

Prohibited List of Substances and Methods

This document explains the legitimate medical use as well as some of the health and safety risks associated with substances and methods included on the Prohibited List, by category as used in the List.

PROHIBITED SUBSTANCES

Non-Approved Substances

This category refers to substances that are not addressed by any of the other sections of the List and that have no current approval by any governmental regulatory health authority for human therapeutic use (i.e. drugs under pre-clinical or clinical development or discontinued). Substances in this category are prohibited at all times.

Potential side effects of non-approved substance use

Substances that have not undergone safety and clinical efficacy testing for use in humans means that their safety profile and potential side effects are unknown.

Anabolic Agents

Their primary medical use is to treat delayed puberty, types of impotence, muscle-wasting diseases, hypogonadism, and menopause in women, among other ailments.

Examples of anabolic agents include testosterone, nandrolone, and DHEA.

Potential side effects of anabolic steroid abuse

Physiological and psychological side effects of anabolic steroid abuse have the potential to affect any user, while other side effects are gender specific. The list below is not comprehensive. Effects may be permanent and can vary by individual.

Physiological

Acne

Male pattern baldness

Liver damage*

Premature closure of the growth centres of long bones (in adolescents) which may result in stunted growth*

Psychological

Increased aggressiveness and sexual appetite, sometimes resulting in abnormal sexual and criminal behaviour, often referred to as "Roid Rage"

Withdrawal from anabolic steroid use can be associated with depression and suicide

Males

Breast tissue development*

Shrinking of the testicles*

Impotence

Reduction in sperm production

Females

Deepening of the voice*

Cessation of breast development

Growth of hair on the face, stomach, and upper back*

Enlarged clitoris*

Abnormal menstrual cycles

Peptide Hormones, Growth Factors, Related Substances and Mimetics

Their primary medical uses vary, but include treatment for chronic kidney disease, acute anaemia, short stature, and aiding those born prematurely. Some examples within this category include erythropoietin (EPO), human growth hormone (hGH), and human chorionic gonadotrophin (hCG).

Potential side effects and health risks of this category

Hypertension (EPO/hGH)
Blood cancers/leukaemia (EPO/hGH)
Anemia (EPO)
Strokes (EPO)

Heart Attacks
Pulmonary embolism (EPO)
Feminisation (hCG)
Thyroid Problems (hGH)

Beta-2 Agonists

The primary medical use of these compounds is to treat conditions such as asthma and other respiratory ailments. Some studies have shown beta-2 agonists have performance-enhancing effects when consistently high levels are present in the blood.

Potential side effects of beta-2 agonists

- Palpitations
- Headaches
- Sweating
- Nausea
- Muscle cramps
- Nervousness

Many commonly prescribed treatments for asthma and respiratory ailments are powerful stimulants. Some also possess anabolic properties, especially when taken orally or by injection. Due to these stimulatory and potential anabolic effects, there are limitations on their use in sport.

Hormone and Metabolic Modulators

Hormone antagonists are agents that modify hormone functions.

Specific classes of hormone antagonists and modulators are prohibited, including:

- Aromatase inhibitors
- Selective oestrogen receptor modulators (SERMS)
- Agents modifying myostatin function(s)
- Other anti-estrogenic substances such as clomiphene
- Insulin
- PPAR delta agonists (GW1516), AMPK axis agonists (AICAR)

Potential side effects and health risks of hormone and metabolic modulators

- Abnormal blood sugar levels (Insulin)
- Endocrine system disruption (Clomiphene)
- Liver damage (AICAR)
- Cholesterol imbalance (Aromatase Inhibitors)
- Motor function disorders and tremors (Trimetazidine)

Diuretics and Masking Agents

The primary medical use of these compounds is to treat conditions such as hypertension, kidney disease, and congestive heart failure.

