rules and the policies and rules of *NADA* and their *National Federations*;
- Co-operate with the Athlete Testing programme; and
- Use their influence on *Athlete* values and behaviour to foster anti-doping attitudes.

National Federations' Obligations:

Each *National Federation* must:

- Comply with these rules;
- Cooperate with and assist NADA fulfil its obligations under the *Code*;
- Adopt and implement an anti-doping policy that conforms with the *Code*;
- Cooperate with and assist its International Federation conduct its day-to-day anti-doping programmes;
- Require *Persons* who:
    - participate in sport under its authority*;* or
    - are registered as an *athlete* or competitor (however described) or as an *Athlete Support Personnel* with it or with a club recognized by it; to recognize and be bound by its anti-doping policy, the *Code* and these rules;
- Require *Persons* who:
    - participate as an *athlete* or competitor (however described) in a sport under its authority*;* or
    - are registered as an *athlete* or competitor (however described) with it or with a club recognized by it; to be available for *Sample* collection and provide accurate and up-to-date whereabouts information;

- Require as a condition of membership that the policies, rules and programmes of its members or clubs recognized by it are in compliance with the *Code*; and
- Take appropriate action to discourage non-compliance with the *Code* and its Anti-Doping Policy.

A National Federation will also:

- Recognize and respect a finding of an *Anti-Doping Rule Violation* by its *International Federation* or other *Signatory* or other *National Federation* without the need for a hearing provided the finding is consistent with the *Code* and within the authority of the body concerned; and
- Require *Athletes* who are not regular members to be available for *Sample* collection and provide accurate and up-to-date whereabouts information on a regular basis, if required, during the year before the Olympic Games as a condition of participation in the Olympic Games as a member of the Indian Olympic Team.
- Promptly notify the IOC of the finding of any *Anti-Doping Rule Violation* or *Doping Offence* and the imposition of any sanction for an *Anti-Doping Rule Violation* or *Doping Offence* on:
    - Any *Person* under its anti-doping policy and rules; or
    - Any *Athlete*, *Athlete Support Personnel* or other *Person* under its authority or control under the anti-doping policy and rules of its International Federation.
    - Any *Athlete*, *Athlete Support Personnel* or other *Person* under its authority or control under the anti-doping policy and rules of its International Federation.
- Provide assistance and information to the Indian Olympic Committee as requested by the Secretary General to enable the IOC to properly implement these Rules.

Doping Control Process

General Overview of Doping Control Procedure

Athletes' selection:

Athletes can be selected for doping control at any time and any place.

Notification:

A Doping Control Officer (DCO) or chaperone will notify the athlete of selection for doping control. The DCO or chaperone will inform the athlete their rights and responsibilities, including the right to have a representative present throughout the entire process. Athlete will be asked to sign a form confirming that they have been notified for doping control. For a minor or an athlete with a disability, a third party may be notified as well.

Reporting to the Doping Control Station:

Athlete should report to the doping control station as soon as possible. The DCO may allow you to delay reporting to the station for activities such as a press conference or the completion of a training session; however athlete will be accompanied by a DCO or chaperone from the time of notification until the completion of the sample collection process.

Selection of Collection Vessel:

Athletes are given a choice of individually sealed collection vessels and athlete may select one. Athlete should verify that the equipment is intact and has not been tampered with. Athlete should maintain control of the collection vessel at all times.

Provision of Sample:

Athlete and a DCO of the same gender are permitted in the washroom during the sample provision. Minors and athletes with a disability may also have their representative present, however this representative is not permitted to view the sample provision. The objective is to ensure that the DCO is observing the sample provision correctly.

Volume of Sample:

The DCO shall use the relevant laboratory specifications to verify, in full view of the athlete, that the volume of the urine sample satisfies requirements for analysis.

Selection of Doping Control Kit:

Athlete is given a choice of individually sealed sample collection kits from which to choose one. Athlete should verify that the equipment is intact and has not been tampered with. Open the kit and confirm that the sample code numbers on the bottles, the lids, and the container all match.

Sample Division:

Athletes divide the sample, pouring the urine themselves, unless assistance is required due to disability. Pour the required volume of urine into the "B" bottle; and pour the remaining urine into the "A" bottle.

Athlete will be to leave a small amount in the collection vessel so that the DCO can measure the specific gravity and/or pH.

