



CITIUS ALTIUS FORTIUS

## **INTERNATIONAL OLYMPIC COMMITTEE MEDICAL CODE**

### **PROHIBITED CLASSES OF SUBSTANCES AND PROHIBITED METHODS**

**31st January 1998**

Doping contravenes the ethics of both sport and medical science. Doping consists of:

- 1/ the administration of substances belonging to prohibited classes of pharmacological agents, and/or
- 2/ the use of various prohibited methods.

#### **I. PROHIBITED CLASSES OF SUBSTANCES**

- A. Stimulants**
- B. Narcotics**
- C. Anabolic Agents**
- D. Diuretics**
- E. Peptide and glycoprotein hormones and analogues**

#### **II. PROHIBITED METHODS**

- A. Blood doping**
- B. Pharmacological, chemical and physical manipulation**

#### **III. CLASSES OF DRUGS SUBJECT TO CERTAIN RESTRICTIONS**

- A. Alcohol**
- B. Marijuana**
- C. Local anaesthetics**
- D. Corticosteroids**
- E. Beta-blockers**

## I. PROHIBITED CLASSES OF SUBSTANCES

Prohibited substances fall into the following classes of substances:

- A. **Stimulants**
- B. **Narcotics**
- C. **Anabolic Agents**
- D. **Diuretics**
- E. **Peptide and glycoprotein hormones and analogues**

All substances belonging to the prohibited classes cannot be used even if they are not listed as examples. For this reason, the term “**and related substances**” is introduced. This term describes drugs that are related to the class by their pharmacological action and/or chemical structure.

### A. Stimulants

Prohibited substances in class (A) include the following examples:

**amineptine, amiphenazole, amphetamines, bromantan, caffeine\*,  
carphedon, cocaine, ephedrines\*\*, fencamfamine, mesocarb,  
pentylentetrazol, pipradol, salbutamol\*\*\*, salmeterol\*\*\*, terbutaline\*\*\*,  
... and related substances**

\* For caffeine the definition of a positive result depends on the concentration of caffeine in the urine. The concentration in urine may not exceed 12 micrograms per milliliter.

\*\* For ephedrine, cathine and methylephedrine, the definition of a positive is 5 micrograms per milliliter of urine. For phenylpropanolamine and pseudoephedrine the definition of a positive is 10 micrograms per milliliter. If more than one of these substances is present, the quantities should be added, and, if the sum exceeds 10 micrograms per milliliter the sample shall be considered positive.

\*\*\* Permitted by inhaler only when their use is previously certified in writing by a respiratory or team physician to the relevant medical authority.

NOTE: All imidazole preparations are acceptable for topical use, e.g. oxymetazoline. Vasoconstrictors (e.g. adrenaline) may be administered with local anaesthetic agents. Topical preparations (e.g. nasal, ophthalmological) of phenylephrine are permitted.

## B. Narcotics

Prohibited substances in class (B) include the following examples:

**dextromoramide, diamorphine (heroin), methadone, morphine, pentazocine, pethidine,  
... and related substances**

Note: codeine, dextromethorphan, dextropropoxyphene, dihydrocodeine, diphenoxylate, ethylmorphine, pholcodine and propoxyphene are permitted.

## C. Anabolic agents

The anabolic class includes 1) anabolic androgenic steroids (AAS) and 2) beta-2 agonists.

Prohibited substances in class (C) include the following examples:

### 1. Anabolic androgenic steroids

**androstenedione, clostebol, dehydroepiandrosterone (DHEA), fluoxymesterone, metandienone, metenolone, nandrolone, oxandrolone, stanozolol, testosterone\*,  
... and related substances**

\* The presence of a testosterone (T) to epitestosterone (E) ratio greater than six (6) to one (1) in the urine of a competitor constitutes an offence unless there is evidence that this ratio is due to a physiological or pathological condition, e.g. low epitestosterone excretion, androgen producing tumour, enzyme deficiencies.

In the case of T/E higher than 6, it is mandatory that the relevant medical authority conduct an investigation before the sample is declared positive. A full report will be written and will include a review of previous tests, subsequent tests and any results of endocrine investigations. In the event that previous tests are not available, the athlete should be tested unannounced at least once per month for three months. The results of these investigations should be included in the report. Failure to cooperate in the investigations will result in declaring the sample positive.

