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Drug-Free Versus Steroids:

Can a Drug-Free Athlete Win in the Modern World?

By: Jonathan Quang

With technology to detect doping becoming increasingly prevalent, one has to wonder if a drug-free athlete can really win in the modern world. Steroids offer a short-term advantage over other athletes who do not use steroids. This is considered cheating, and is usually grounds for disqualification or a long-term ban. Steroids also tend to have severe side effects. It is when these people are not caught that this question arises from.

**The History of Steroids**

The history of performance enhancing drugs is long, dating all the way back to the ancient Greeks in 776 B.C.E. The drug of choice was doop ,(which is where the word doping came from), a vicious juice made of opium. Even the Romans doped. Around 100 C.E., chariot races fed their horse hydromel, an alcoholic mixture using honey, to make them run faster. Gladiators also ingested hallucinogens and stimulants to prevent fatigue and injury.   
 In the late 1800s, athletes drank a mixture of wine and coca

leaves to stave off fatigue and hunger. Worldwide recognition of drugs in sports resulted from an Olympic marathon runner named Thomas Hicks. He used a mixture of brandy and strychnine (a fatal stimulant in high doses) to boost his performance, which resulted in near death. Strychnine, heroin, cocaine, and caffeine were used by many athletes with each team or coach creating their own mixture. This practice became increasingly uncommon after heroin and cocaine became prescription drugs only in

the 1920s. Doping in the sport of track and field was prohibited by the International Association of Athletics Federation. In the 1950s , athletes began to take Amphetamines used by soldiers in WWII. Doping received even more attention on August 26, 1960, during the Summer Olympics in Rome during the 100km race. Knut Jensen collapsed, fracturing his skull. Initially thought to be caused by heat stroke, his autopsy revealed traces of Amphetamines. In 1967, the International Olympic Committee established a medical commission to fight doping. This event marked a cascade of doping testing and regulation.

**Anabolic Steroids versus Steroidial Supplements**

Anabolic steroids are synthetic substances that produce effects similar male sex hormones such as testosterone. They promote the growth of skeletal muscle and male sexual characteristics. Steroidal supplements are compounds that the body can convert into testosterone, such as tetrahydrogestrinone and androstenedione.

**The Side Effects**

While the short term effect of anabolic steroids are increased performance as a result of the growth of skeletal muscles, the long term effects are not as advantageous. Steroidal in large quantities, a large amount of testosterone may result. A large amount of testosterone would result in the same side effects as anabolic steroids. Reversible effects in men are reduced sperm production and testicular atrophy. Permenant effects include male-pattern baldness and breast development. In females, masculatization occurs, resulting in effects such as a deeper voice, excessive body hair, and loss of scalp hair. In children, bone growth can stop prematurely. In general, there is an increased risk of blood clots, liver damage, mood swings, and acne. Death may also occur as a result of an enlarged heart. The side effects of steroids makes taking them a bad investment.

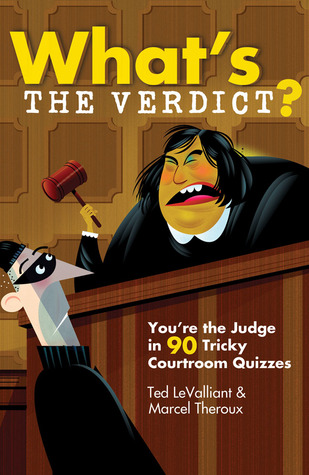
Steroidal supplements have less of an effect, but if taken in large quantities, a large amount of testosterone may result. A large amount of testosterone would result in the same side effects of anabolic steroids.

**How do Steroid Tests Work?**

Steroid tests usually involve taking a urinary, blood, or hair follicle sample. While the latter of three is more prone to false positives, the basis of the tests is simple. Once the sample is taken, it is tested for synthetic substances that are known to replicate the performance of testosterone. Unusually high concentrations of testosterone may also indicate steroid use, however these forms of detections can be avoided by simply not taking the steroid for between 1 to 17 months before the test is administered. Steroid tests are performed randomly to prevent planning in advance.   
 New steroids have been developed that are not detected in any samples, but all steroids have one thing in common. Since all steroids activate androgen receptors, examining these receptors for activation is all that needs to be done to find out if an athlete has taken steroids.

**Who has Been Caught Recently?**

According to Tristen Critchfield of Sherdog News, on the 31st of January 2015, Anderson Silva of the UFC tested positive for the steroid drostanolone for the second time since testing positive for an out-of-competition test taken on January 9. Silva was unanimously disqualified from his match on the 31st while also banned from participating in another match on the follow Tuesday. This punishment seems minor in comparison to Lance Armstrong's punishment.   
 Lance Armstrong is an American cyclist and a testicular cancer survivor. He won seven Tour de France titles between 1999 and 2005. Upon admitting to doping throughout his career in January 2013, he was stripped of all seven titles and banned from cycling for life.



A drug free athlete can win in the modern world. With random testing in place and severe punishments in order, steroid use is now grounds for complete disqualification. The only time these athletes do not win is when their competitors are not caught. If testing for performance enhancing drugs increases, then modern athletes definitely have a chance.

Frequent steroid use may result in an enlarged heart. As it grows, it becomes stretched and thin. The heart will eventually tear, causing major stroke. According to the steroid analysis website, this is the most frequent steroid related death .website.

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Mini Project #1 SLS44-09/ Period 4,5

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