Sealing of Sample:

Athlete should seal the “A” and “B” bottles. Athletes’ representative and the DCO should verify that the bottles are sealed properly.

Specific Gravity & pH:

If the sample does not meet the specific gravity or pH requirements, athlete may be asked to provide additional samples.

Documentation:

Athlete should provide information on the doping control form about any prescription or non-prescription medication or supplements they have taken recently. Athlete also have the right to note comments on the form regarding the conduct of the doping control session. Be sure to confirm that all of the information is correct, including the sample code number. Athlete should receive a copy of the doping control form. The laboratory copy of the form does not contain any information that could identify athlete.

Analysis:

Samples are packaged for shipping to ensure that their security is tracked. Samples are sent to a WADA-accredited laboratory, which will adhere to the International Standard for Laboratories when processing samples, ensuring the chain of custody is maintained at all times. “A” sample is analyzed. “B” sample is securely stored and may be used to confirm an Adverse Analytical Finding from the “A” sample. The laboratory will report the results of sample analysis to NADA and WADA.

Prohibited Substances & Methods

THE 2008 PROHIBITED LIST

WORLD ANTI-DOPING CODE

Valid 1 January 2008

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

SUBSTANCES AND METHODS PROHIBITED

AT ALL TIMES

(IN-AND OUT-OF-COMPETITION)

S1. ANABOLIC AGENTS

Anabolic agents are prohibited.

1. Anabolic Androgenic Steroids (AAS) a. Exogenous* AAS, including:

1-androstendiol (5a-androst-1-ene-3ß,17ß-diol); **1-androstendione** (5a-androst-1-ene-3,17-dione); **bolandiol** (19-norandrostenediol); **bolasterone; boldenone; boldione** (androsta-1,4-diene-3,17-dione); **calusterone; clostebol; danazol** (17a-ethynyl-17ß-hydroxyandrost-4-eno[2,3-d]isoxazole); **dehydrochlormethyltestosterone** (4-chloro-17ß-hydroxy-17a-methylandrosta-1,4-dien-3-one); **desoxymethyltestosterone** (17a-methyl-5a-androst-2-en-17ß-ol); **drostanolone; ethylestrenol** (19-nor-17a-pregn-4-en-17-ol); **fluoxymesterone; formebolone; furazabol** (17ß-hydroxy-17a-methyl-5a-androstano[2,3-c]-furazan); **gestrinone; 4-hydroxytestosterone** (4,17ß- dihydroxyandrost-4-en-3-one); **mestanolone; mesterolone; metenolone; methandienone** (17ß-hydroxy- 17a-methylandrosta-1,4-dien-3-one); **methandriol; methasterone** (2a, 17a-dimethyl-5a-androstane-3-one- 17ß-ol); **methyldienolone** (17ß-hydroxy-17a-methylestra- 4,9-dien-3-one); **methyl-1-testosterone** (17ß-hydroxy-17a -methyl-5a -androst-1-en-3-one) ; **methylnortestosterone** (17ß -hydroxy-17a-methylestr-4- en-3-one); **methyltrienolone** (17ß-hydroxy-17a- 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; prostanozol** ([3,2- c]pyrazole-5a-etioallocholane-17ß-tetrahydropyranol); **quinbolone; stanozolol; stenbolone; 1-testosterone** (17ß- hydroxy-5a-androst-1-en-3-one); **tetrahydrogestrinone** (18a-homo-pregna-4,9,11-trien-17ß-ol-3-one); **trenbolone** and other substances with a similar chemical structure or similar biological effect(s).

b. Endogenous AAS:**

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

S2. HORMONES AND RELATED SUBSTANCES

The following substances 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.**

Other substances with similar chemical structure or similar biological effect(s) are also prohibited.

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*.

S3. BETA-2 AGONISTS

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.

S4. HORMONE ANTAGONISTS AND MODULATORS

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.**

5. DIURETICS AND OTHER MASKING AGENTS

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 drosperinone, 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).

PROHIBITED METHODS M1. ENHANCEMENT OF OXYGEN TRANSFER

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).

M2. CHEMICAL AND PHYSICAL MANIPULATION

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.

M3. GENE DOPING

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.

SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

In addition to the categories S1 to S5 and M1 to M3

defined above, the following categories are prohibited

in competition:

PROHIBITED SUBSTANCES

S6. STIMULANTS

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, levmethamfetamine, meclofenoxate, mefenorex, mephentermine, mesocarb, methamphetamine (D-), methylenedioxyamphetamine, methylenedioxy-methamphetamine, 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.

57. NARCOTICS

The following narcotics are prohibited:

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

58. CANNABINOIDS

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

59. GLUCOCORTICOSTEROIDS

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.

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P1. ALCOHOL

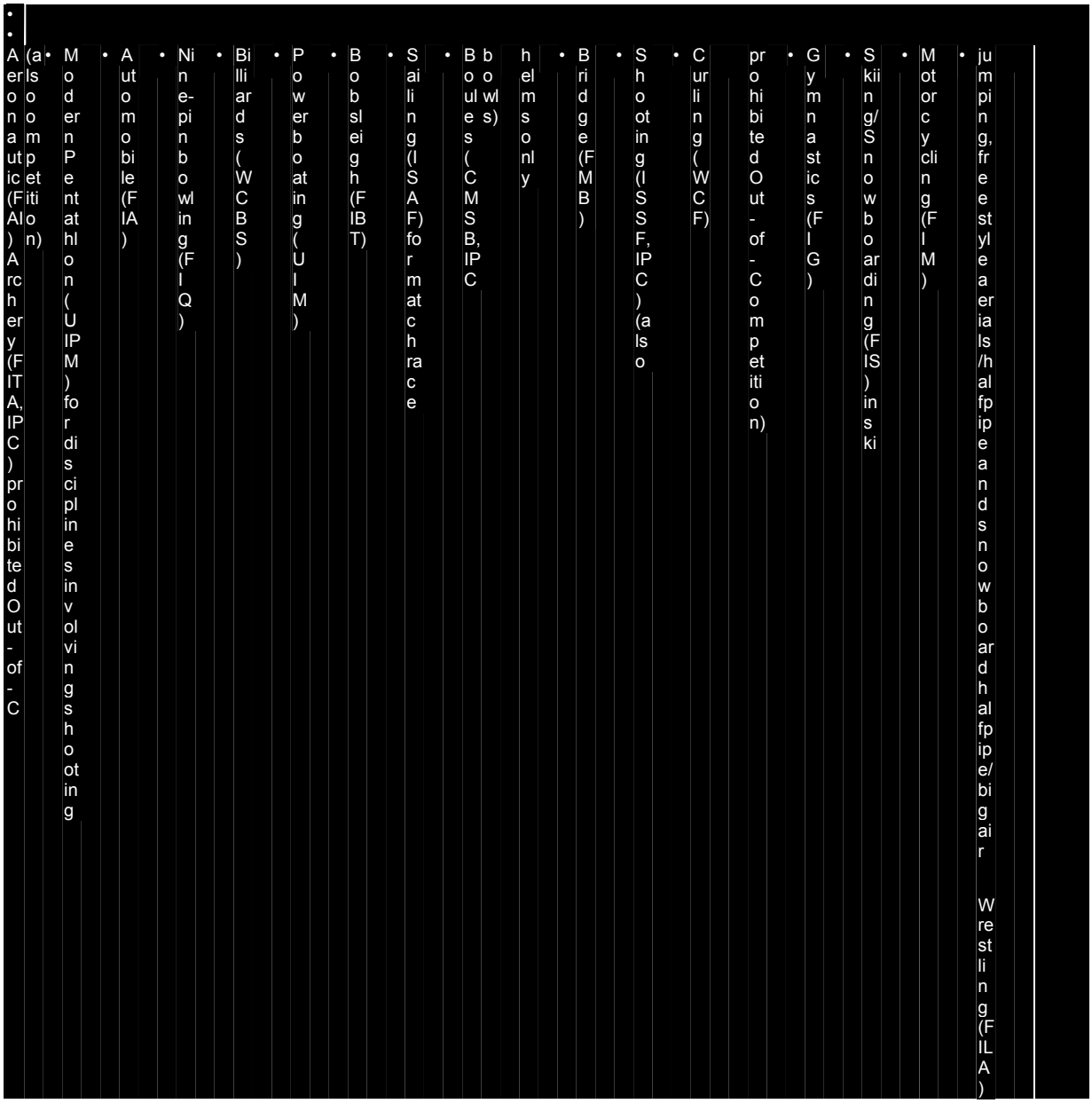
Alcohol (ethanol) is prohibited *In-Competition* only, in the following sports. Detection will be conducted by analysis of breath and/or blood. The doping violation threshold (haematological values) for each Federation is reported in parenthesis.

