South African Institute for Drug-Free Sport

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ADVISORY ON *SUBSTANCES OF ABUSE* UNDER THE WORLD ANTI-DOPING CODE

What are *Substances of Abuse*?

Under the 2021 World Anti-Doping Code (the *Code*), select substances on the *List of Prohibited Substances and Prohibited Methods* (the *Prohibited List*) were identified by WADA in a category of substances, named *Substances of Abuse*, which are substances that are prohibited In-Competition[1.] only, as well as being frequently abused in society outside the context of sport. The reason for this change is to allow more fairness and flexibility in how athletes are sanctioned, should a positive test be related to substance abuse, as opposed to an attempt to enhance performance. The *WADA Prohibited List Expert Committee* selected these four substances they feel are the highest priority for designation as *Substances of Abuse*:

The specific substances include:

- Cocaine (S6. Stimulants).
- Heroin (S7. Narcotics).
- MDMA/Ecstasy (S6. Stimulants).
- Tetrahydrocannabinol/THC (S9. Cannabinoids).

The connection between permitted and illegal substance use and sports performance is a complex issue. Athletes, often under significant pressure to perform, may turn to substances as listed above, as well as nicotine and alcohol to cope, enhance performance, and/or socialise. This advisory aims to provide insight into the implications following the use of these substances in the realm of sport, focusing on the physical, psychological and social dimensions, as well as the legal consequences should an athlete test positive for a *Substance of Abuse.* Cocaine, cannabinoids, alcohol and nicotine will be the primary focus due to their frequent abuse within and outside of the sport environment. These substances undermine the spirit of sport - values such as fair play, respect and integrity, and which are central to the athlete's role in society and on the sports field.

[1.] **It is important to note that the definition of In-Competition is as follows: *"The period commencing at 11:59 p.m. on the day before a Competition in which the Athlete is scheduled to participate through the end of such Competition and the Sample collection process related to such Competition. Provided, however, WADA may approve, for a particular sport, an alternative definition if an International Federation provides a compelling justification that a different definition is necessary for its sport; upon such approval by WADA, the alternative definition shall be followed by all Major Event Organizations for that particular sport."***

Why are certain *Substances of Abuse* prohibited in sport?

All prohibited substances are included in the *Prohibited List* because they meet two of the three following criteria:

1. The use of the substance has the potential to enhance, or enhances sports performance.
2. The use of the substance represents an actual or potential health risk to the athlete.
3. The use of the substance violates the spirit of sport.

Which criteria do *Substances of Abuse* meet?

1. The potential to enhance or enhances performance. Generally, a *Substance of Abuse* could produce an intense rush, with two of them being classified as *Stimulants*, leaving the athlete with a sense of alertness, arousal and confidence during competition. Pending further research, the use of CBD by athletes *may* aid in recovery by improving sleep quality, pain and mild traumatic brain injury during training and while In-Competition.
2. The actual or potential health risk to the athlete.

What are the possible sanctions for the use of these *Substances of Abuse*?

Athletes may still commit an Anti-Doping Rule Violation if they test positive for a prohibited substance in the *Substances of Abuse* category. When an athlete is found to have used these substances In-Competition, they may face a sanction of up to four (4) years. However, the period of ineligibility *may* be reduced to one (1) month, if the athlete can prove that the substance was used Out-of-Competition and that its use was not related to enhancing their sport performance, as well as complete a *Substance of Abuse* treatment programme approved by SAIDS.

It is important for athletes to be aware that these substances can remain in your system for an extended period, and therefore, may be detected In-Competition following use before an event. This means, that irrespective of when the athlete took the substance, if the athlete had to be tested In-Competition, and the substance is detected, the athlete could face a sanction:

As per Code Article 10.2.4.1, where the Anti-Doping Rule Violation involves a Substance of Abuse and "the Athlete can establish that any ingestion or Use occurred Out-of-Competition and was unrelated to sport performance, then the period of Ineligibility shall be three (3) months. In addition, the period of Ineligibility calculated may be reduced to one (1) month if the Athlete or other Person satisfactorily completes a Substance of Abuse treatment program approved by the Anti-Doping Organization with Results Management responsibility".

Can an athlete obtain a Therapeutic Use Exemption (TUE) for a *Substance of Abuse*?

An athlete may apply for a TUE, only if it is lawfully and appropriately prescribed by a medical practitioner for a legitimate and therapeutic purpose, and evidence is provided. The athlete should be aware that there must be detailed clinical supporting documents from their medical practitioner.

