

## Doping

The word "Dope" originated from South African language and referred to primitive alcoholic language and referred to a primitive alcoholic drink that were used as stimulant in ceremonial dancing. Gradually the term was adopted in sports as "Doping" which referred to the use of such substances by sports persons for improving their sport performance.

Drugs have invaded sports like cancer, devastating everything around. They come in different form injections, tablets, suppositories, inhalers, ointments and food supplement. The line of control on fair play in sports has become obscure now. A new battle line has been drawn. On one side the unscrupulous elements in form that are providing the ammunitions in form of Drugs to sports men to win the war of sports make them believe that the drugs are the only short cuts for gold & glory. on the other side the sports governing bodies (SGBs) which are also custodians of fair play and sports person health are chasing the offenders to punish them.

The monstrous invasion in sports by drugs has woken up the SGSs and they have moved in full swing to do damage control by making the Drop tests mandatory for international sporting events in the world. In this context the WORLD Anti-Doping agency (WADA) has been formed at the apex with National Anti-Doping organization (NADO) at the country level to harmonize the rules & regulations pertaining to doping control. The primary aim of the system is not only to conduct testing & imposing sanctions but also to creates awareness among sports persons about the ill effect of the drugs by promoting education & research in the area.

Firstly, the athlete should know – what are the substances prohibited for all time, the substances banned at the time of competition and the substances and the substances prohibited in particular sports. The list is long and is expanding day by day. The substances banned in sports as par WADA are as under:-

1. substances & Methods prohibited at all times (In & Out of competition).

Prohibited Substances:-

### S.1 anabolic agents

(Anabolic Androgenic Steroids both Exogenous & Endogenous)

Exogenous: androstendiol, androstenedione, boldenone, boldione, calusterone, Clostebol, danazol, deyhdrochlomethylest, desoxymethyltestosterone, drostanolone, ethylestrenol, fluoxymesterone, formebolone, furazabol gestrinone, hydroxytestosterone, mestanolone, methasterone methandienone, metenolone, methasterone, methylidienolone, methytestosterone, methylnortestosterone, methyltrienolone, mibolerone, nandrolone, norethandrolone, oxymesterone, oxymetholone, prostanzol, quinbolone, stanozolol, stenbolone, testosterone. tetrahydrogestrinone, trenbolone and other substances with similar chemical structure or similar effect.

Endogenous:- androstenediol, androstenedion, dihydrostenedione, prasterone, testosterone & isomers of testosterone.

S.2 Hormones & Related Substances: Erythropoietin, Growth Hormone, Gonadotrophins, Insulin, Corticotrophins.

S.3 Beta.2 – Agonists : All Beta-2-agonists but formoterol, salbutamol, salmeterol and terbutaline are exempted only on TUE (Therapeutic use exemption) certificate with upper value of 1000 ng/ml after which it shall be considered as the adverse.

S.4 Agents with Anti-Estrogenic

Activity: Anastrozole, aminoglutethimide, formestane, letrozole, exemestane, testolactone, reloxifene, tamoxifen, toremifene, clomiphene, cyclofenil, fulvestrant etc.

S.5 Diuretics & Other masking Agents: - Acetazolamide, amiloride, bumetadine, canrenone, chlorthalidone, etacrynic acid, furosemide, indapamide, metolazone, spironolactone, thiazides, triamterene, epi-testosterone, probenecid, alpha-reductase inhibitors (finasteride, dutasteride) plasma expanders (albumin, dextran, hydroxyethyl starch) & other substances having similar biologic effects.

Prohibited methods-

M.1 Enhancement of Oxygen Transfer: Blood doping (blood or red blood cells products of any origin) and other similar products artificially made to uptake. Transport & deliver oxygen in body.

M.2 Chemical & physical Manipulation: Tampering or attempt to tamper the doping samples in order to alter the integrity or validity of the samples, Intra venous infusions except in legitimate medical treatment.