Potential side effects and health risks of diuretic abuse

- Dehydration
- Dizziness or fainting
- Muscle cramping and heart arrhythmia due to potassium depletion
- Drop in blood pressure
- Loss of coordination and balance
- Death

Stimulants

The primary medical use of these compounds is to treat conditions such as Attention Deficit Disorders, asthma, narcolepsy, and obesity. Stimulants are prohibited in-competition.

Potential side effects and health risks of stimulant use

Insomnia	Tremors
Anxiety	Increased heart rate and blood pressure
Weight loss	Increased risk of stroke, heart attack, and cardiac arrhythmia
Dependence and addiction	
Dehydration	

Prohibited stimulants are often present in over-the-counter products such as nasal sprays, dietary weight loss supplements, headache/cold remedies. Commonly found in cold and flu medications, is the prohibited stimulant **pseudoephedrine**. Ensure you do not take medications with pseudoephedrine during or within 24 hours of competition. Dietary supplements purchased over-the-counter or online may also contain prohibited stimulants like methylhexanamine and oxilofrine, also known as methylsynephrine.

Narcotics

In small doses, narcotics have medical uses including relieving severe pain and inducing sleep.

Potential side effects and health risks of narcotics

While a sensation of euphoria and psychological stimulation are effects common to the use of narcotics, misuse of narcotics can pose serious health risks, including:

- A false sense of invincibility
- Nausea and vomiting
- Increased pain threshold and failure to recognize injury
- Physical and psychological dependence, leading to addiction
- Decreased heart rate
- Respiratory depression
- Death

If painkillers are needed to treat an injury

Check if a permitted alternative exists. If your only option is a prohibited narcotic, go to the TUE section to find out how to apply for a Therapeutic Use Exemption.

Cannabinoids

Cannabinoids (cannabis, hashish, marijuana, synthetic THC, HU-210) are illegal substances in many jurisdictions and are prohibited in-competition. Cannabimimetics (JWH-018, JWH-073, HU-210) are also prohibited.

The body absorbs THC, the active ingredient in cannabinoids, breaks it down into metabolites, which are stored in fat cells. These can be detected in the urine for many weeks after use depending on the user's metabolism.

Potential side effects and health risks of marijuana use

Increased heart rate
Impaired short-term memory
Distorted sense of time and space
Diminished ability to concentrate
Slowed coordination and reaction of reflexes
Mood instability
Impaired thinking and reading comprehension
Respiratory diseases

Beta-Blockers

The primary medical use of beta-blockers is to control hypertension, cardiac arrhythmias, angina pectoris (severe chest pain), migraine, and nervous or anxiety-related conditions. In golf, beta-blockers are prohibited in-competition only.

PROHIBITED METHODS

Manipulation of Blood and Blood Components

Blood doping is a prohibited method of increasing oxygen transport to the tissues. Blood doping artificially increases the number of red blood cells in the body by transfusion of one's own blood (autologous transfusion) or blood from donors matched by blood type (homologous). This increases the haemoglobin mass (amount of red cells in the blood) for a period of time, resulting in the potential for increased endurance, work load, and recovery.

What are the health risks of blood doping?

Adding more red blood cells to the cardiovascular system can cause the blood to be more viscous and cause the heart to overload. A person with already thickened blood is at greater risk of dehydration. With increased red blood cell counts, there are risks for:

- Increased stress on the heart and cardiovascular system
- Blood clotting
- Stroke
- Adverse immune response

With transfusions, there is an increased risk of infectious disease such as AIDS or hepatitis.

Chemical and Physical Manipulation

Chemical and physical manipulation is tampering or attempting to tamper with the sample in order to alter its integrity, using intravenous infusions, or sequentially withdrawing, manipulating, and reinfusing whole blood into the circulatory system.

Gene Doping

Gene doping is the use of normal or genetically modified cells, the transfer of nucleic acids or nucleic acid sequences, or the use of agents that directly or indirectly affect functions known to influence performance by altering gene expression. Most gene transfer technologies are still in experimental phases. The long-term effects of altering genetic material are unknown, although several deaths have occurred during experimentation.