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## Doping manance in present day & games

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### Abstract

Doping may be defined as the use of chemical substances, foreign to the body, to improve athletic performance. Doping is the use of substances or the employment of means in an attempt to augment artificially their performance of an athlete during either participation or preparation. The process was perfected after the invention of gas chromatography-mass spectrometric method and used for the analysis of anabolic steroids. Till that time a number of Dope testing laboratories have come up all over the world. To create awareness among athletes not to use any type of doping methods. In long run the athletes suffers from many types of diseases and deformities. Methods for the prevention of doping fall into three broad categories, - control by governmental or inter-governmental legislation, and regulation by athletic association and gentle persuasion. The testing of the urine of winners is required. A list of prohibited drugs should be distributed to all team physicians before the competition, and in the medical centre at the competition site and the drugs are marked with a special colour coding. Any athlete caught using these drugs must be disqualified. Classes of substances banned by: Prohibited Doping Classes of substances 1.Stimulants 2.Narcotic analgesics 3.Anabolic agents 4.Diuretics 5. Peptide Hormones, 6. Mimetic and Analogues. Prohibited Doping: 1.Blood Doping 2. Administering 3. Artificial Oxygen Carriers and expanders 4. Pharmacological, chemical and physical manipulation. Classes of drugs subject to certain restrictions.1. Alcohol 2.Beta Blockers 3. Glucocorticosteroids 4.Local Anesthetics 5. Cannabinoids 6.Other Substances. Blood transfusion is the intravenous administration of red blood cells or related blood products that contain red blood cells. It causes infections of the blood. Blood doping leads to intravascular blood clotting. When attempted by an untrained and physician it leads to mismatch blood transfusion. Objective education and information should be provided not only to athletes but to all of society (parents, educators, officials, the general public etc.). To this end, it is necessary to Inform athletes, officials and the public about the nature of the problem, the rights and obligations of the actors concerned. This could be done through educational workshops. Include doping and its semiology in the compulsory curriculum of medical schools.

**Keywords:** Doping manance, games

### Introduction

Doping may be defined as the use of chemical substances, foreign to the body, to improve athletic performance.

Doping is the use of substances or the employment of means in an attempt to augment artificially their performance of an athlete during either participation or preparation.

This is rather broader concept of doping than the simple use of drugs- it could encompass other artificial means of trying to change the outcome of a race, for instance a programme of deliberate starvation, or dehydration, the transfusion of the athlete's own stored blood.

### Analysis

The process was perfected after the invention of gas chromatography-mass spectrometric method and used for the analysis of anabolic steroids. Till that time a number of Dope testing laboratories have come up all over the world. The present number of IOC accredited laboratories are 26 in all out of which three are in Asia i.e., Seoul, Tokyo and Beijing, India too has a Doping control laboratory at J.N. Stadium, New Delhi which has recently accredited by IOC.

### Purpose

To create awareness among athletes not to use any type of doping methods. In long run the

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athletes suffers from many types of diseases and deformities.

### Methodology

#### The Prevention of Doping

Methods for the prevention of doping fall into three broad categories, control by governmental or inter-governmental legislation, and regulation by athletic association and gentle persuasion.

1. Sports associations make various types of spot checks to ensure that their rules are observed.
2. The testing of the urine of winners is required.
3. The innocent athletes should not be disgraced and the guilty should be disqualified.
4. A list of prohibited drugs should be distributed to all team physicians before the competition, and in the medical centre at the competition site and the drugs are marked with a special colour coding.
5. To keep a close and regular check on the weights of top athletes, and make careful examination of any athlete who shows a surprising gain or loss.
6. All drug addicts should have the knowledge of physiological harmful effects of the drugs on human body.
7. Any athlete caught using these drugs must be disqualified.

### Doping Agents

1. Classes of substances banned by:
  2. Prohibited Doping Classes of substances 1. Stimulants 2. Narcotic analgesics 3) Anabolic agents 4. Diuretics 5. Peptide Hormones, 6. Mimetics and Analogues.
3. Prohibited Doping: 1. Blood Doping 2. Administering 3. artificial oxygen carriers and expanders 4. Pharmacological, chemical and physical manipulation.
4. Classes of drugs subject to certain restrictions. 1. Alcohol 2. Beta Blockers 3. Glucocorticosteroids 4. Local Anesthetics 5. Cannabinoids 6. Other Substances prohibited methods
  1. Blood doping, 2. Administering artificial oxygen carriers or plasma expanders and 3. Pharmacological, chemical and physical manipulation.

### Blood Doping

Blood transfusion is the intravenous administration of red blood cells or related blood products that contain red blood cells.

Such products can be obtained from blood drawn from the same (autologous) or from a difference (non-autologous) individual. The most common indications for red blood transfusion in conventional medical practice are acute blood loss and severe anemia.

Blood doping is the administration of blood or related red blood products to an athlete other than for legitimate medical treatment. This procedure may be preceded by withdrawal of blood from the athlete who continues to train in this blood depleted state.

Blood doping is used by athletes engaged in aerobic athletic activities, for example, long distance running, cross country skiing and cycling. The expressed purpose is to increase their total aerobic power by increasing the transport of oxygen to the contracting muscle. Blood doping represents a method of increasing the HB concentration of the blood in order to increase the amount of oxygen that can be transported to the working muscle.

Blood doping or blood boosting or blood transfusion is the

injection of either whole blood or packed red blood cells (RBC's) into the participant the day prior to competition in the hope of increasing the blood volume and its oxygen carrying capacity, and thus improving endurance performance, blood doping may be the injection of an individual's own blood which was withdrawn several weeks prior to reinjection. Training continues and this apparently allows time for the body to regenerate new RBC's in which to restore the normal hemoglobin level. The ergogenic effects from the blood doping is considered to be unethical.

1. It causes infections of the blood
2. Blood doping leads to intravascular blood clotting.
3. When attempted by an untrained and physician it leads to mismatch blood transfusion.

### Procedure for Blood Doping

The procedure that has been utilized for blood is as follows:

- a) Four to eight weeks prior to the anticipated athletic event for which blood doping is desired, 2 units of blood are removed from the individual. b). The RBC's are separated from the plasma, then preserved. c) the athlete then continues to train, but having become anemic, he, or she must increase intake of food, vitamins and iron. This increased dietary activity usually replenishes the lost 2 pints of blood in 2 months. d). Then 1-4 days prior to the desired athletic event, the frozen red blood cells are – thawed and reconstituted with saline solution, then rein fused.

### Use in Sports

No data exists' regarding Incidence of blood doping among endurance athletes, although anecdotal stories abound. It is not unusual for a cyclist or runner who performs unexpectedly well to be accused 'of blood doping. Dr. Robert Voy, who was Director of Science for the United States Olympic Committee suggests that when a country comes out of nowhere to world prominence in an endurance event the international athletic community nods knowingly and thinks blood doping.

### Side Effects

- Hyperviscosity syndrome (including heart failure and potential death) bacterial infections.
- Air/clot emboli.
- Hepatitis.
- AIDS.

### Conclusions

#### Education and Information

Objective education and information should be provided not only to athletes but to all of society (parents, educators, officials, the general public etc.). To this end, it is necessary to:

- Inform athletes, officials and the public about the nature of the problem, the rights and obligations of the actors concerned. This could be done through educational workshops.
- Include doping and its semiology in the compulsory curriculum of medical schools;
- Promote awareness among health professionals and educators, physical education teachers, sports educators and coaches;
- Update information thanks to modern means of communication (FM radio, Internet)

### References

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