M.3 Gene Doping: Non-therapeutic use of cells, genes, genetic elements or any modulation of gene expression having capacity to enhance athletic performances.

2. Substances & Methods Prohibited In Competitions. Includes S-1 to S-5, M-2 to M-3 and the followings:-

S.6 Stimulants: Adrafinil, adrenalin (for local administration is not prohibited), amfepramone, amiphenazole, amiphetaminil, amphetamine, benzylpiperazine, bromantan, cathine (prohibited when concentration in urine is more than 05 micrograms per ml.) Clobenzorex, cocaine, cropropamide, crotetamide, cyclazodone, dimethylamphetamine, ephedrine & methylephedrine (prohibited when concentration in urine greater than 10 micrograms per ml.). etamivan, etilamphetamine, etilefrine, famprofazone, fenbutrazate, fencamfamin, fencamin, fenetylline, fenfluramin, fenproporex, fufenored, hepteminol, isometheplene, levemethamphetamine, meclufenoxate, mefenorex, mephentermin, mesocarb, methamphetamine, methylenedioxyamphetamine, methylenedioxyamphetamine, methylamphetamine, methylphenidate, modafinil, nikethamide, norfenefrine, norfenfluramine, oxilofrine, parahydroxyamphetamine, pemoline, pentetrazol, phenylpiracetam, prolinatane, sibutramine, strychnine, tuaminoheptane and other substances similar biological effects.

S.7 Narcotics:

Buprinorphine, dextromoramide, diamorphine, fentanyl, hydromorphone, methadone, morphine, oxycodone, osymorphone, pentazocine, pethidine etc.

S.8 Cannabinoids: Hashish , marijuana etc S.9 glucocorticoids : All glucocorticoids administered through orally, rectally, intramuscular or intravenously are prohibited. If used in medical grounds require a TUE Certificate.

3. Substances prohibited in particular sports:-

p.1 Alcohol: prohibited sports during in competition only in certain sports with certain permissible limits. Aeronautic (0.20 g/l), automobiles (0.10 g/l), archery (0.10 g/l) karate (0.10 g/l) pentathlon (0.10 g/l) motorcycling (0.10 g/l) power boating (0.30 g/l).

P.2 beta-blockers:

Acetaminophen, Aiprenolol, betaxolol, bisoprolol, bunolol, carteolol, carvedilol, celiprolol, esmolol, labetalol, levobunolol, Metipranolol, metoprolol, nadolol, propranolol, pindolol, propranolol, sotalol, timolol etc. they are prohibited in-competition in following sports only aeronautic, archery, automobiles billiards, boules, bobsleigh, bridge curling. Gymnastics, motorcycling, pentathlon, bowling, motorcycling sailing shooting skiing & wrestling.

4. Specified substances:- these are the substances used in medicine and if an athlete had had taken the same has to establish that the substances have been taken for medical purposes and not intend to enhance his sports performances . these substances are as under:-

Beta-2 : Agonists, clenbuterol, Cathine, pseudoephedrine, Crotetamide, Ephedrine, Ephedrine, Etamivan, famprofazone, Heptaminol, Isometheptene, levmetamfetamine, meclofenoxate, methylamphetamine, Methylamphetamine, methylephedrine, meclofenoxate, methylephedrine, nikethamide, morfenefrine, phenpromethamine, propylhexedrine, selegiline, sibutramine, tuaminoheptane, cannabinoids, glucocorticoids, alcohol & betablockers.

The second aim is that the athlete should know about the other aspects of the WADA code and the responsibilities & liabilities involved for implementing the code. The athlete should be well versed with the procedure of sample collection and filling up the doping control forms. If the athlete is taking/taken any medication for his/her medical treatment should also declare for his/her medication during his/her sports activities only when he/she has obtained the therapeutic Use exemption (TUE) certificate from his/her international federation (IF) or NADO. the athlete must know about his/her right for appeal against the sanctions imposed on him/her following on anti-doping rule violation.