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A Critical Analysis of the Impact of Doping in Sports Domain

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ABSTRACT

Doping is considered as a moral and ethical wrong. It is a global problem. Doping is the misuse of certain substances and methods to enhance sporting performance and stamina as by taking such substances body can transport more oxygen to muscles. However, there are a lot of side effects of consuming such substances as they directly affect health of a person leading to infections, allergies, heart diseases, stroke, pulmonary embolism, high blood pressure, acne, impotency in men and alterations in menstrual cycle of women. Thus, doping can have a direct impact on sports competitions. Anti-Doping laws are framed at both National and International level but these laws are always in a conflict with each other as there is no co-relation between them. International Sports Federation is making efforts to combat this problem of doping by organising awareness programmes, efficient medical treatment but despite of this little success is achieved, as strong and unnoticeable techniques are adopted by sportspersons, these new innovative techniques of taking drugs are evolving thus challenging the war against doping as it is becoming quite a task for experts to detect these substances and drugs. It is the responsibility of authorities to be aware of these updated substances and drugs and to ensure prevention of them to facilitate fair competition. This research paper aimed to apply Doctrinal research method for doping analysis and provide a critical review of the literature on this topic and focus on the problem of doping, its impact, actual application of doping whether it is appropriate or not to enhance performance, all legislative and judicial approaches regarding doping, Indian laws dealing with doping, case laws on doping and obligations of State and judicial trends.

Keywords: Doping, WADA, Sportspersons, Anti- Doping laws, Fair Competition, NADA.

I. INTRODUCTION

Doping is a serious issue at National as well as International level. Doping is a moral and ethical wrong too, besides just cheating. Doping has a direct effect on sports competitions and is a wider term as new drugs and substances keep on developing making the tests for doping detection quite a task but the real solution is, that it is on the sportspersons, their trainers and

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coaches and also on the authorities that there is no partiality and no usage of drugs or performance enhancing substances by their side. Doping is the usage of specific drugs to improve the stamina and performance. International Olympic Committee regards doping as unlawful and unethical and its aim is dope free sport. Sportspersons often indulge in drugs to improve their performance without any fear of being caught and sometimes they are not aware of the consequences of these drugs on their body and the use of these substances not only destroy sports spirit but also highlights corruption and the win of an undeserving athlete and that's totally unfair. The International Anti-Doping authorities decide and declare the prohibited list of substances and the usage of such substances and methods amount to doping. As winning is important today because winning gets great earning and the career of the athletes and coaches all depend on winning a competition, the spirit that competitions are for fun and winning and losing a competition doesn't matter, what matters is participating this spirit has lost and now competitions are just looked as a matter of winning, money and fame. However; in the past too there are references where athletes used drugs for performance enhancement so drug abuse is an ongoing, ever evolving and one of the biggest issues in sports domain. Even disabled sportspersons too indulge in performance enhancing drugs. Doping is threatening the sports domain worldwide, it puts pressure on sportspersons completely destroying the practice of fair competitions. Sportspersons are role models for youth so if doping is regarded as only the issue of sports authorities then that's not correct as there are chances that the young generation would follow the footsteps of these athletes and can also indulge in doping.

First the meaning of doping and its historical background is discussed, the second part marks the anti-doping authorities and their functions, the third part highlights the case studies and the methodology of the study and the fourth part presents the finding. A concluding precise ends the paper.

Literature Review

The review of literature is of immense importance as for writing a research paper the main focus is to develop a new argument. Thus, in a research paper, literature is used as a support for new visions. The purpose of literature review is to make a summary of ideas and arguments of others in order to get some recommendations for present research work.

The necessity of solving this issue of doping in sports has been felt to have fair competitions. Doping can affect a sports competition and an unfair competition will affect the moral of sportspersons, people will lose faith in sports and the underqualified person will get fame and the deserving one will be neglected. Till now no proper solution and strategies are found that

can prove effective in the fight against doping. Thus, this issue is of serious concern. Many Anti-Doping and Sports policies are made to struck the doping practice and doping behaviour. Doping techniques are evolving rapidly thus it becomes difficult to trace them.

The majority of researchers while writing on the concept of Doping deal with the concept of anti-doping policies and very minimal attention is given to the actual problem of doping in sports.

“ Scientific, Philosophical and legal considerations of doping in sports” by Massimo Nergo, Natale Marzullo and Giuseppe D Antona (2018)² Attention is paid to the question that whether it is right or not that an athlete should be allowed to do whatever he wants to in order to increase his performance? A point is emphasized that doping should be given philosophical consideration also for this contradiction and paradox should be given attention, that doping not only affects health but also the ethics of sports. In sports not only drugs has to be taken in to account but also the food supplements that can increase both physical and mental performance should also be paid equal attention. Doping should be considered not only as a substance that can affect health but should be considered beyond that scientific, legal and philosophical consideration should be taken into account when dealing with the case of doping.

“Sports motivation and doping in adolescent athletes” by Jiri Murak, Pavel Slepicka and Irena Slepickova(2018)³ Doping from the motivational perspective was examined the question raised was what are the doping intentions and achievement goals of adolescents in sports competitions? They asked 1035 adolescents who were participating in sports competitions to fill a questionnaire in order to assess the variables of motivation, goals, moral attitudes and behaviour regarding doping. The result of the study was that motivation in sports require psychological consideration and then anti-doping practices policies should be framed.