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

P2. BETA-BLOCKERS

Unless otherwise specified *In-Competition* only, in the

, beta-blockers are prohibited following sports.



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.

SPECIFIED SUBSTANCES*

"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, probenecid;
- Cathine, cropropamide, crotetamide, ephedrine, etamivan, famprofazone, heptaminol, isometheptene, levmethamfetamine, 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…"*

Side Effects of Prohibited Substances and Methods

S1 ANABOLIC AGENTS Anabolic Androgenic Steroids (AAS)

These are the substances that have both anabolic and androgenic properties. 'Anabolic' means 'tissue building' and 'androgenic' means 'masculinizing'. The anabolic properties may affect accelerated growth of muscles and bones while the androgenic properties may affect development of male reproductive system and secondary male sexual characteristics such as hairiness and deep voice. The anabolic androgenic steroids can be derived both endogenously (natural) as well as exogenously (synthetic).

After administration of anabolic androgenic steroids the formation of protein is promoted in genital organ, skin, skeleton and muscles. Athletes may be tempted to use anabolic androgenic steroids to improve their physical and physiological capacity to train and compete at highest level by reducing associated fatigues and recovery duration. In an impression to increase muscular power and strength these substances are sometimes taken by athletes involved in weightlifting, throwing and other sports involving strength parameters.

Side Effects of Anabolic Androgenic Steroids:

The side effects associated with anabolic androgenic steroids are extremely serious and are divided into general, male specific and female specific.

General Side Effects:

- Greasy skin and acne
- Infertility
- Hypertension
- Liver and kidney dysfunction
- Aggressive behaviour
- Tumour

Male specific Effects:

- Breast development
- Testicular atrophy
- Diminished male hormone production
- Diminished sperm production
- Impotence
- Alopecia
- Prostate cancer

Female specific Effects:

- Male pattern hair growth and baldness
- Menstruation disturbances
- Decreased size of breast
- Deeper voice (hoarseness)

OTHER ANABOLIC AGENTS

Other anabolic agents are substances which pharmacologically are not related to anabolic androgenic steroids, but may have the similar anabolic effect. This class of substances has been added in the WADA list of prohibited substances and methods because of clenbuterol and zeranol abuse in sports.

Side Effects of other Anabolic Agents:

- Trembling
- Restlessness, aggressive behaviour
- Anxiety
- Arrhythmias
- Muscle cramps

S2 HORMONES AND RELATED SUBSTANCES

Peptide and glycoprotein hormones are natural substances that act as 'messengers' within the human body and triggers the production of other hormones endogenously like testosterone and corticosteroids. The synthetic drugs like hCG, hGH, ACTH and EPO are known as analogues having similar effects to peptide hormones. Erythropoietin (EPO) hormone increases the number of red cells in blood and is used by athletes in endurance performances. Human growth hormones (hGH) are used by athletes for muscular strength. Human chorionic gonadotrophin (hCG) hormones are used by athletes to increase endogenous production of steroids specially to in an impression to improve the muscular strength. hCG is usually taken by those athletes who takes anabolic steroids to counteract the effects of testicular damage or as a masking agent. The use of synthetic gonadotrophin hormones by athletes stimulates ovulation in women and testosterone in men. Insulin may be illegally used in conjunction with anabolic steroids in an attempt to increase muscular strength. Adrenocorticotrophin (ACTH) hormone increases the level of endogenous corticosteroids in the blood and hence is taken by athletes in misconception to improve muscular strength.

Side Effects of EPO:

- Increased viscosity of blood
- Hypertension
- Myocardial infarction
- Cerebral infarction
- Pulmonary embolism
- Convulsions

Side Effects of hGH:

- Acromegaly (overgrowth of limbs)
- Soft tissues swelling
- Abnormal growth of organs
- Arthropathies (joint disorders)
- Diabetes mellitus

Side Effects of hCG:

- Menstrual disorders
- Gynecomastia (breast development in males)

Side Effects of insulin:

- Hypoglycaemia
- Nausea
- Drowsiness
- Brain malfunctioning

Side Effects of ACTH:

- Insomnia
- Hypertension
- Diabetes mellitus
- Stomach ulcers
- Osteoporosis

53 BETA-2-AGONISTS

Beta-2-Agonists if taken into bloodstream are having anabolic effects and hence WADA prohibited the use of all Beta-2-Agonists by athletes with the exception of inhaled formoterol, salbutamol, salmeterol and terbutaline to treat and/or prevention of asthmatic athletes. An abbreviated therapeutic use exemption certificate is required for the use of inhaled Beta-2Agonists.

