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## Competing against doping

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### Abstract

Sport is thought of as an activity that is governed by a set of rules and is engaged in competitively, while Doping is the idea of using banned natural or synthetic substance for the purpose of enhancing sports performance. Sports goes beyond a measure of athletic excellence and the winning of trophies, medals and cash awards has become a pride to the Nation and sports persons. Sports teaches us about honest endeavor, commitment and fair play. The use of performance enhancement drugs are very harmful to the body. Doping in sport is not a new phenomenon, athletes have taken performance enhancing agents since the beginning of time. The ancient Olympics in Greece were riddled with doping. In ancient Rome, gladiators drank herbal infusions to strength them before chariot races. The first doping death occurred in 1886 in cycling. In the early 1900 the popular doping agent was a cock tail of alcohol and strychnine. The use of performance enhancing drugs is a form of cheating, that is quite wide spread and common in sports. Performance enhancing drugs such can be stimulants, anabolic steroids, diuretics, beta blockers etc. are harmful to the health. In spite of harmful effects the sports persons are using drugs to become fame and rich in life. Performance enhancement may be attained fairly through good dietary nutrition and effective training and recovery programmes. Athletes require good dietary advice from early on their career to achieve high level sports performance. Sports must be doping free and performance must be achieved through scientific sports coaching. Sports and Games must be played in fair manner.

**Keywords:** Doping, gladiators, stimulants, anabolic steroids, beta-blockers

### Introduction

Sport is thought of as an activity that is governed by a set of rules and is engaged in competitively. While Doping is the idea of using banned natural or synthetic substance for the purpose of enhancing performance in sports. The use of performance enhancing drugs is a form of cheating that is quite wide spread and common in today's modern sports. Doping in sports refers to the use of prohibited substances that may give an athlete an artificially improvement in their natural ability over other competitors. The fundamental principles of fair play and sporting ethics are violated. High skilled athletes are not rewarded for hard work but instead those associated with banned substances are recognized for their achievements.

Doping in sport is not a new phenomenon. In Ancient Rome gladiators drank herbal infusions to strengthen them before chariot races and going into battle. Almost two millennia later the first documented report in the medical literature was published in 1865 in the British Medical Journal citing expulsion of a swimmer from an Amsterdam canal race, for taking an unnamed performance enhancing drugs. The first doping death occurred in 1886 in cycling.

Doping in sport will always raise concern, as it is the integrity of the competition being questioned. As long as the importance and rewards of athletic excellence become greater there is an irresistible urge for athletes to resort to drugs to gain an edge. Amateur Athletes have the opportunity to receive college scholarships and elite athletes can earn tens of millions of dollars and many more through prize money and commercial endorsements. The lure to success is great and the temptation to gain any advantage will increasingly linger.

### The need for education

Performance enhancement may be attained fairly through good dietary nutrition and effective training and recovery programs. The role of protein is often overestimated. Fatigue is often due to either dehydration or depletion of carbohydrate stores or both. The role of carbohydrate and fluid intake has been overlooked.

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A rich carbohydrate diet after each exercise session will promote endurance and recovery. Athletes require good dietary advice from early on in their career and this should be part of undergraduate sports curricula; coaches require a parallel education in dietetics. Athletes suffer the same cross-section of chronic diseases e.g. asthma, diabetes and common ailments e.g. headache, cold, 'flu, hay-fever, as the general population and so a balance is needed to have a range of medicines that may be used for treatment of all conditions while maintaining a level playing field. All athletes are aware of the risks of taking medicines near or during competition and for their own benefit should always ensure that the medicines they are taking are permitted by their governing body, as regulations may vary from sport to sport.

### Discussion

In the early 1900s, the most popular doping agent was a cocktail of alcohol and strychnine. The use of strychnine was superseded by amphetamine, following its development in the 1930s. In 1960, the Danish cyclist, Kurt Jensen, died after overdosing on amphetamine in an attempt to seek competitive advantage and the search for control measures began. Methods of anti-doping control were first pioneered in the 1960s, by Arnold Beckett, an academic pharmacist with a specialist interest in sports pharmacy, based at Kings College London (formerly Chelsea College). It was however the televised death of the British cyclist Tommy Simpson, while under the influence of amphetamine during the 1967 Tour de France, that proved the catalyst for implementation of official anti-doping control systems and the banning of amphetamine in international sport. Cycling has long since been a harbinger for systematic doping and as one top cyclist explained "it is impossible to finish in the top five of a Tour de France without doping". In 1968, the International Olympic Committee (IOC) published the first banned list of drugs and implemented the first formal drug testing programme at the Montreal Olympics.