“Development of doping in sports: Overview and Analysis” by Francesca Della and Gaetano Raiola (2018)⁴. It is highlighted that doping practice is not only prevalent among elite athletes but also among amateur athletes. Everybody has a desire to win and thus for increasing their physical performance they are adopting these illegal activities which are very dangerous and unhealthy. Solutions stated are that knowledge should be given to athletes that how these substances can have dangerous effects on their body and health. Ministry of Health should

²Massimo & Marzullo, Opinion paper: Scientific, philosophical and legal consideration of doping in sport, *European Journal of Applied Physiology* 118, 729-736 (2018)., <https://doi.org/10.1007/s00421-018-3821-3>.

³ Mudrak, Slepicka & Irena, Sport motivation and doping in adolescent athletes, *PLOS ONE* 13(10): e0205222 (2018)., <https://doi.org/10.1371/journal.pone.0205222>.

⁴ Mazzeo, Altavella, D'ella & Raiola, Development of doping in sports: overview and analysis, *Journal of physical education and sport*, 18(3), 1669-1677(2018), DOI: 10.7752/jpes.2018.03244.

adopt preventive measures and laboratories should try their best to discover new substances.

“A comparative study of the application of strict liability principle of sports: Critiquing anti-doping policies examining illicit crowd chanting and match” by Shivankar Sharma and Pranav Meenon (2014)⁵. It is pointed out that sports encourage competition, sportsmanship, teamwork and sports is an integral part of our lives. Winning is important nowadays as a huge amount of money is spent on sports. Questions that are raised in this paper are that How using of doping products should be addressed from legal perception? What are the international and national bodies doing to deal with this issue so far? It is highlighted that strict liability principles are applied in doping and match fixing cases and how vicarious liability is applied on the whole team. The solutions that are pointed in this paper are that strict liability should be examined properly and precisely and no sports person should face because of it that’s why proper balance of power between athletes and WADA should be there and proper vigilance should be ensured in sports.

Allied factors such as penance mechanism, effectiveness of anti- doping policies and sports policies, role of coaches and training officials is not taken into consideration.

II. MEANING OF DOPING

Doping is the use of performance enhancing drugs by competitors.

Simply doping is the use of substances that are foreign to body or any substance that it is taken in abnormal quantity to increase the performance in an unfair manner.

Doping is the violation of anti-doping rules set forth in Article 2.1 through Article 2.8 of the code.

Doping is defined as an occurrence of one or more of the following anti-doping rules⁶

- (1) Presence of a performance enhancing drugs in a sample.
- (2) Use of a prohibited substance or method.
- (3) Refusing to submit sample after being notified
- (4) Failure to give where abouts in formation.
- (5) Tampering with doping control process.
- (6) Possession of a prohibited substance.

⁵ Shivankar Sharma & Pranav Menon, A comparative study of the application of strict liability principles in sports: Critiquing anti-doping policies; examining illicit crowd, chanting and match fixing, *Nirma University Law Journal: Volume-4, Issue 1, July 2014.*, <https://docs.manupatra.in/newsline/articles>.

⁶ National Anti-Doping Agency, April 16,2020, <https://www.nadaindia.org/en/anti-doping-rule-violation> .

- (7) Trafficking of a prohibited substance.
- (8) Administering a prohibited substance or method to an athlete.

III. HISTORICAL BACKGROUND OF DOPING

Use of performance enhancing drugs to gain a competitive advantage is often thought of as a modern day problem but performance enhancing substances dates as far back as the ancient Greek Olympics in 3rd Century BC, Greek Olympic athletes⁷ were professionals who competed not only for glory but also for large cash prizes much like modern day professional athletes these monetary prizes, incentives vice the Greek athletes to experiment with variety of performance enhancing substances in an effort to beat their competition they use a variety of herbal actions like wine, brandy, halogen mushrooms and even animal testicles believing that it would make them faster and stronger although there were strict rules against cheating in ancient Olympic Games punishable by enslavement. The taking of performance enhancing substances by the athletes were permissible at the rate of the Roman Empire, the citizens of Rome's was enthralled by games held in majestic Coliseum⁸ that can accommodate up to 50,000 spectators, citizens pay to watch chariot races, wild animal fights and gladiators fight to the death with gamblers placing bets on winners, with big money at stake chariot racers would feed their horses an alcoholic beverage called mead made from fermented honey with hopes that it will make animals run faster, would ingest herbal stimulants before competition to combat fatigue, overcome the pain of injuries in fight with greater curiosity. In 19th and early 20th century when the advent of modern medicine spurred many endurance athletes in swimming, cycling and long-distance running use special doping recipes to gain a competitive advantage the special recipes contained a customized mixture of ingredients such as brandy, caffeine, cocaine and heroin designed to reduce fatigue, improve mental focus, suppress hunger and less the pain of physical extortion. Use of these doping recipes were deemed acceptable by Sports Federation until the mid-1920s then few high-profile athletes almost died during competition and the Government moved to restrict drugs. By 1928 the governing body for track and field called the International Association of Athletes Federation⁹ became the first sports Association to prohibit the use of performance enhancing drugs. Methamphetamine was first synthesised by a Japanese chemist in 1919 to be more potent and easier to manufacture version

⁷ A brief history of doping, FIFA.com, May 3 2007 <https://www.google.com/amp/s/www.fifa.com/who-we-are/news/amp/brief-history-doping-514062> .

⁸ Mark Cartwright, Roman Games, Chariot Races & Spectacle, World History Encyclopaedia (December 4, 2013, 10:18 AM), <https://www.ancient.eu/article/roman-games-chariot-races-spectacle>.

