

The possible adverse effects of the use of prohibited stimulants on sportsmen

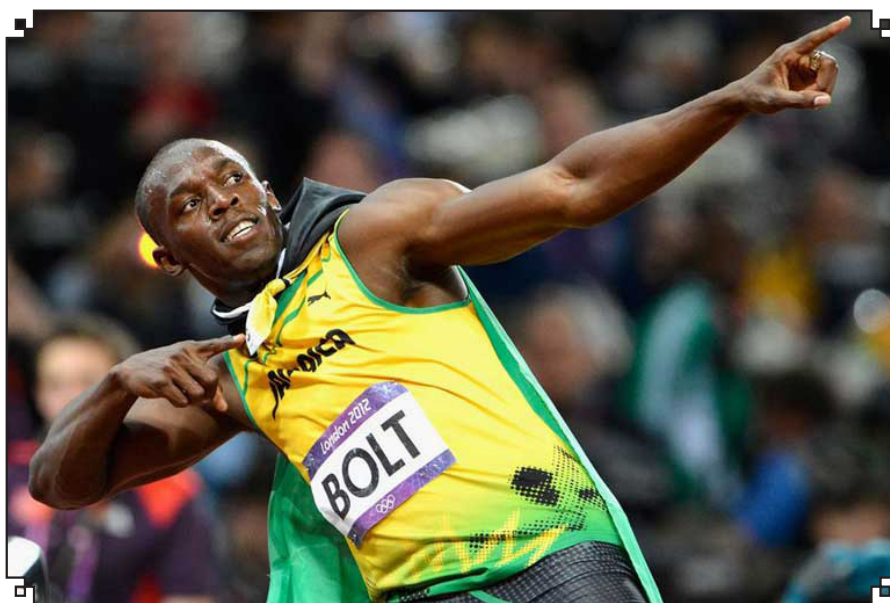
Dr Seewali Jayawickrama



The sportsmen who have brought fame to our country by winning many gold and silver medals, and thereby raised Sri Lanka to international standards and received applause from the global community deserve pride of place and honour. Due to this honour our sportsmen have become famous nationally and internationally. Today sportsmen have been able to achieve a unique position by receiving gold and silver medals in the school system too. It is very important to maintain this pride and international fame without a blemish. If this victory is blemished due to whatever the reason the resulting disgrace will be unbearable to the sportman and the country. There are instances when certain sportmen who have reached the pinnacle of victory have been unable to safeguard their fame in an untarnished manner. This is due to the use of substances (stimulants) banned by the World Anti Doping Agency (WADA) in order to enhance the sports skills by some sportsmen. If it is proved through investigations that a sportman who has won a position and achieved this victory by using such

prohibited substances the particular sportsman will be debarred from participation for a period of four years. In this article we discuss the serious health problems faced by the sportsmen due to the use of banned stimulants. In certain instances such sportmen have even lost their lives in their youth itself, in addition to the disgraceful victory. What is the use of a victory if it makes a person a patient for life and even cause death. Dr. Seewali Jayawickrama the Director General of the Sri Lanka Anti Doping Agency who is a Doctor in sports medicine has expressed his

views regarding how the sportsmen who have indulged in using banned stimulants have paid with their lives. There are several banned substances such as steroid Beta 2 Agonists, Diuretics and Growth Hormones used by sportsmen to enhance their skills in sport. However some of these are pharmaceuticals recommended by doctors for the control of certain diseases of patients. But medical science has proved that although the use of such drugs provide some sort of power to the sportsman he will have to face many health problems which may be fatal. The way in which the prohibited stimulants are used differ according





to the type of sport. Some sportsmen use various synthetic hormones to increase their physical strength. Marathon runners use the hormone Erythropoietin as an injection. This is in order to run with greater power and enhance their endurance by increasing the red blood corpuscle concentration. Sportsmen such as boxers and weight lifters who indulge in sports of the weight category try to reduce their body weight by using diuretics. The purpose is to achieve the same body weight as of the opponent by increasing the urine output by taking the diuretic drugs. Similarly some persons use narcotics such as heroin and cannabis in order to minimize the pain when carrying out sports activities. Even though patients with urinary diseases and with high blood pressure get relief by using diuretics as recommended by doctors, when healthy persons use these drugs they get dehydrated and may even have kidney failure.