In the last three decades a number of names have joined the cheaters' hall of fame including Ben Johnson (stanozolol), Dan Mitchell (testosterone), Lindford Christie (nandrolone), Olga egorova (erythropoietin) and Andrea Raducan (pseudoephedrine), to name a few. Johnson was abusing stanozolol and other agents for years with the help of fringe practitioners, before testing positive at the Seoul Olympics in 1988. In the UK, many were shocked by the Lindford Christie saga, however he first tested positive in 1988, at the start of his career, for the banned stimulant pseudoephedrine; not surprisingly he has now lost the contract for whiter than white whites.

The pharmacy department at Kings College remains a focus for drug testing and now houses one of the world's leading drug testing laboratories, headed by Professor David Cowan, it is the only IOC accredited anti-doping control laboratory in the UK, and it is to this laboratory all Irish urine samples are sent for analysis.

It is not just athletes who are involved in the doping games, however, Coaches, managers, team

Doctors and fringe practitioners have all been implicated. Eric Ryckaert, medical officer of the Festina cycling team, was prosecuted for possession of erythropoietin in 1999. The Australian swimming team coach for the 2000 Sydney Olympics, Gennadi Touretski was found in possession of stanozolol; interestingly this discovery was made following the arrest of two heroin addicts who burgled his home. But perhaps the most sinister of all, is the publication last year of

the book "Faust's Gold" which takes an in-depth look at the systematic doping machine implemented by the German Democratic Republic (GDR) in the 1970s. The GDR regime involved the state, sports federation officials, coaches and sports physicians and activities were encouraged by the secret police. Many of the athletes were given performance enhancing agents without their knowledge. However, it is not only the East Germans who were involved in such dubious practices. The US cycling team bought into the practice of blood doping and during the 1984 Los Angeles (LA) games, a professor of medicine, no less, supervised the transfusion of non-cross-matched blood from families of cyclists in an LA hotel room, hardly an aseptic environment. In the same games, 86 athletes tested positive for anabolic steroids; interestingly these positive test results disappeared from the laboratory.

### Doping and detriment to health

Doping not only contravenes the spirit of fair competition, it can be seriously detrimental to health. Elite athletes who turn to doping take the greatest risks which seem to pale in contrast to their burning desire for gold. Anabolic steroids affect cardiovascular and mental health and are associated with an increased risk of neoplasms. Dietary supplements containing ephedrine alkaloids' have been linked to serious health risks including hypertension, tachycardia, stroke, seizures and death. This finding has led to the recall of ephedrine containing supplements in the USA and Canada. Deaths under the influence of drugs and combinations thereof are not uncommon in sports. The peptide hormones or so called "sports-designer drugs" are thought to be the most dangerous, although the combination of amphetamines, anabolic steroids or antihypertensive combined with intense exertion in athletes are just as hazardous. America's dream girl Florence Griffith Joyner. "Flo-Jo", and the Cuban runner Chelimo both died from cardiovascular events at 38 years of age. Natural causes or doping? We will never know. President Bill Clinton said of Flo-Jo "we were dazzled by her speed, humbled by her talent and captivated by her style".

### How to athletes obtain banned drugs?

Athletes may obtain banned medicines from physicians, pharmacists, retail outlets, health and lifestyle magazines, gymnasiums, coaches, family members, fellow athletes, the internet and the black market. Banned drugs, including anabolic steroids, are widely advertised in lifestyle magazines and gymnasiums and there are no controls on mail order and internet sales.

### Types of Doping

Doping can be split up into physical methods, such as blood doping and the use of Performance enhancing drugs.

Performance enhancing drugs can be categorized into the following types.

1. Anabolic Androgenic Steroids.
2. Stimulants.
3. Diuretic.
4. Blood doping.
5. Beta Blockers.

### Effects of Doping

1. In Males testicular atrophy, breast enlargement, reduction of sperm production, premature baldness.
2. In females masculinization, excessive hair growth on face and body, deepening of voice, abnormal menstrual cycle,

reduced breast size.

3. Increase Heart Rate, Blood Pressure, palpitation, Cardiac irregularities.
4. Loss of Balance and co-ordination.
5. Increase the risk of heart attacks.

### **Recommendations**

1. Scientific Coaching must be given to Sports Persons to achieve the high level performance.
2. The good diet and recovery will be given to Sports Persons.
3. Education of Doping must be given to the sports persons.
4. The rules of World Anti-Doping Agency must be followed for Coaching by Coaches.
5. An effective anti-doping program must incorporate educational components in addition to testing. Education needs to be collaborative and proactive and include athletes, coaches, managers, governing bodies and health care professionals.

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