⁹ Richard, Mulligan & Peter, The history of doping and growth hormone abuse in sport, Growth Hormone & IGF Research 19, 320-326 (2009)., Doi: 10.1016/j.ghir.2009.04.009

of earlier methamphetamine drugs that were derived from the Chinese plant called Mao hung, at moderate doses methamphetamine elevates mood, increases mental focus, reduces appetite, increases energy and induces weight loss, at higher doses the drug can cause psychosis seizures, muscle loss and in violent behaviour naturally. The American, German, British and Japanese militaries thought it would be a good idea to give methamphetamine tablets to their soldiers during World War II, the crossover of methamphetamine from the military to athletic competition occurred in the 1950s when Italian and Dutch cyclists began using the drug as a substitute for cocaine to overcome fatigue in grooming multi stage races unfortunately the first casualty of methamphetamine abuse during competition came in the 1960s with the death of Tommy Simpson¹⁰ a British Cycling champion who was leader of the British National team during the 1967, Tour de France Simpson collapsed and died on the 13th stage of the race, the autopsy revealed that Simpson had methamphetamine in alcoholic stimulants in his system the official cause of death was heart failure due to exhaustion. Anabolic Steroids are natural antigens such as testosterone that increase muscle mass as well as induced masculine sex characteristics in both men and women taking them. Despite their shady reputation in the world of sports anabolic steroids do play a valuable role in healthcare with doctors routinely prescribing them for conditions such cancer. Testosterone was first isolated and synthesise from cholesterol in 1935 by a German chemist named Leopold Ruzicka who later was awarded the Nobel Prize in chemistry for his work on sex hormones, it was rumoured that during World War II the Nazis experimented with testosterone injections hoping that it would create an army of super soldiers who were aggressive and fearless in the face of the allies. In the early 1950s athletes began to discover the remarkable performance enhancing benefits of anabolic steroids and several synthetic derivatives became available for the first time since the war. Soviet Union was suspected of being the first country to experiment with steroids by giving them to their athletes in the 1952 Olympic Games in Helsinki¹¹. Finland decades later revealed to the world that the Soviets in East Germans gave their athletes anabolic steroids as part of a coordinated doping programme in an effort to prove the superiority of the communist system, it enabled their athletes to dominate Olympic events such as track and field, weight lifting, wrestling and swimming perplexed by the extraordinary athletic output the Soviet team doctor John Ziegler travelled to Vienna in 1954 in search of answers as a physician for the American weight lifting team. One night doctor Ziegler happen to share a few drinks with the Soviet team physician at

¹⁰ The Newsroom, Tom Simpson-the cyclist who pushed too far, The Yorkshire Post (July 13 2017, 7:00 AM) <https://www.google.com/amp/s/www.yorkshirepost.co.uk/sport/tom-simpson-cyclist-who-pushed-too-far-1773612%3famp> .

¹¹ Erin Redihan, The 1952 Olympic games, the US and the USSR, Process History (February 8, 2018.9:30 PM) <https://www.processhistory.org/redihan-1952-olympics/>.

a local bar and when he asked what he was giving his athletes who casually admitted to giving them testosterone. Doctor Ziegler¹² hurried home to America and began experimenting with testosterone injections on himself and other members of the US weight lifting team they all gained more muscle mass and strength in less time than any previous training programme but unfortunately the injections also came with unwanted side effects determined to find a synthetic anabolic solution with less side effects and testosterone. Doctor Ziegler teamed up with a Swiss chemical company called Ciba Pharmaceuticals to develop a drug called Methandrostenolone which would later be known as Dianabol the performance enhancing effects of Dianabol were so impressive that once it became commercially available in the US in 1958, it's news spread like wildfire through US Olympic teams in professional sports however Doctor Ziegler eventually gave up experimenting with Dianabol after he became disillusioned by athletes that were abusing the drug in a quest to become world champions although Dianabol was originally designed to have a lower side effect profile than testosterone, serious side effects did begin to occur in athletes taking far more than the recommended dosage these side effects included high blood pressure, high cholesterol, mood swings and liver damage after his retirement Doctor Ziegler expressed his regrets about introducing steroids to American athletes by stating 'I wish to God now I've never done it I'd like to go back and take that whole chapter out of my life'. The International Olympics Committee implemented their first drug testing programme¹³ at the 1968 Winter Olympics in Grenoble France as well as the Summer Olympics in Mexico in the same year but because reliable testing for the presence of anabolic steroids had yet to be developed these drugs were not placed on the banned substance list, the use of anabolic steroids amongst athletes continued unabated. The 70s and 80s even after the drugs were officially banned from competition by the International Olympic Committee in 1975 once valid testing for anabolic steroids was developed it then became a game of cat and mouse between the IOC lab testers and athletes using performance enhancing drugs. The biggest Olympic doping scandal to bring anabolic steroids out into the spotlight was Canadian sprinter Ben Johnson testing positive for a drug called Stanozolol¹⁴ at the 1988 Summer Olympics in Seoul South Korea. Johnson won the gold medal in the 100 metre final beating his American rival Carl Lewis by setting a new world record of 9.79 seconds but it all came crashing down two days

¹² Ailsa Harvey, A history of doping in sport, How it works, <https://www.google.com/amp/s/www.howitworks.com/a-history-of-doping-in-sport/amp/>.