54 HORMONE ANTAGONISTS AND MODULATORS

These substances may be illegally used by athletes to counteract undesirable side effects associated with anabolic steroid use such as gynecomastia.

Side Effects of Hormone Antagonists and Modulators:

- Hot flushes
- Gastrointestinal disorders
- Fluid retention
- Venous thrombosis

55 DIURETICS AND OTHER MASKING AGENTS

Masking agents are substances that have the potential to impair the excretion of prohibited substances to conceal their presence in urine or other doping control samples or to increase haematological parameters.

56 STIMULANTS

Stimulants are substances, which have a direct stimulating effect on the central nervous system. The stimulant increases the excitation of brain and spinal cord, cardiac output and rate of metabolism. The stimulants that are widely used in sports are amphetamine, cocaine and ephedrine. The players use these substances to attain the same effect as adrenalin, which is secreted naturally in human body. The stimulants may produce alertness, wakefulness and increased ability of concentration. These substances may develop the faculty to exercise strenuously or produce a decreased sensitivity to pain.

WADA has forbidden the use of stimulants in sports. Many cough and cold medications contain stimulants. One group of stimulants is the sympathomimetic amine of which ephedrine is an example. In lower doses these amines are often present in cold and hay fever medications and often these medications are easily available from pharmacies and retail outlets without the need of medical prescriptions. Thus such type of medications should be avoided by the athletes.

Side Effects of Stimulants:

If an athlete after consuming stimulants performs under severe circumstances eg long periods and or in the heat, the athlete's body heats up intensively and due to influence of stimulants it may become difficult for the human body to cool down. The cardiovascular system and other vital organs also start malfunctioning by the use of stimulants and in some cases may lead to death. Other potential harmful effects of stimulants are listed below:

- Loss of appetite
- Insomnia (loss of sleep)
- Euphoria
- Hallucinations (Psychosis)
- Trembling
- Restlessness, agitation, tenseness
- Hypertension
- Palpitation and heart rhythm disorders
- Hyperthermia (increased body temperature)

S7 NARCOTICS

The narcotics prohibited in sports are those derived from morphine and its chemical and pharmacological analogues.

These substances act on central nervous system and reduce pain feeling. The use of narcotics causes a false sense of cure in an injured athlete that leads to ignorance of a potentially serious injury and risking further damage.

Side Effects of Narcotics:

- Addiction
- Loss of balance and coordination
- Nausea and dizziness
- Insomnia & depression
- Decreased heart rate

S8 CANNABINOID

Cannabinoid is psychoactive chemical. Marijuana, hashish and hashish oil are derived from cannabis plant. Prolonged use of cannabinoid may result in loss of motivation, decreased concentration, impaired memory and learning disability, respiratory diseases such as lung cancer, throat cancer and chronic bronchitis.

Side Effects of Cannabinoid:

- Impaired balance and coordination
- Loss of concentration
- Increase in heart rate
- Increased appetite
- Drowsiness
- Hallucination

S9 GLUCOCORTICOSTEROIDS

Glucocorticosteroids are prohibited in-competition when administered orally, rectally, intravenously or intramuscularly. Administration of glucocorticosteroids through these routes requires therapeutic use exemption certificate (TUE). All other routes including anal, aural, dermatological, inhalation, intra articular, nasal and ophthalmological require athletes to follow abbreviated therapeutic use exemption certificate (ATUE).

Side Effects of Glucocorticosteroids:

- Fluid retention
- Hyperglycaemia
- Systemic infections
- Musculoskeletal disorders

P1 ALCOHOL

Alcohol is a central nervous system depressant which slows down the actions of the brain and body. Combining alcohol with other drugs can magnify the effects of alcohol or of the other drugs which can be dangerious in many circustances.