Certain marathon runners withdraw their own blood into syringes and store them in the fridge and a few days closer to their competitive event, the blood they removed is

injected back into their body.

Sportsmen use this method to increase the amount of blood in their body. Generally a few days after a blood donation, the amount of blood returns to its previous volume along with all the components in the blood. Specially the long distance runners use this type of irregular methods to increase the haemoglobin content in their blood, so that running is made easier by supplying more oxygen to the muscles. Sometimes this may be so dangerous even to cause the death of the athlete. If even a drop of the blood gets clotted or an air bubble is present in the blood the sportsmen may even die.

Although this practice gives a certain degree of power to perform the sport, blood pressure may increase and the sportsmen may die even during the race. Sportsmen use as stimulants steroid type of drugs recommended for the control of asthma in patients. Becoming addicted to these drugs is highly dangerous. When sportsmen use these steroid type of drugs these

may affect the heart. At the same time the deposition of fats in the coronary arteries and other blood vessels may result in heart attacks. Also they increase the cholesterol content in the blood. Further more they affect liver enzymes and cause liver damage, and the liver may become cancerous.

Sportsmen use food supplements to receive more nutrition. Marketeers have misled the sportsmen to the extent of not believing that a balanced diet can provide more nutrition than food supplements. Through examination of samples in order to verify whether these supplements contain the nutritional constituents as claimed in the labels of the supplement pack the Antidoping Agency has found that they contain more chemicals than the claimed nutritional constituents. The manufacturer does not take responsibility for these additional chemical substances and therefore do not take responsibility for the use of these supplements by sportsmen.

Some sportsmen use as stimulants medicinal syrups which are meant

for cough. They are also harmful to the body.

The general ill effects that may be caused in sportsmen by using prohibited stimulants

Diseases associated with joints may result. The bones may even deteriorate. In males the size of their sex organs may decrease. They may become impotent. Even though sexual desire is increased there is inability in sexual performance. The size of the testicles begins to decrease and males begin to develop female characteristics. Specially their breasts may increase in size. They may become bald. Acne may also develop. Blood pressure increases. If it is a female she will develop male characteristics. Her voice becomes gruff. Hair follicles increase. Causes sub fertility. Has adverse effects on conception. Have a tendency to cause miscarriage. The use of stimulants by sportsmen and getting addicted to them is very harmful. Such sportsmen are liable even to face sudden death due to the sudden developments of ill effects caused by stimulants. Even those between the age group of 3D - 3S years may face death due to these stimulants.

It is a common occurrence for sportsmen who use stimulants to enhance their skills to become addicted to them. The sportsmen gradually increase the dosage of stimulants with time. Finally they reach a point when they cannot

compete without using stimulants. It is the trainer of the sportsman who has to be blamed for this state of affairs. Or else the friends of the sportsman, sometimes his parents, the teacher in charge of sports, the instructor of the body



building institute are responsible. Some people illegally mislead the sportsmen by saying that stimulants are necessary to win in sports. These people are under the impression that the victories at international level are due to the use of stimulants. So in order to realize their dream of winning they use prohibited substances. In order to protect or save sportsmen from this situation urine samples are tested before and after the sports event. All sportsmen of international sports associations are bound to obey this world wide rule. They are bound to supply urine samples at any time.

The urine test

Testing of the urine is carried out within an hour after the completion of the event. Unlike the urine tests carried out in a hospital these tests are carried out under very strict legal requirements. The sportsman is given water to drink to bring about proper filtration of urine. More over the bottles of water should be sealed. The urine is collected into specially sealed glass beakers. The responsibility for this procedure lies entirely with the sportsman and a special officer is appointed to keep the sportsman under his surveillance. The urine samples are sealed and are sent for testing to a lab approved by the World Anti Doping Agency. In Asia these laboratories have been set up in countries such as India, China, Thailand, Japan and Korea. If it is proved that the sportsman has used stimulants the disciplinary committee will hold an investigation and impose relevant punishments.