¹³ Fraser AD. Doping control from a global and national perspective. *The Drug Monir*. 2004 Apr; 26(2):171-4. Doi:10.1097/00007691-200404000-00015

¹⁴ HT Correspondent, Seoul Olympics 100m race was fixed : Ben Johnson, *Hindustan Times*, (November 2,2018, 8:47 AM) https://www.hindustantimes.com/other-sports/seoul-olympics-100m-race-was-fixed-ben-johnson/story-wwYY15pQCCINFmEpU1ymeN_amp.html.

later when Johnson was disqualified for testing positive for a banned substance and stripped of his gold medal in world record in response to the Ben Johnson affair the United States Congress made Anabolic Steroid Control Act in 1990 classifying anabolic steroids as schedule three controlled substance making the unauthorised distribution, possession and use of anabolic steroids without a prescription a federal offence punishable by up to one year in prison or to a \$1000. In 1999 the world Anti-Doping Agency WADA was created¹⁵ as an initiative led by the International Olympic Committee to promote, coordinate and monitor the fight against drugs in sports in all its forms. WADA has the responsibility of enforcing the world anti-doping code that is adopted by more than 600 sports organisations including international sports federations, national anti-doping organisations, the International Olympic Committee in the international Paralympic committee but despite anti-doping laws on the books and stringent testing, high profile athletes from a wide range of sports such as cycling, football, track and field, mixed martial arts, baseball, swimming, long distance running and weight lifting continued it as positive for the use of banned substances with big money involved in modern sports the pressure for athletes to win using performance enhancing drugs is greater than ever it's become virtually impossible for drug free activities to successfully compete against rivals who choose to use drugs and now it seems that we're on the verge of the next evolution in performance enhancement for athletes with the introduction of gene doping. WADA define Gene Doping back in 2008¹⁶ as the non-therapeutic use of cells that change genetic elements or modulation of gene expression having the capacity to enhance performance although gene doping is still in the experimental stages and the science of gene doping is fraught with unpredictable results but if gene doping ever does become a viable therapy, athletes will be the first in line to alter their DNA to become bigger faster and stronger.

IV. PERFORMANCE ENHANCING DRUGS

Performance enhancing drugs are banned from sports but this does not stop athletes from taking them.

- Anabolic steroids: When these are taken the body breaks them down into smaller molecules that can enter cells and bind to a structure called androgen receptor. Normally testosterone binds to this but anabolic steroids can too.

Once the androgen receptor is activated body starts to produce more proteins during the process of anabolism, the cells in the skeletal muscles start to replicate and this means muscles will

¹⁵ Who we are, World Anti-Doping Agency <https://www.wada-ama.org/en/who-we-are>.

¹⁶ Pray, L.(2008) Sports, gene doping and WADA. *Nature Education* 1(1):77.

start to grow and become stronger.

Anabolic steroids help athletes train harder and recover faster by shortening catabolism the process in which proteins are broken down into amino acids but not all effects of anabolic acids are positive it can cause acne, high blood pressure and baldness in both men and woman, they can cause men's testicle to shrink, decrease sperm count and increase risk for prostate cancer and women using these steroids can develop facial hair, a deepened voice and their periods may change or even completely stop.

- Creatine: Creatine¹⁷ is produced by body to release energy from muscles. It can produce power and energy; these supplements are taken by weight lifters and sprinters.

The effects of creatine are stomach and muscle cramps and weight gain.

- Stimulants: Stimulants are used by athletes to increase blood pressure to stimulate brain and increase the rate of heart, this increases endurance power, reduce appetite and fatigue. Caffeine is a very common stimulant and is taken by athletes in large quantities in their energy drinks this makes them more alert and aggressive.

The side effects of stimulants are heart diseases, dehydration, insomnia, addictions, weight loss

- Diuretics: Athletes prefer diuretics as by this there is water loss from the body which reduces the weight.

The side effects of diuretics are dehydration, dizziness, cramps and sometimes death.

- Erythropoietin: It is used to increase endurance as it increases the oxygen flow to muscles by increasing the production of red blood cells in the body in 1990s eighteen cyclists died due to the erythropoietin.

The side effects of erythropoietin are heart attacks and blockage of arteries of lungs

- Human Growth Hormone: It increase athletes sprinting capacity by up to 4% and increase muscle growth as well.

The side effects of taking human growth hormone are pain in joints, weakness of muscles, diabetes, hypertension and eye problems.

- Blood doping: The goal of blood doping¹⁸ is to increase the amount of oxygen carrying red blood cells in the blood and this is usually done with either blood transfusions using

¹⁷ Mayo Clinic Staff, Performance-enhancing drugs: know the risks, Mayo Clinic (December4,2020) <https://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/performance-enhancing-drugs/art-20046134> .

¹⁸ Nayana Ambardekar, Blood Doping, WebMD Medical Reference(August 20,2019) <https://www.webmd.com/fitness-exercise/blood-doping#1> .

own blood or by injecting with erythropoietin a molecule that stimulates the production of more red blood cells and the basic idea is that the more oxygen that can get to bodies muscles the more endurance

The side effects of blood doping are heart diseases as it becomes difficult for heart to pump blood due to the thickening of blood and cerebral embolism

- Gene doping¹⁹: Body cells or genes are manipulated by use of substances that improve performance. In 2003 WADA has added gene altering techniques to the list of prohibited substances however gene doping is not as popular as blood doping as it is costly and is risk oriented too.

The side effects of gene doping are increased blood viscosity, hypertension, abnormal vision and headache.

V. ANTI-DOPING AGENCIES

Doping control is an essential part of anti-doping programmes to promote and protect the integrity of sports and the health of athletes.