### 2. Beta-2 agonists

When administered systemically, beta-2 agonists may have powerful anabolic effects.

**clenbuterol, fenoterol, salbutamol, salmeterol, terbutaline,  
... and related substances**

#### D. Diuretics

Prohibited substances in class (D) include the following examples:

**acetazolamide, bumetanide, chlorthalidone, ethacrynic acid, furosemide, hydrochlorothiazide, mannitol\*, mersalyl, spironolactone, triamterene, ... and related substances**

\* Prohibited by intravenous injection.

#### E. Peptide and glycoprotein hormones and analogues

Prohibited substances in class (E) include the following examples:

1. **Chorionic Gonadotrophin** (hCG - human chorionic gonadotrophin);
2. **Corticotrophin** (ACTH);
3. **Growth hormone** (hGH, somatotrophin);

All the respective releasing factors (and their analogues) of the above-mentioned substances are also prohibited.

4. **Erythropoietin** (EPO)

## II: PROHIBITED METHODS

The following procedures are prohibited:

### Blood doping

Blood doping is the administration of **blood, red blood cells and related blood products** to an athlete. This procedure may be preceded by withdrawal of blood from the athlete who continues to train in this blood depleted state.

### Pharmaceutical, chemical and physical manipulation

Pharmaceutical, chemical and physical manipulation is the use of substances and of methods which alter, attempt to alter or may reasonably be expected to alter the integrity and validity of urine samples used in doping controls, including, without limitation, catheterisation, urine substitution and or tampering, inhibition of renal excretion such as by **probenecid** and related compounds and alterations of testosterone and epitestosterone measurements such as by **epitestosterone\*** or **bromantan** administration.

\* An epitestosterone concentration in the urine in excess of 200 nanograms per milliliter will have to be investigated by studies as in Article I.C (I).

The success or failure of the use of a prohibited substance or method is not material. It is sufficient that the said substance or procedure was used or attempted for the infraction to be considered as consummated.

### III: CLASSES OF DRUGS SUBJECT TO CERTAIN RESTRICTIONS

#### A. Alcohol

In agreement with the International Sports Federations and the responsible authorities, tests may be conducted for ethanol. The results may lead to sanctions.

#### B. Marijuana

In agreement with the International Sports Federations and the responsible authorities, tests may be conducted for cannabinoids (e.g. Marijuana, Hashish). The results may lead to sanctions.

#### C. Local anaesthetics

Injectable local anaesthetics are permitted under the following conditions:

- a/ bupivacaine, lidocaine, mepivacaine, procaine, etc. can be used but not cocaine. Vasoconstrictor agents (e.g. adrenaline) may be used in conjunction with local anaesthetics.
- b/ only local or intra-articular injections may be administered;
- c/ only when medically justified.

**In agreement with International Sports Federations and the responsible authorities, notification of the permitted use may be necessary except for dental application.** The details including diagnosis, dose and route of administration must be submitted prior to the competition or, if administered during the competition, immediately after injection, in writing to the relevant medical authority.

#### D. Corticosteroids

The use of corticosteroids is prohibited except:

- a/ for topical use (anal, aural, dermatological, nasal and ophthalmological) but not rectal;
- b/ by inhalation;
- c/ by intra-articular or local injection.

The IOC Medical Commission has introduced mandatory reporting of athletes requiring corticosteroids by inhalation for the treatment of asthma during competitions. Any team doctor wishing to administer corticosteroids by inhalation or by local or intra-articular

injection to a competitor must give written notification prior to the competition to the relevant medical authority.

E. Beta-blockers

Some examples of beta-blockers are:

**acebutolol, alprenolol, atenolol, labetalol, metoprolol, nadolol, oxprenolol, propranolol, sotalol,  
... and related substances**

In agreement with the rules of the International Sports Federations, tests will be conducted in some sports, at the discretion of the responsible authorities. The results may lead to sanctions.