The Law in Sri Lanka

The guilty sportsman will be banned from participation for four years. The persons who aided and obetted the sportsman will be charged in the supreme court and if found guilty will be imprisoned for a period of two years and will be fined 5-10 lakhs of rupees.

For individuals suffering from diseases such as asthma and diabetes who take part in sports, Steroids-Beta 2 Agonists may be included in the medicines used for the control of asthma. Such

sportsmen may sometimes develop respiratory problems during long distance races due to oxygen deficiency. Then it is necessary to use an inhaler and these also may contain steroids. So sportsmen suffering from this type of ailments must inform the relevant authorities about it right at the beginning. Then medical investigation will be carried out regarding the disease condition of the sportsman and medical reports will be obtained. The drug prescriptions recommended by the doctors to control the ailment should be submitted. The sportsmen suffering from such diseases will be subjected to continuous medical investigations and will be allowed to take the recommended drugs. These regulations are applicable to all sportsmen suffering from any ailment.

What sportsmen should do in order to ensure victory in sports

All sportsmen must be conscious of their nutrition. It is extremely important to get advice from a sports doctor or a nutritionist or a physician. The diet must be planned in such a way as to provide a balanced content of carbohydrates, proteins, vitamins and fats. This has to be done on the advice of a nutritionist who will make his recommendations according to the height, weight, age and the degree of activity of the sportsman and the type of sport concerned. The sportsman should exercise regularly according to the sport. Food intake should be balanced according to the calories that are burnt. Daily comfortable sleep is necessary. Mental balance is an essential factor. Disturbed and provoked mental or emotional

state is not conducive for sport. A sportsman is strictly liable for any misconduct or intake of prohibited substances. He should never be on the defensive. His main duty is to safeguard his life and body. Therefore he must pay special attention to every thing that he has taken into his system.

The problems that may arise in females

- Decrease in breast size
- Excessive growth of facial and body hair
- The voice becoming hoarse or gruff
- Irregularity of the menstrual cycle
- Enlarged clitoris

Drugs prohibited by the World Antidoping Agency (WADA)

1. Anabolic agents

These contain drugs which mimic the male hormones testosterone and dihydrotestosterone. They increase the development of muscles by enhancing protein synthesis in cells.

Expected effects

- Increase of the male hormones testosterone and epitestosterone
- Development of muscles, strength and power. Increase in the ability to face competitiveness and endurance

2. Peptide hormones and substances associated with growth substances

- Erythropoiesis stimulants
- Chorionic gonadotrophin, leutenising hormones

- Insulin
- Corticotrophins
- Growth hormones : responsible for muscle and tissue development

Side effects

Causes disfiguration of body due to abnormal growth of legs, hands and jaws

3. Beta - 2 - Agonists

Other types except salbutanal and salmetazole (used with an inhaler)

4. Hormone Antagonists and modulators

- Aromatase inhibitors
- Selective oestrogen receptor modulators
- Other anti-oestrogenic substances
- Agents bringing about changes in the activity of myostatin

5. Diuretics and other masking agents

These assist in the removal of fluids from the body. Cause decrease in weight. Dilutes the urine so that it is difficult to detect other drugs in the urine