World Anti-Doping Agency

The World Anti-Doping Agency is a foundation initiated by the International Olympic Committee based in Canada to promote, coordinate and monitor the fight against doping in sports.²⁰

The functions of WADA are research, education, development of anti-doping techniques and to monitor the anti-doping code.

Council of Europe anti-doping convention and US anti-doping agencies aims are closely related to that of WADA

List of Prohibited Substances by WADA (2021)²¹

1. Peptide Hormones, Growth factors, related substances and mimetics.
2. Beta-2 Agonists.
3. Hormone and Metabolic Modulators.
4. Diuretics and Masking agents.

¹⁹ Unal M, Ozer Unal D. Gene doping in sports. *Sports Med.*2004;34(6):357-62.
Doi: 10.2165/00007256-200434060-00002.

²⁰ The Code, World Anti-Doping Agency <https://www.wada-ama.org/> .

²¹ The Prohibited List, World Anti-Doping Agency <https://www.wada-ama.org/en/content/what-is-prohibited>.

5. Stimulants.
6. Glucocorticoids.

Anti-Doping Policies of Wada

- Adequate doping testing²².
- Wada release a list of prohibited substances every year.
- Follow-up testing to be done to not spare any sportsperson of doping.
- Testing at night was also introduced to stop doping.

The International Convention against doping in sports is a multilateral UNESCO treaty by which states agree to adopt national measures to prevent and eliminate drug doping in sports.

The convention was adopted at the general conference of UNESCO in Paris on 19th October 2005

National Anti-Doping Agency

The National Anti-Doping Agency is responsible for promoting, coordinating and monitoring the doping control programme in sports in the country²³.

Its vision is dope free sport in India

The functions of NADA are implementation of anti-doping rules, anti-doping policies to be adopted and implemented increase testing and promote research in education for anti-doping.

NADA is responsible for conducting tests in competitions.

Anti-Doping rules of NADA

Anti-Doping rules placed a strict liability on athletes that they have to keep themselves up to date about substances that enter their body, however some sportspersons in India are not that educated and aware of the substances that amount to doping.

Also, in training camps they have to accept food given to them so even if their coaches or trainers give them such substances, they take them.

Doping Control Mechanism

A doping control officer play a major role in protecting the rights in the doping control process which consists of five phases

²² World Anti-Doping Code, USADA <https://www.usada.org/about/world-anti-doping-code/>.

²³ National Anti-Doping Agency <https://www.nadaindia.org/>.

- 1) Athlete selection
- 2) Athlete notification
- 3) Sample collection
- 4) Sample analysis
- 5) Result management

Testing is conducted in competition and out of competition for in competition selection the selection may occur in a number of ways including by random selection based on finishing position or targeted for a particular reason.

For out of competition testing a sportsperson can be tested anywhere without notice. An athlete can be tested for doping at any time in both in and out of competition.

Kinds of testing

There are two types of tests that are conducted for doping²⁴

- Urine testing
- Blood testing

Urine testing

Sample to be taken in the supervision of coach or doctor and also in the presence of an official of same gender and is split into two and sealed by the athlete.

Code is provided by the officials.

After sampling athlete will do the medical declaration.

Samples are sent to registered labware sample is tested if samples tested positive athlete is notified.

Athlete or his representative is authorised to be present at the time of unsealing of sampling and testing.

Blood testing

Blood testing is used to detect EPO or artificial oxygen carriers

Two samples are taken in the presence of an official and are sealed in the presence of athlete

The procedure for both the tests are same.

²⁴ Introduction to Testing, UKAD Protecting Sport <https://www.ukad.org.uk/athletes/introduction-testing>.

Testing period commence 12 hours prior to the event for the athlete who is to compete.

In competition testing is done at international and national level.

Olympic Games testing is done by International Olympic Committee, Vault championship testing is done by International Federation, National level testing is done by National anti-doping organisation

Out of competition testing.

It is the testing of an athlete not in competition but is associated with the immediate participation in the event and is initiated and directed by both international and national doping control organisations.

WADA may take a random test at advance notice at any place or at work anytime.

Responsibility of Athlete

An athlete can be called for dope testing at any anytime and they are responsible that no violation of policies that are formed by WADA by their side take place²⁵

1. Be aware and comply with all anti-doping policies
2. To be present for sample collection when called for.
3. Responsibility to be taken for use of any banned substance or method.
4. Inform medical personnel about any treatment or medicine that is prohibited and can amount to doping.
5. To report immediately to doping control station for testing unless relayed for valid reason.
6. To maintain control of the sample until it's sealed.

Anti-Doping Rules Violation

Ten anti-doping rule violations which apply to players team management and officials.²⁶

1. Presence of banned substance in an athlete's sample.
2. Use or attempted use by an athlete a prohibited substance or a prohibited method.
3. Refusing or failing to do a drug test after notification for committing doping.
4. Whereabouts failures.

²⁵ Athlete Rights & Responsibilities, National Anti-Doping Agency <https://www.nadaindia.org/en/athlete-rights-responsibilities>.

²⁶ Rules & Regulations WADA Code and International Standards, IDTM <https://idtm.se/anti-doping/rules-regulations/>.

5. Tampering with the sample.
6. Having prohibited substances or using prohibited methods.
7. Trafficking of any substance or method that is prohibited.
8. Administration, Aiding or abetting any prohibited substance to an athlete.
9. Complicity
10. Prohibited Association associating with a person such as a coach after our physio who has been found guilty of an offence to a doping violation will be sanctioned with a ban of up to two years.