Side Effects of Alcohol:

- Impaired judgement
- Loss of reflexes and muscular co-ordination
- slurred speech
- sleepiness and poor respiration

P2 Beta Blockers

These drugs may be illegally used by athletes in precision sports requiring accuracy and steady limbs eg archery, shooting, modern pentathlon, luge, diving, bob sleigh, ski jumping and motor sports.

Side Effects of Beta Blockers:

- Hypotension
- Decreased heart rate

M1 ENHANCEMENT OF OXYGEN TRANSFER

Blood doping may be illegally used to increase red blood cells in an attempt to improve the oxygen carrying capacity in endurance events.

Side Effects of Blood Doping:

- Increased blood viscosity
- Clotting susceptibility
- Hypertension
- Vasoconstriction
- Kidney dysfunction
- Risk of cardiac arrest, brain stroke and pulmonary embolism

M2 CHEMICAL AND PHYSICAL MANIPULATION

Chemical and physical manipulations including catheterisation without medical justification and masking agents are prohibited methods and should not be used by athletes.

Side Effects of manipulations:

- Cystitis (bladder infection) and other dysfunctions and disorders depending upon the type of manipulation.

M3 GENE DOPING

Gene doping is banned by WADA in sports.

Side Effects of Gene Doping:

Side effects of gene doping are yet to be ascertained.

Therapeutic Use exemptions

Therapeutic Use Exemption (TUE)

An athlete, like any other person, may have illnesses or conditions that require the use of particular medications as treatment. But, Substances an athlete is required to take as a treatment may fall under the Prohibited List. In such a case, a Therapeutic Use Exemption (TUE) may, under strict conditions, provide an athlete with the authorization to take the needed medicine, all the while competing in sport, with no resulting doping offence.

Types of Therapeutic Use Exemptions

- Standard TUE (TUE)
- Abbreviated TUE (ATUE)

Standard TUE

Standard Therapeutic Use Exemption (TUE) is an authorization to take a Prohibited Substance under well-defined and restricted conditions. An application for a TUE shall be made in accordance with the International Standard for TUE. A TUE must be obtained for the use of any Substance on the Prohibited List. All athletes who need a medical treatment including a Prohibited Substance or Method and are subject to Testing must obtain a TUE from National Anti Doping Agency. In order to obtain an approval for a TUE, athletes must have a well-documented medical condition supported by reliable and relevant medical data.

Abbreviated TUE

Abbreviated Therapeutic Use Exemption (ATUE) application can be made by an Athlete only for the treatments by glucocorticosteroids by non-systemic routes (applied locally) and for beta-2 agonists (formoterol, salbutamol, salmeterol and terbutaline) by inhalation. An application for ATUE shall be made in accordance with the International standards using the ATUE Form. A notification is sent to the athlete by NADA upon receipt of a duly completed request. *A review by TUEC may be initiated at any time during the duration of the ATUE.* Athlete can begin treatment as soon as the form has been received by the NADA.

TUE/ATUE Forms

Applications for standard TUEs/ATUEs need to be submitted to NADA on the appropriate standard TUE/ATUE form/s. The forms may be obtained from NADA.

Approval procedure

Standard TUE applications will be reviewed by the Therapeutic Use Exemption Committee (TUEC) of NADA. The athlete will be notified of the decision taken by the TUEC. Decisions of the TUEC, will be completed within 30 days of receipt of all relevant documentation, and will be conveyed in writing to the Athlete by NADA.

Start of medical treatment

If the TUE is approved, the athlete can only begin treatment and-or sports practice after the reception of the authorization notice from NADA. (In rare emergency or exceptional cases, a retroactive approval may be considered). Athletes should not start using the substance before receiving the authorization notice

from NADA. The athlete would then be using a prohibited method or substance without authorization and this could constitute an anti doping rule violation in the event that the TUE is denied by the TUEC.

Criteria for granting a TUE

1. "The athlete would experience a significant impairment to health if the Prohibited Substance or Prohibited Method were to be withheld in the course of treating an acute or chronic medical condition."
2. "The therapeutic use of the Prohibited Substance or Prohibited Method would produce no additional enhancement of performance other than that which might be anticipated by a return to a state of normal health following the treatment of a legitimate medical condition. The use of any Prohibited Substance or Prohibited Method to increase "low normal" levels of any endogenous hormone is not considered an acceptable therapeutic intervention."
3. "There is no reasonable therapeutic alternative to the use of the otherwise Prohibited Substance or Prohibited Method."
4. "The necessity for the use of the otherwise Prohibited Substance or Prohibited Method cannot be a consequence, wholly or in part, of prior non-therapeutic use of any substance from the Prohibited List."

