



The Deadly Doping Game



The Dangers of Using Performance Enhancing Drugs in Sport

Many athletes have come to believe that it is impossible to become successful in the world of sport without using performance enhancing substances (PED's). It is imperative that all athletes, beginners and professionals alike, understand that the use of forbidden substances can have severe consequences on their health and well being, both short and long term.

In this leaflet we have highlighted some of the dangers attributed to using the most common performance enhancing products available today. The risks of doping far outweigh the benefits and we hope that by highlighting the risks, it will provide athletes with a solid base of knowledge should they ever be faced with the decision to dope.

The majority of substances listed in this leaflet do improve athletic performance, but the side effects to an athlete's health of each specific substance far outweigh their benefits.

What are the major health risks linked to doping?

The majority of banned substances pose a risk to competitors, with many having severe side effects detrimental to an athlete's health and well being. Most substances are only intended for therapeutic purposes and should only be prescribed by authorised physicians.

Substances, especially those obtained through the black market, can contain impurities and unknown elements, representing additional hidden risks to those who use the product. When a combination of substances are used, the health risks are multiplied, causing permanent health damage.

To date the risk of contracting diseases through the use of performance enhancing products is minimal, although if you use needles from an unknown source the chance of contracting unwanted diseases increases significantly.

Can athletes become addicted to performance enhancing drugs?

Yes, athletes can become dependent on some substances. Once an athlete stops using a banned substance, withdrawal symptoms are commonplace and prolonged use of substances can continue to produce side effects.

We have highlighted the health risks attributed to the major performance enhancing substances over the following pages.

Anabolic Agents / Steroids

Anabolic agents (steroids) are synthetically produced and mimic the effects of testosterone, a hormone produced naturally in our body. Anabolic steroids increase protein synthesis and enhance muscle growth. They also have androgenic effects, which stimulate or control the development and maintenance of male characteristics. Anabolic agents are prohibited both in and out of competition.

Anabolic agents are responsible for building muscle mass and strength. The use of anabolic agents can result in many side effects including:-

- High blood pressure
- Increased the risk of cardiovascular disease
- Increase in "bad" cholesterol levels
- Liver disease
- Behavioral changes including mood swings and aggression
- Depression
- Acne
- Baldness
- Severe dependence
- Milk producing breasts in men
- Sterility

Additional side effects for female users:

- Acne
- Facial hair
- Deepening of voice
- Abnormal menstrual cycles eventually leading to ending of menstrual cycle

Human Growth Hormone

Human Growth Hormone (HGH) is a naturally occurring hormone present in the human body, responsible for growth and development.

The most common side effect of the excess use of HGH is the overgrowth of the facial bones and connecting tissues, including protruding jaw and eyebrow bones - known as acromegaly.

This condition also leads to an abnormal growth of the hands and feet with an increased growth of hair all over the body. Contrary to the opinion that it increases life span, this condition will shorten life expectancy considerably.

Side effects of human growth hormone include:

- Acromegaly
- Prolonged use results in an enlarged heart (irreversible)
- Low blood sugars with risk of diabetic coma
- Excessive hair growth all over the body
- Water retention
- Liver damage
- Thyroid damage
- Insulin resistance ending in severe Diabetes Mellitus

Erythropoietin (EPO)

EPO is a glycoprotein hormone that controls erythropoiesis, or red blood cell production. Produced by cells in the kidney and liver, it regulates red blood cell production. EPO increases the number of red blood cells, increasing the amount of oxygen carried to the muscles. Legally, it is commonly used in the treatment of cancer patients as an anti-anemia drug.

Side effects of EPO include:

- Thickening of blood
- Increased risk of heart attack, stroke and blood clots
- Increased risk of cerebral or pulmonary embolism

Stimulants

Stimulants such as amphetamines and cocaine, are substances that relate to our central nervous system. Stimulants increase alertness, reduce tiredness, and increase competitiveness and aggression in athletes.

Certain stimulants can cause serious cardiovascular and psychological problems, as well as various other side effects including:

- Dry mouth
- Increased and irregular heartbeat
- Increased risk of stroke and/or heart attack
- Tremors & trembling
- Balance and co-ordination problems
- Prolonged use can lead to addiction and dependence
- High blood pressure
- Dehydration
- Overheating
- Acute aggressiveness
- Mood changes
- Severe dependence

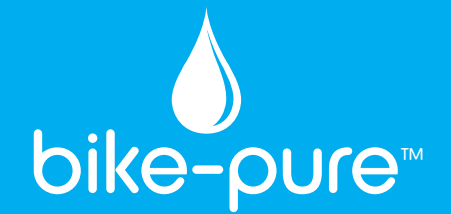
Blood Doping

Blood doping boosts the number of red blood cells present in the blood stream to improve an athlete's aerobic capacity (VO2 max) and endurance.

The procedure carries severe health risks including:

- Septicaemia (blood poisoning)
- Blood clots
- Stroke or heart failure
- Metabolic shocks
- Increased risk of contracting serious infections such as HIV, Aids and hepatitis
- Severe health implications if wrong blood type is used

The information detailed in this leaflet should serve as a guide only. For more detailed information on the side effects of the various substances listed in this leaflet, we recommend the reader consult with an expert with the appropriate scientific background and experience.



Bike Pure is an independent anti-doping organisation aimed at restoring integrity to cycle sport.

Professional riders, teams and cycling fans worldwide, wear the Bike Pure blue wristband to show their opposition to doping in sport.

Join with them in a united stance against doping in sport at www.bikepure.org



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