Side effects

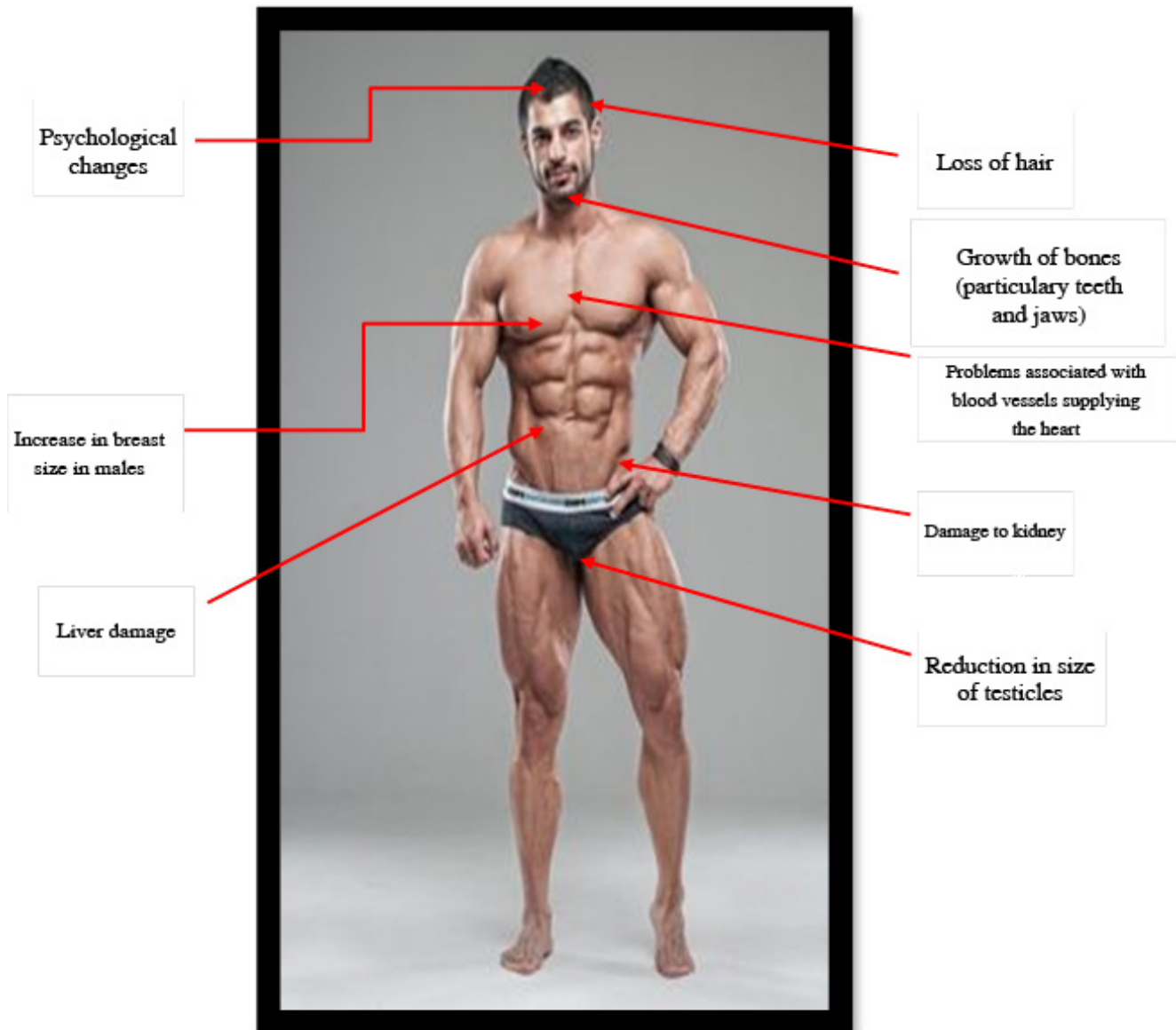
Excessive dehydration and renal failure

6. Stimulants

Enhance the awareness, competitiveness and aggressiveness. Helps to fight against fatigue.

Side effects

Increasing blood pressure and body



temperature. Causing irregularities in the heart beat. As a result heat attacks and strokes may result. Example: Cocaine, Adrenaline, Methyl hexane amine

7. Narcotics

8. Cannabis

9. Glucocorticosteroid types

All glucocorticosteroid types are prohibited when administered through the mouth, intravenously, intramuscular or through the anus

example Prednisolone

Prohibited Practices

Increasing oxygen transport

- Blood doping agent. The artificial increase of red blood cells. Removing the blood of a competitor, storing it and injecting it back into the competitor closer to the time of competition.

Dangers and Complications

Infections (including AIDS) of kidneys and liver failure, brain damage. Increasing the supply,

transport and distribution oxygen in an artificial manner.

- Chemical and physical manipulation
- Gene doping

Dr Seewali Jayawickrama

Director,
Sri Lanka Anti-Doping Agency
(SLADA)
No. 100/7,
Independent Avenue,
Colombo 07
see_sport1965@yahoo.co.uk
0777767606