A TUE can only be granted if all four criteria are fulfilled.

Time Frame for TUE submission and retroactive approvals

A TUE for any Substances and Methods that are prohibited in competition has to be submitted by the athlete no less than 21 days before participating in an Event. In order to make sure that the Athlete has the TUE before participating in a competition all Athletes are strongly advised to send in their applications at least 30 days before participating in an event as the TUECs have 30 days to render their decision.

For substances, which are prohibited in and out of competition, the TUE application has to be submitted as soon as a pathology requesting the use of prohibited Substances and/or Methods has been diagnosed.

There are some situations when retroactive approval can be accepted. Even if a potential retroactive case is given consideration, this in no way guarantees that the TUE will be accepted. The evaluation procedure is the same as for a normal TUE request. The request will be considered by the relevant TUEC who will then render its decision. The following two situations may lead to a retroactive approval:

- Emergency treatment or treatment of an acute medical condition.
- Exceptional circumstances. If there was not enough time or opportunity for an applicant to submit, or if a TUEC did not have sufficient time to consider an application prior to Doping Control.

TUE Application Requirements

The following **Documents** must be attached

- Duly filled-in application form in support of a standard TUE request
- Evidence confirming the diagnosis must be included.
- Copies of the original reports or letters.
- A comprehensive medical history and the results of all relevant examinations, laboratory investigations and imaging studies relevant to the application
- A statement by a qualified physician attesting to 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 to treat this condition.
- In the case of non-demonstrable conditions, independent supporting medical opinion will assist the application.
- The data provided should be up-to-date and accurate in form and substance.

Renewing a TUE

TUEs cannot be renewed without a new medical consultation and confirmation thereof. This means the athlete must fill in a new request signed by his or her Physician upon expiration. Even in the case of chronic use, a TUE can only be granted for a limited period of time. The Physician should give a recommendation to the TUEC on the duration of the validity of the TUE based on the date of the next scheduled appointment with his/her patient for follow-up on the specific medical condition.

Automatic continuation is not acceptable in any case. The Physician must see the athlete on a regular basis and evaluate if the medical condition has changed and if the treatment is still appropriate for the stated medical condition.

TUEs Duration

A TUE will be granted for a limited period of time even if the use of the Substance is chronic. The use of the Substance shall be followed-up by a Physician on a regular basis. The TUE will be renewed consequently.

Where to Apply: International-Level Athletes

Athletes included by an IF in its Registered Testing Pool and other athletes prior to their participation in any International Event must obtain a TUE from their relevant IF (regardless of whether the athlete previously has received a TUE at the national level). An IF can recognize a TUE delivered by NADA under its own authority.

Athletes who already have a TUE at the national level but are participating in an International Event and do not already have a TUE registered with their IF must request a TUE from the IF no later than 21 days before the athlete's participation at an International Event.

National-Level athletes

National-Level athletes and athletes participating in National Events shall obtain a TUE from NADA, unless the athlete has previously received a TUE from an International Federation (IF) and such TUE is still valid and its granting has been reported to the NADA.

TUE Review

World Anti Doping Agency (WADA) on its own initiative may review the granting of a TUE to any International-Level athlete or National-Level athlete that is included in the NADA's Registered Testing Pool.

If WADA determines that the granting or denial of a TUE did not comply with the International Standard for TUE in force at the time, then WADA may reverse that decision and the TUE shall be cancelled. In the event of a reversal, WADA will advise all concerned parties.

An International-Level athlete or a National-Level athlete who has been denied a TUE can ask for a review of the decision to the WADA. Decisions on TUEs are also subject to further appeal and pursuant to the rules of Court of Arbitration in Sports (CAS).

Further Queries May be Submitted To:

Shri Rahul Bhatnagar, Director General
National Anti-Doping Agency
Indira Gandhi Stadium
New Delhi – 110002
Phone/Fax: 011-23392773
Email – rahul.bhatnagar@nic.in

Shri S.S.Chhabra, Sr.Project Officer
National Anti-Doping Agency
Indira Gandhi Stadium
New Delhi – 110002
Phone/Fax: 011-23392771
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