VI. ISSUES AND CHALLENGES OF ANTI-DOPING

Doping Cases: Analysis

1. Jose Canseco²⁷ released a book in 2005 in which he wrote how baseball got big, he named a number of current and former baseball players himself included that had used steroids during their careers. Canseco was one of the first players to openly discuss his struggles with steroid use and his book is now seen as the catalyst for the major steroid scandal that later rocked the baseball world.
2. Justin Gatlin tested positive for a banned substance; the American sprinter banned for two years in 2001 after testing positive for amphetamines reduced to one year after an appeal. In 2006 he tested positive for testosterone leading to 8 years ban though it was appealed and reduced to four years. In 2017 he was again caught in doping and is now banned for life in sports competitions.²⁸
3. Marion Jones, the 2000 Summer Olympics in Sydney Australia cemented her as one of the most accomplished female athletes of all time however CJ Hunter a fellow Olympian Ann Jones ex-husband admitted that he'd seen his then wife injecting herself with steroids prior to competing in the Sydney games Jones initially denied the allegations and claimed that she was completely innocent but in 2007 she admitted that she used to performance enhancing drugs²⁹ and thus her medals stripped of and was awarded a six month jail sentence.

²⁷ Scott Jenkins, What happened to Jose Canseco and What's he doing now?, Sportscasting (July 17, 2020, 8:30 PM) <https://www.sportscasting.com/what-happened-to-jose-canseco-and-whats-he-doing-now/?amp>.

²⁸ Harry Cockburn, World 100m Champion Justin Gatlin been caught up in doping scandal, Business Insider (December 19,2017, 5:49 AM) <https://www.businessinsider.com/justin-gatlin-caught-up-in-another-doping-scandal-2017-12%3famp>

²⁹ Michelle Norris, Marion Jones pleads guilty in drug case retires, npr (October 5, 2007, 7:55 PM) <https://www.npr.org/templates/story/story.php?storyId=15060426> .

4. Canadian sprinter Ben Johnson was poised to take home the gold at the 1988 Summer Olympics in Seoul he was coming up a record setting performance at the 1987 World Championships in athletics and had won two bronze medals at the previous Olympic Games so nobody was surprised when he won the 100-metre dash in ridiculous time of 9.79 seconds there was only one problem Johnson had been doping. After few days it was revealed that Johnson had tested positive for steroids and as a result his medals were stripped.
5. Maria Sharapova³⁰, she had taken meldonium prior to the 2016 tournament following this the International Tennis Federation suspended Sharapova for two years though it eventually reduced to 15 months.
6. Alex Rodriguez throughout the 2000s he won three American League MVP trophies playing for the Rangers in Yankees and a World Series championship³¹ in 2009 however like many of his contemporaries Rodriguez was harbouring a secret and one that would permanently taint his image in 2009 the shortstop admitted to using performance enhancing drugs but that was only the beginning of a rod's doping saga in 2013 it was discovered that Rodriguez had ties to bio Genesis of America a health clinic that provided him with human growth hormones for this he received a game suspension.
7. Lance Armstrong³² was the envy of the sports world he was a champion winning the Tour de France seven times in a row and a survivor of a fatal testicular cancer and is synonymous with one thing doping the infamous former cyclist had long been accused of taking steroids with doping allegations stretching all the way back to his first Tour de France victory in 1999 however it wasn't until a 2013 interview that Armstrong finally admitted his guilt disgraced Armstrong was stripped of his titles and slapped with a lifetime ban.
8. Yusuf Pathan tested positive for terbutaline in Delhi in 2017 and BCCI suspended him for 5 months.

³⁰ Christopher Clarey & Mike Tierney, Maria Sharapova admits taking meldonium, drug newly banned by tennis, *The New York Times* (March 7, 2016, 5:00 PM) <https://www.nytimes.com/2016/03/08/sports/tennis/maria-sharapova-failed-drug-test.html>.

³¹ Eyder Peralta, 8 Excerpts that explain the Alex Rodriguez doping scandal, *npr* (January 14, 2014, 12:38 PM) <https://www.npr.org/sections/thetwo-way/2014/01/14/262385659/8-excerpts-that-explain-the-alex-rodriguez-doping-scandal>.

³² William Fotheringham, Lance Armstrong's journey from deity to disgrace, *The Guardian* (March 9, 2015, 00:50 GMT) <https://amp.theguardian.com/sport/2015/mar/09/lance-armstrong-cycling-doping-scandal>.

9. Narsingh Yadav tested positive for methandienone before 2016 Olympics. However, he alleged that it was a conspiracy against him, despite of all this he was banned for 4 years.
10. Ranjith Mahesh wary, a triple after his urine test for ephedrine he was suspended for 4 years by Athletics Federation of India.

Prithvi Shaw Case Study

Prithvi Shaw³³ suspended from cricket after doping violation. Prithvi Shaw made his debut against West Indies in 2018 and he scored his maiden century and became the youngest batsman to make a test century on debut for India. Prithvi Shaw stated that he has taken a cough syrup and he stated that is prohibited by WADA and banned for 8 months.

The drug name is terbutaline it is indeed found in few cough syrups, it has properties that can increase anaerobic respiration which makes a person less tiresome and also help build muscle in an athlete. Terbutaline is one of the banned drugs of WADA as it increases muscle strength and is generally used to treat issues relating to breathing however it can be taken by an athlete if there is an excuse of its therapeutic use. Exemption certificate in advance which Shaw did not avail.