As an example, the most well-studied medical use of cannabinoids is for the management of chronic pain conditions, predominantly neuropathic pain. Certain cannabinoid preparations contain THC, which is designated as a *Substance of Abuse*. It may be possible for athletes to obtain a TUE for the use of cannabinoids if the athlete is able to satisfy strict criteria in the *International Standard for Therapeutic Use Exemptions* (ISTUE).

Health risks associated with *Substances of Abuse,* including other substances frequently abused in society outside the context of sport

Cannabinoids

While cannabis is often used to relieve pain, its physical effects are more complicated, and it can have negative consequences for athletes. Cannabis is the most abused substance, other than alcohol, in the world.

Respiratory Health

The most common method that athletes consume cannabis, is through smoking, which can have similar adverse effects such as those found in tobacco smoking. Athletes who regularly smoke cannabis may develop bronchitis, airway inflammation, chronic obstructive pulmonary/airway disease (COPD), emphysema, “Popcorn Lungs”, and/or cancer, resulting in a decrease in lung function, which is especially harmful for athletes who rely on optimal respiratory function for endurance and performance.

Impaired coordination and motor skills

THC, which is the primary psychoactive component in cannabis, can impair motor skills and coordination. For athletes, this can be detrimental, particularly in sports requiring fine motor control, balance, and quick reaction times.

Cocaine

The use of cocaine has a profound impact on the cardiovascular system. Cocaine administration produces euphoria, tachycardia, hypertension, and appetite suppression and has a strong reinforcing action, causing rapid psychological dependence and craving. The euphoric rush quickly wears off, producing a depressed mood, or feeling down, which leads to the use of higher dosages of cocaine, sometimes just to feel normal.

Performance impact

Although athletes use cocaine because it may provide a temporary increase in their alertness and short-term energy, it ultimately harms performance in the long run. Cocaine can create a false sense of heightened energy and/or focus, but this effect is short-lived and followed by fatigue, depression, and/or irritability. Cocaine impairs the athlete's fine motor skills and hand-eye coordination, which are essential for many sporting disciplines. Cocaine use depletes all the essential nutrients, weakens muscle function and impairs recovery. Athletes need to be aware that cocaine disrupts the natural recovery process, leading to overtraining, physical burnout, and an increased risk of injury.

Heroin

The most common ways of using heroin are by injection, snorting (insufflation) and inhalation by smoking. Heroin binds to opioid receptors on cells located in brain areas such as those involved in pain, pleasure and in controlling heart rate and breathing. Following administration, the user experiences an initial surge of euphoria, followed by a period of sedation. Heroin is highly addictive, both physically and psychologically.

Nicotine

Nicotine, when consumed in any form, can have several detrimental effects on the physical health of athletes. These effects can directly impact athletic performance, recovery, and overall health.

Cardiovascular Health

Nicotine is a stimulant that has the potential to increase an athlete's heart rate and blood pressure. It also causes constriction of blood vessels, reducing the oxygen flow to muscles. This can significantly impair cardiovascular function, leading to reduced endurance capacity, decreased stamina, and increased fatigue. Studies have shown that smokers, vapers, or nicotine users may experience a reduction in aerobic capacity, meaning their bodies are less efficient in utilising oxygen during physical exertion (Baker et al., 2018).

Respiratory Issues

Athletes who smoke or are vaping nicotine, have the potential to damage their lung function, as nicotine restricts airflow by causing inflammation in the airways and reduces lung capacity, which are very crucial for athletes in endurance sports (O'Donnell et al., 2013).

Alcohol

The physical effects of excessive alcohol intake and/or binge drinking are both immediate and long-term, and they can have significant repercussions for performance in sports.

Impaired performance

Alcohol is a depressant that affects the central nervous system, impairing coordination, motor skills and reaction time. In sports that require fine motor control, balance or quick reflexes, binge drinking can significantly compromise performance. Alcohol use can also increase the risk of injury by affecting an athlete's ability to react quickly to potentially dangerous circumstances.

Disruption of recovery and training

Binge drinking alcohol interferes with the body's ability to recover after training and/or competition. Alcohol slows down the synthesis of proteins, which are crucial for muscle repair and recovery. This means that athletes who binge drink may experience slower recovery times, increased muscle soreness and a higher risk of overuse injuries (Freeman et al., 2006).

Further information and assistance

There are resources and educational material on the SAIDS website for further information, or visit the:

- 2025 Prohibited List available on www.drugfreesport.org.za.
- Check your medication on https://drugfreesport.org.za/onlinemedication-check to ensure that your medication is not prohibited in sport.
- *Substances of Abuse* guidelines under the 2021 World Anti-Doping Code are available at: substances_of_abuse_guidelines_final_28022024_en_0.pdf
- For any queries, or to book an education session, contact Thando Mandla at thando@saids.org.za.