**SUMMARY OF IOC REGULATIONS FOR DRUGS WHICH NEED PHYSICIAN WRITTEN NOTIFICATION**

<b>SUBSTANCES</b>	<i>PROHIBITED</i>	<i>AUTHORIZED WITH NOTIFICATION</i>	<i>AUTHORIZED WITHOUT NOTIFICATION</i>
<b>Selected beta-agonists*</b>	- Oral - Systemic injections	- Inhalatory	
<b>Corticosteroids</b>	- Oral - Systemic injections - Rectal	- Inhalatory - Local injections - Intra-articular injections	- Topical (anal, aural, dermatological, nasal, ophtalmological)
<b>Local anaesthetics**</b>	- Systemic injections		- Dental - Local injections*** - Intra-articular injections***

\* salbutamol, salmeterol, terbutaline; all others beta-agonists are prohibited

\*\* except cocaine, which is prohibited

\*\*\* in agreement with some International Sports Federations, notification may be necessary in some sports

**SUMMARY OF URINARY CONCENTRATIONS**  
**ABOVE WHICH IOC ACCREDITED LABORATORIES**  
**MUST REPORT FINDINGS FOR SPECIFIC SUBSTANCES**

cathine	> 5 micrograms / mililiter
ephedrine	> 5 micrograms / mililiter
epitestosterone	> 200 nanograms / mililiter
methylephedrine	> 5 micrograms / mililiter
morphine	> 1 microgram / mililiter
phenylpropanolamine	> 10 micrograms / mililiter
pseudoephedrine	> 10 microgram / mililiter
T/E ratio	> 6

**LIST OF EXAMPLES OF PROHIBITED SUBSTANCES**

**CAUTION:**

This is not an exhaustive list of prohibited substances. Many substances that do not appear on this list are prohibited under the term "and related substances".

All athletes are strongly advised only to take medicines which are prescribed by a medical doctor and to ensure that they contain only drugs that are not prohibited by the IOC Medical Commission or the responsible authorities.

Whenever an athlete is required to undergo a doping control it is essential that all medications and drugs taken or administered in the previous three days are declared on the doping control official record.

**STIMULANTS:**

**amineptine, amfepramone, amiphenazole, amphetamine, bambuterol, bromantan, caffeine, carphedon, cathine, cocaine, cropropamide, crotethamide, ephedrine, etamivan, etilamphetamine, etilefrine, fencamfamine, fenetylline, fenfluramine, formoterol, heptaminol, methyldioxyamphetamine, mefenorex, mephentermine, mesocarb, methamphetamine, methoxyphenamine, methylephedrine, methylphenidate, nikethamide, norfenfluramine, parahydroxyamphetamine, pemoline,**

**pentylentetrazol, phendimetrazine, phentermine, phenylpropanolamine, pholedrine, pipradol, prolintane, propylhexedrine, pseudoephedrine, reproterol, salbutamol, salmeterol, selegiline, strychnine, terbutaline,**

**NARCOTICS:**

**dextromoramide, diamorphine (heroin), hydrocodone, methadone, morphine, pentazocine, pethidine,**

**ANABOLIC AGENTS :**

**androstenedione, bambuterol, boldenone, clenbuterol, clostebol, danazol, dehydrochlormethyltestosterone, dehydroepiandrosterone (DHEA), dihydrotestosterone, drostanolone, fenoterol, formoterol, fluoxymesterone, formebolone, gestrinone, mesterolone, metandienone, metenolone, methandriol, methyltestosterone, mibolerone, nandrolone, norethandrolone, oxandrolone, oxymesterone, oxymetholone, reproterol, salbutamol, salmeterol, stanozolol, terbutaline, testosterone, trenbolone,**

**DIURETICS**

**acetazolamide, bendroflumethiazide, bumetanide, canrenone, chlortalidone, ethacrynic acid, furosemide, hydrochlorothiazide, indapamide, mannitol, mersalyl, spironolactone, triamterene,**

**MASKING AGENTS**

**bromantan, epitestosterone, probenecid,**

**PEPTIDE HORMONES**

**ACTH, erythropoietin (EPO), hCG, hGH,**

**BETA BLOCKERS**

**acebutolol, alprenolol, atenolol, betaxolol, bisoprolol, bunolol, labetalol, metoprolol, nadolol, oxprenolol, propranolol, sotalol.**