

**INTERNATIONAL OLYMPIC COMMITTEE MEDICAL CODE**

**PROHIBITED CLASSES OF SUBSTANCES AND PROHIBITED METHODS**

**31st January 1999**

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 hormones, mimetics 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. Cannabinoids
- 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 hormones, mimetics 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\*\*, fencamfamin, mesocarb, pentetrazol, pipradrol, salbutamol\*\*\*, salmeterol\*\*\*, terbutaline\*\*\*, ... and related substances.**

\* For caffeine the definition of a positive is a concentration in urine greater than 12 micrograms per millilitre.

\*\* For ephedrine, cathine and methylephedrine, the definition of a positive is a concentration in urine greater than 5 micrograms per millilitre. For phenylpropanolamine and pseudoephedrine, the definition of a positive is a concentration in urine greater than 10 micrograms per millilitre. If more than one of these substances are present below their respective thresholds, the concentrations should be added. If the sum is greater than 10 micrograms per millilitre, the sample shall be considered positive.

\*\*\* Permitted by inhaler only to prevent and/or treat asthma and exercise-induced asthma. Written notification of asthma and/or exercise-induced asthma by a respiratory or team physician is necessary 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:

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

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

C. Anabolic agents

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

1. Anabolic androgenic steroids

a.

**clostebol, fluoxymesterone, metandienone, metenolone, nandrolone, 19-norandrostenediol, 19-norandrostenedione, oxandrolone, stanozolol, ... and related substances.**

b.

**androstenediol, androstenedione, dehydroepiandrosterone (DHEA), dihydrotestosterone, testosterone\*, ... and related substances.**

Evidence obtained from metabolic profiles and/or isotopic ratio measurements may be used to draw definitive conclusions.

\* 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 greater than 6, it is mandatory that the relevant medical authority conducts 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 co-operate in the investigations will result in declaring the sample positive.

2. Beta-2 agonists

When administered orally or by injection.

**bambuterol, clenbuterol, fenoterol, formoterol, reproterol, salbutamol\*,  
terbutaline\*,  
... and related substances.**

\*Permitted by inhalation as described in Article (I.A.).

D. Diuretics

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

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

\* Prohibited by intravenous injection.

E. Peptide hormones, mimetics and analogues

Prohibited substances in class (E) include the following examples and their analogues and mimetics:

1. **Chorionic Gonadotrophin (hCG);**
2. **Pituitary and synthetic gonadotrophins (LH);**
3. **Corticotrophins (ACTH, tetracosactide);**
4. **Growth hormone (hGH);**
5. **Insulin-like Growth Factor (IGF-1);**

and all the respective releasing factors and their analogues;

6. **Erythropoietin (EPO);**

7. **Insulin;**

permitted only to treat insulin-dependent diabetes. Written notification of insulin-dependent diabetes by an endocrinologist or team physician is necessary.

The presence of an abnormal concentration of an endogenous hormone or its diagnostic marker(s) in the urine of a competitor constitutes an offence unless it has been conclusively documented to be solely due to a physiological or pathological condition.

## II. PROHIBITED METHODS

The following procedures are prohibited:

### Blood doping

Blood doping is the administration of **blood, red blood cells, artificial oxygen carriers, and related blood products** to an athlete.

### Pharmacological, chemical and physical manipulation

Pharmacological, 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 samples used in doping controls. These include, without limitation, the administration of diuretics, catheterisation, sample substitution and or tampering, inhibition of renal excretion such as by **probenecid** and related compounds, and alterations of testosterone and epitestosterone measurements such as **epitestosterone\*** or **bromantan** administration.

\* An epitestosterone concentration in the urine greater than 200 nanograms per millilitre will be investigated by studies as in Article (I.C.1. b.) for testosterone.

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

Where the rules of a responsible authority so provide, tests will be conducted for ethanol.

### B. Cannabinoids

Where the rules of a responsible authority so provide, tests will be conducted for cannabinoids (e.g. Marijuana, Hashish). At the Olympic Games, tests will be conducted for cannabinoids. A concentration in urine of 11-nor-delta 9-tetrahydrocannabinol-9-carboxylic acid (carboxy-THC) greater than 15 nanograms per millilitre is prohibited.

### 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.

Where the rules of a responsible authority so provide, notification of administration may be necessary.

### D. Corticosteroids

The systemic use of corticosteroids is prohibited.

Anal, aural, dermatological, inhalational, nasal and ophthalmological (but not rectal) administration is permitted. Intra-articular and local injections of corticosteroids are permitted. Where the rules of a responsible authority so provide, notification of administration may be necessary.

### E. Beta-blockers

Some examples of beta-blockers are:

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

Where the rules of an International Sports Federation so provide, tests will be conducted for beta-blockers.

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

<b>SUBSTANCES</b>	<i>PROHIBITED</i>	<i>PERMITTED WITH NOTIFICATION</i>	<i>PERMITTED WITHOUT NOTIFICATION</i>
<b>Selected beta-agonists*</b>	- Oral - Systemic injections	- Inhalational	
<b>Corticosteroids</b>	- Oral - Systemic injections - Rectal		anal, aural, dermatological, inhalational, nasal, ophthalmological,  -local and intra-articular injections***
<b>Local anaesthetics**</b>	- Systemic injections		local and intra-articular injections***

\* Salbutamol, salmeterol, terbutaline; all other beta-agonists are prohibited.

\*\* Except cocaine, which is prohibited.

\*\*\* Where the rules of the responsible authority so provide, notification may be necessary.

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

caffeine	> 12 micrograms/millilitre
carboxy-THC	> 15 nanograms/millilitre
cathine	> 5 micrograms / millilitre
ephedrine	> 5 micrograms / millilitre
epitestosterone	> 200 nanograms / millilitre
methylephedrine	> 5 micrograms / millilitre
morphine	> 1 microgram / millilitre
phenylpropanolamine	> 10 micrograms / millilitre
pseudoephedrine	> 10 micrograms / millilitre
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 considered 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 all medications and drugs taken or administered in the previous seven days should be declared on the doping control official record.

### STIMULANTS:

amineptine, amfepramone, amiphenazole, amphetamine, bambuterol, bromantan, caffeine, carphedon, cathine, cocaine, cropropamide, crotethamide, ephedrine, etamivan, etilamphetamine, etilefrine, fencamfamin, fenetylline, fenfluramine, formoterol, heptaminol, mefenorex, mephentermine, mesocarb, methamphetamine, methoxyphenamine, methylenedioxyamphetamine, methylephedrine, methylphenidate, nikethamide, norfenfluramine, parahydroxyamphetamine, pemoline, pentetrazol, phendimetrazine, phentermine, phenylephrine, phenylpropanolamine, pholedrine, pipradrol, prolintane, propylhexedrine, pseudoephedrine, reproterol, salbutamol, salmeterol, selegiline, strychnine, terbutaline,

### NARCOTICS:

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

### ANABOLIC AGENTS :

androstenediol, androstenedione, bambuterol, boldenone, clenbuterol, clostebol, danazol, dehydrochlormethyltestosterone, dehydroepiandrosterone (DHEA), dihydrotestosterone, drostanolone, fenoterol, fluoxymesterone, formebolone, formoterol, gestrinone, mesterolone, metandienone, metenolone, methandriol, methyltestosterone, mibolerone, nandrolone, 19-norandrostenediol, 19-norandrostenedione, 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, diuretics (see above), epitestosterone, probenecid,

PEPTIDE HORMONES, MIMETICS AND ANALOGUES

ACTH, erythropoietin (EPO), hCG, hGH, insulin, LH,

BETA BLOCKERS

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