BCCI Conflict of Interest highlighted in the case

A letter to BCCI CEO Rahul Johri, the sports ministry claimed that board's anti-doping programme is not appropriate thus creates a conflict of interest as BCCI has no right to conduct doping tests as it has no such authority by Government or WADA. Article 5.2 of WADA code states that sampling of athlete's can be done only through an Anti-Doping organisation who has testing authority. So, BCCI is neither an anti-doping organisation with testing authority under WADA and it cannot acquire such status.

Despite of all the arguments and the admission of violation of anti-doping policies by Shaw, he faced a suspension of 8 months, ruling him out from India cricket series against Bangladesh and South Africa.

Russia Doping Case Study

On 14 November 2015, After the world anti-doping agency WADA, finds evidence of state sponsored cheating compliments. 389 athletes of Russia³⁴ still headed to Rio and the track and

³³ HT Correspondent, Prithvi Shaw suspended for doping violation; ingested prohibited substance while taking cough syrup, Hindustan Times (June 6,2020, 11:27 PM) https://www.hindustantimes.com/cricket/prithvi-shaw-among-domestic-cricketers-suspended-for-doping-violation/story-eLEIney2rciCaUhj61tFMP_amp.html.

³⁴ Paul Massaro, The Russian Doping Scandal, csce.gov(February 22, 2018, 3:30 PM),

field team was in doubt. International Olympic Committee upholds the ban, the IOC has set the bar align higher for Russian, any Russian athlete for the prior suspension for doping cannot compete. Russian athletes are allowed to compete in Rio but if they are not been suspended for doping in the past. On 18 July 2016 WADA publishes the McLaren reports recommending a blanket ban. On 24 July 2016 the IOC decides not to ban the entire Russian team guided by a fundamental rule of the Olympic charter to protect clean athletes. On 25th of July 2016 the numbers down to 288 that's 22 rowers 5 canoeists and seven swimmers banned by the end of the week; 16 more athletes are banned but the final number going to Rio at just 271 the Russian squad is barely 70% of its original strength. In 2017 IOC banned Russian Olympic Committee from the PyeongChang Winter Games 2018 but cleaned Russian athletes were allowed to compete. In 2018 the ban against Russia was lifted by WADA however access to their Moscow doping-tainted laboratory was not granted. In 2019 Russia gave their lab data to WADA. Russia was banned for 4 years that means it won't be allowed to compete in re-arranged Tokyo Olympics 2020, football 2022 World Cup in Qatar and the Winter Olympics in China 2022. The Court of Arbitration for Sport upheld the ban of 2 years only from 4 years.

VII. WHY SPORTSPERSONS INDULGE IN DOPING?

Sportspersons usually are well versed with the fact that these performance enhancing drugs will affect their health and if caught will affect their career too then Why Sportsperson take these substances? As their comes a time in the career of sportspersons that there performance is not improving despite of all training so they take these banned substances to improve their performance, coaches too at that time refer such substances to athletes, when a sportsperson is not ready for a competition they dope before some months to fool the test later, when facilitates are not available to sportspersons they take such substances, sometimes they directly don't take such substances but in other forms. Basically, the purpose behind doping is performance enhancement and winning and no fear of getting caught and what if got caught they always have another job.

VIII. DOPING AND COVID-19.

During the COVID-19 crisis everything was at a standstill but the authorities were feared of the fact that everything was closed that if athletes will maintain themselves naturally and won't consume prohibited substances for maintaining themselves so the authorities were fearing that athletes will take advantage of the pandemic and will use banned drugs and WADA clearly

stated that athletes not to use pandemic³⁵ as an opportunity to violate rules vowing that cheaters will be caught as during the pandemic testing of doping was not possible. WADA stated that they will check the COVID-19 vaccine before that it does not have any substances that violate the rules of WADA and then only the athletes will be allowed to take the vaccine³⁶.

India is among the top countries in doping cases thus the anti-doping authorities of India too were asking the athletes to take care of their food and not to use banned products as the country can get suspended from sports if athletes will test positive for banned substances and methods³⁷.

IX. CAN DOPING IN SPORTS BE STOPPED?

Russia was proved to have carried out a vast state sponsored doping operation to conceal positive tests of doping by Russian athletes at the Sochi Olympics, questioning the credibility of the authorities that are meant to guard against doping and protect honest athletes. The interests of sports governing bodies detriment doping is definitely bad for business and that's used as an illegitimate excuse to rush underdog or ignore it completely so is this depicts that there is causality taken by authorities will catching cheats. The Olympic motto "Athletes want to be faster", higher stronger performance enhancing drugs promise just that but all drugs come with health risks and crucially they tip the balance in competition. The sport's governing bodies especially the International Olympic Committee say they want to stop the cheats. The IOC revenue in an average year is weak it is basically the naked legislator it produces rules and has absolutely no power and capacity to influence, it has around 120 employees only seven of them are tasked with conducting investigations into doping schemes so it's extremely dependent with no power to enforce. The national anti-doping agencies in sports federations do drug testing but different countries have different needs, ability and political will to catch. The IOC is registered as a non-profit organisation and benefits from Switzerland's lenient associations which means it has a lot of leeway in how it runs itself and raises the question is anyone governing the governing bodies we have private associations and not exist sizing government governance and they're proud of it but they claim it without the strings that traditional public authorities in democratic countries at least subjected to which are to inspire and see

³⁵ Reuters, Tokyo Olympics: WADA chief warns athletes not to use Covid-19 pandemic as opportunity to cheat, India Today (March 28,2020, 9:25 IST) <https://www.indiatoday.in/amp/sports/other-sports/story/tokyo-olympics-wada-chief-warns-athletes-not-to-use-covid-19-pandemic-as-opportunity-to-cheat-1660604-2020-03-28>.

