

Steroids

While athletes of all ages are put under extreme pressure, it seems to be human nature to look for shortcuts. As a result, sport medicine specialists are increasingly alarmed by the growing use of performance enhancing substances by college and high school students who want an athlete's body without any work.

It seems as though the desire to make the wrestling team or impress peers is much more immediate than the future possibility of liver failure or heart disease.

Anabolic Steroids

Anabolic steroids are synthetic derivatives of the hormone testosterone. Testosterone stimulates and maintains the male sexual organs; it also stimulates the development of bones and muscles, promotes skin and hair growth.

Anabolic steroids have been shown to increase protein synthesis and promote lean muscle tissue when accompanied by a vigorous conditioning program and a high caloric diet.

However, studies are inconclusive as to whether strength, endurance or athletic performance is improved.

The average adult male produces between 2-11 mg of testosterone each day, while the average steroid user often takes over 100 mg of testosterone daily.

As a result, the steroids fool the body into thinking that testosterone is being produced. The body, sensing an excess, shuts down its own bodily functions involving testosterone, such as bone growth. As a result, the ends of the long bones may fuse together and stop growing, resulting in stunted growth.

In addition, drugs such as anadrol and winstrol are common amongst users and are often manufactured in underground laboratories or foreign countries through mail order.

The quality and purity of these drugs are questionable as there are no regulations regarding the contents of illegal drugs.

Recent studies on the use of anabolic steroids have uncovered a wide variety of side effects, many of which can set the stage for potentially fatal diseases: Physically, steroids can give you headaches, nosebleeds, acne, stomach aches, as well as cause your blood pressure to rise and

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your heartbeat to increase. Some people complain their body becomes less flexible, most likely because their tissues retain fluids and their muscles tighten up.

Steroids can also prevent a young person from ever growing to his or her full height. It's a serious consequence and there's no second chance.

Prolonged use of steroids can also result in irreversible liver damage and hardening of the arteries that may end in a heart attack or stroke.

Mentally, steroids can make you more aggressive (i.e. "road rage"), edgy, impatient, and paranoid (i.e. everyone is out to get you). As a result, mood swings are quite common.

Girls and women who use steroids for a long time can become more masculine looking. Their voice may deepen and they may grow more hair on their body and face. In addition, steroids can leave some women unable to have children.

Caffeine

Caffeine pills have been sold since the 1950's as a means of staying awake or boosting athletic performance. The stimulant effects of caffeine are well known to the over 70 % of Canadians who drink coffee, tea or colas on a regular basis. Surprisingly, studies have shown that caffeine has little effect on short-term, high intensity exercises. It can, though, help endurance exercise, as it helps the body release fat stores. However, caffeine also acts as a diuretic, thus speeding up dehydration, causing cramping and diarrhea. These side effects make caffeine an unlikely benefit for long distance running.

Protein Supplements

Many athletes take protein or amino acid supplements in the false belief that it will stimulate muscle growth, since the body builds muscle using proteins and amino acids. However, these synthetic preparations usually do not contain any of the other nutrients needed to build muscle, which is practically 70 % water. This extra protein is not needed by anyone already eating a balanced diet; and, in fact, this extra protein will be used as energy, stored as fat, or excreted, placing an extra burden on the kidneys.

So, not only are these protein preparations fairly useless, and potentially harmful, they are generally pretty expensive. There are cheaper sources of protein, such as low-fat milk, but if you are eating a balanced diet, there's not really any need.

Ritalin

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Ritalin is a medication prescribed for children with attention-deficit hyperactivity disorder (ADHD) and is also occasionally prescribed for treating narcolepsy. Ritalin has a notably calming effect on hyperactive children and a "focusing" effect on those with ADHD.

Because of its stimulant properties, however, in recent years there have been reports of its abuse by athletes during competition. These prescription tablets can create powerful stimulant effects and serious health risks. Short-term effects can include nervousness and insomnia, loss of appetite, nausea and vomiting, dizziness, palpitations and headaches.

High doses of stimulants over a long period of time produce a predictable set of symptoms that include tremors and muscle twitching, fevers, convulsions, and headaches, irregular heartbeat and respirations, anxiety, restlessness, paranoia, hallucinations, and delusions, excessive repetition of movements and meaningless tasks, and formication (sensation of bugs or worms crawling under the skin).

Creatine Monophosphate

Creatine is produced naturally in the body and is used in muscle cells to convert ADP to ATP, a molecule that the cells can use for energy.

Energy stored in this ATP-creatine system typically lasts for no more than 90 seconds, after which aerobic glycolysis takes over (i.e. the body uses oxygen and glucose to provide energy).

So by taking creatine supplements, the idea is to build up that initial energy store. And, in fact, studies have shown a slight increase in this short-term energy in people taking creatine, as well as a slight gain of fast twitch muscle mass.

However, athletes involved in endurance events were actually slowed down by creatine. In addition, there have been reports of stomach cramps which resulted in emergency medical care for some people taking creatine, and its long term effects are unknown.

If you are considering taking supplements to increase your muscle mass or improve your athletic performance, do a little research first, and talk to your doctor about possible side effects.

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