³⁶ Swaroop Swaminathan, WADA checking COVID-19 vaccines before approval, The New Indian Express(December 2020, 11:38 AM) <https://www.newindianexpress.com/sport/other/2020/dec/11/wada-checking-covid-19-vaccines-before-approval-2234684.amp>.

³⁷ Press Trust of India, Athletics Federation of India warns athletes and coaches against use of banned drugs during Covid-19 (October 31,2020, 17:01 IST) <https://www.firstpost.com/sports/athletics-federation-of-india-warns-athletes-and-coaches-against-use-of-banned-drugs-during-covid-19-8970551.html/amp>.

accountability so can anyone hold the IOC to account? Athletes started to lose confidence in the system they start to think we could win if it's not a level playing field people will always find ways of trying to cheat but what is needed is to get back to account and to protect the welfare of the athletes and dispensability for athletes to have faced in the anti-doping system.

X. SHOULD DOPING IN SPORTS BE ALLOWED?

Some forms of doping are difficult to detect, new performance-enhancing drugs are constantly being developed and some athletes are always looking for new ways to dope, doping requires tests to be conducted and tests take time. When performance enhancing drugs are taken in low doses many athletes are able to slip through the cracks as substances in low quantities can't be detected. When the risk of getting caught is lower more people tend to cheat some people seeing others cheat likely also start to cheat. All performance enhancing substances are not banned from professional sports³⁸. In 2004³⁹ caffeine was legalized despite of knowing that it enhances endurance of a person. Using an altitude tent to increase the number of red blood cells in your blood was also okay while injecting the hormone which has the same effect is not. Some of the other methods of doping are allowed as they are seen as natural. Some say physiological doping should be allowed putting limits on hormone level and red blood cells count and testing whether those levels are correct. Doctors and experts can help athletes to take drugs in a limited manner which is taken by them in an uncontrolled manner which eventually affect their health. As the problem of doping is not going away so instead of trying to eliminate it to meet in the middle Why not doping should be allowed in Sports? Some believe that it should be allowed as it will help in recovery from injuries faster, while others believe that doping is cheating and should not be allowed, some believe that if doping to be allowed then whether the competitions will be between the doping athletes together and the anti-doping athletes will compete together.

In my opinion doping should not be allowed as it would not be fair for some athletes who don't want to dope and legalising it means encouraging drugs. Also, the biggest issue will be that developed countries will dominate the sports world as they can easily provide expensive doping substances to their athletes while developing and under developed athletes who won't be able to afford there are chances they will lose.

³⁸ Scott Douglas, Sports medicine experts' debate: should doping be allowed? *Runner's World* (October 25, 2013) <https://www.runnersworld.com/races-places/a20809694/sports-medicine-experts-debate-should-doping-be-allowed/>.

³⁹ Aguilar, Munoz & Coso, Urine caffeine concentration in doping control samples from 2004 to 2015, *ncbi Nutrients* 11(2):286 (2019), Doi: 10.3390/nu11020286.

XI. PENANCE MECHANISM FOR DOPING

- Fines are imposed on sportspersons who test positive in dope testing
- Bans are put on sportspersons who dope and get caught.
- Medals are stripped away from the athletes who dope and are caught.
- Some countries have made doping a criminal offence in those countries' imprisonment is awarded to athletes who test positive in doping tests.

XII. FINDINGS OF THE STUDY AND SUGGESTIONS

Conclusion and Recommendations

In 2019, 187 athletes tested positive which is double the number of athletes who tested positive in 2018. India is 7th in the world according to WADA in the list of doping violations.

International Association of Athletics Federation has put India in high doping risk club. So, the bottom line is that doping is a serious issue for India as the techniques of doping is ever evolving and athletes don't fear of getting caught.

There is a lack of uniform laws for doping as national laws often conflict and some countries have strict laws while other have lenient laws as some countries have made doping a criminal offence while others just put fines as punishment or ban the athlete. Also; athletes always have a spare profession besides sports and if he gets banned, he has a source of income.

The first step to prevent these unfair competitive practices is to spread awareness among the young athletes also among the seniors, campaigns should be done to spread more awareness. Giving athletes jobs apart from playing is a good initiative to control doping as even if they don't win, they have another source of income however some athletes look at this in a wicked way and do doping that even if they get caught, they have another job. So, if an athlete tests positive for doping his job should also be taken away as a way of punishment. Coaches and Trainers should not put pressure on athletes of winning as sometimes coaches and trainers provide drugs to athletes for performance enhancement. The first doping case of Tom Hicks, he was also given performance enhancing drugs by his coach.

Thus, doping substances should be completely banned.

Testing should be done properly and laboratory doing doping testing should have advance machines and techniques so that everybody who dope gets caught. Testing should not only be carried out at National and International level but also it should be done in Junior Nationals, Senior Nationals, District and State level sports competitions so that even in these competitions

doping is not done by athletes as they develop these habits from junior level only and do find excuses and ideas of not getting caught.

Proper food and facilities should be provided to athletes during their tours at cold places and other places too so they don't think of taking drugs.

Lastly a uniform law should be made making doping a criminal offence and all nations should recognise it and strict punishments should be awarded to athletes who dope.

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