

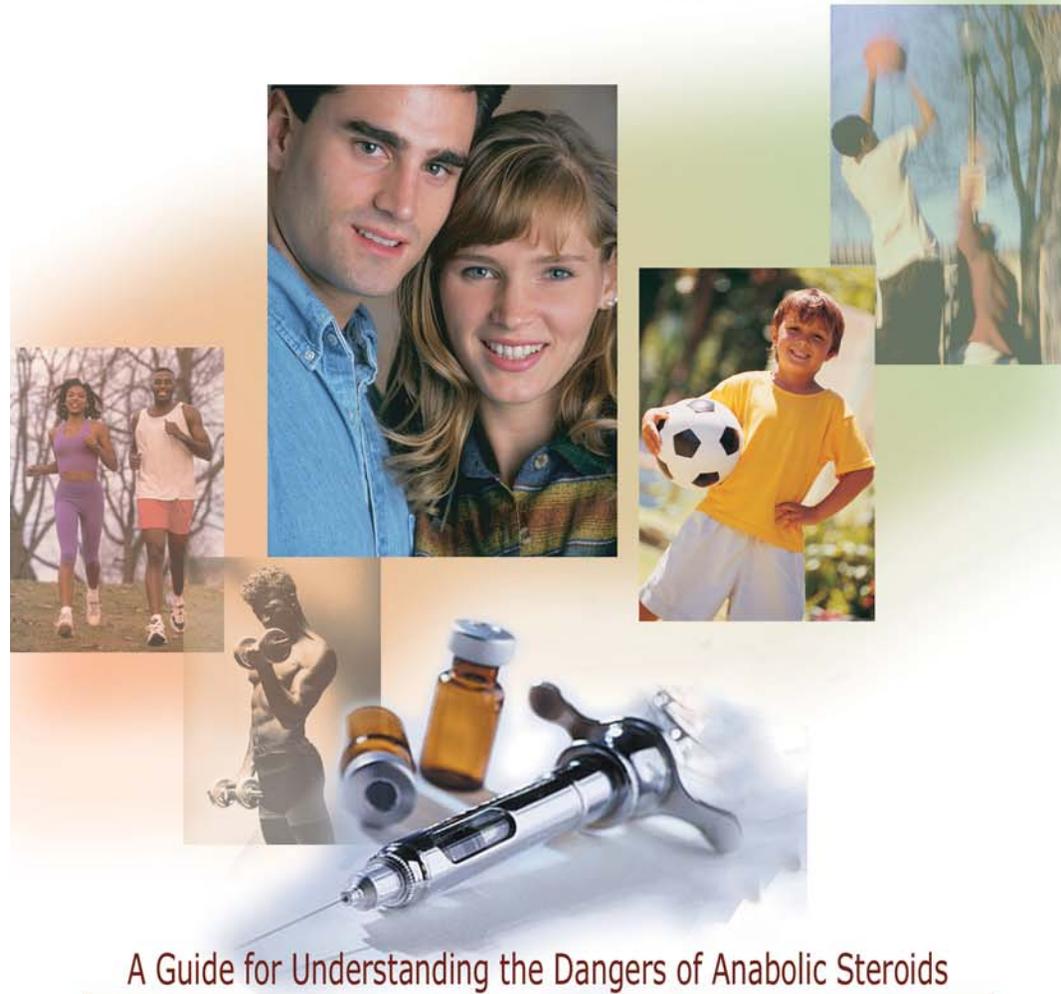
ANABOLIC STEROIDS

A Dangerous and Illegal Way to Seek Athletic
Dominance and Better Appearance

www.DEAdiversion.usdoj.gov



www.dea.gov



A Guide for Understanding the Dangers of Anabolic Steroids

ANABOLIC STEROIDS, A DANGEROUS AND ILLEGAL WAY TO SEEK ATHLETIC DOMINANCE AND BETTER APPEARANCE

WHAT ARE ANABOLIC STEROIDS?

Anabolic steroids are synthetically produced variants of the naturally occurring male hormone testosterone. Both males and females have testosterone produced in their bodies: males in the testes, and females in the ovaries and other tissues. The full name for this class of drugs is **androgenic** (promoting masculine characteristics) **anabolic** (tissue building) **steroids** (the class of drugs). Some of the most abused steroids include Deca-Durabolin®, Durabolin®, Equipoise®, and Winstrol®. The common street (slang) names for anabolic steroids include arnolds, gym candy, pumpers, roids, stackers, weight trainers, and juice.

WHY DO PEOPLE ABUSE STEROIDS?

Anabolic steroids are primarily used by bodybuilders, athletes, and fitness “buffs” who claim steroids give them a competitive advantage and/or improve their physical performance. Steroids are purported to increase lean body mass, strength and aggressiveness. Steroids are also believed to reduce recovery time between workouts, which makes it possible to train harder and thereby further improve strength and endurance. Some people who are not athletes also take steroids to increase their endurance, muscle size and strength, and reduce body fat which they believe improves personal appearance.

Presented as a public service by:

**Drug Enforcement Administration
Office of Diversion Control
Washington, D.C. 20537**

This publication is authorized for public dissemination.

All material in this publication is in the public domain and may be reproduced without the expressed permission of the Drug Enforcement Administration. Citation of the source is appreciated.

March 2004

WHERE DO YOU GET STEROIDS?

Doctors may prescribe steroids to patients for legitimate medical purposes such as loss of function of testicles, breast cancer, low red blood cell count, delayed puberty and debilitated states resulting from surgery or sickness. Veterinarians administer steroids to animals (e.g. cats, cattle, dogs, and horses) for legitimate purposes such as to promote feed efficiency, and to improve weight gain, vigor, and hair coat. They are also used in veterinary practice to treat anemia and counteract tissue breakdown during illness and trauma. For purposes of illegal use there are several sources; the most common illegal source is from smuggling steroids into the United States from other countries such as Mexico and European countries. Smuggling from these areas is easier because a prescription is not required for the purchase of steroids. Less often steroids found in the illicit market are diverted from legitimate sources (e.g. thefts or inappropriate prescribing) or produced in clandestine laboratories.

HOW ARE STEROIDS TAKEN?

Anabolic steroids dispensed for legitimate medical purposes are administered several ways including intramuscular or subcutaneous injection, by mouth, pellet implantation under the skin and by application to the skin (e.g. gels or patches). These same routes are used for purposes of abusing steroids, with injection and oral administration being the most common. People abusing steroids may take anywhere from 1 to upwards of a 100 times normal therapeutic doses of anabolic steroids. This often includes taking two or more steroids concurrently, a practice called "stacking." Abusers will often alternate periods (6 to 16 weeks in length) of high dose use of steroids with periods of low dose use or no drug at all. This practice is called "cycling."

Doses of anabolic steroids used will depend on the particular objectives of the steroid user. Athletes (middle or high school,

college, professional, and Olympic) usually take steroids for a limited period of time to achieve a particular goal. Others such as bodybuilders, law enforcement officers, fitness buffs, and body guards usually take steroids for extended periods of time. The length of time that steroids stay in the body varies from a couple of days to more than 12 months.

PHYSICAL & PSYCHOLOGICAL DANGERS

There is increasing concern regarding possible serious health problems that are associated with the abuse of steroids, including both short-term and long-term side effects. The short-term adverse physical effects of anabolic steroid abuse are fairly well known. Short-term side effects may include sexual and reproductive disorders, fluid retention, and severe acne. The short-term side effects in men are reversible with discontinuation of steroid use.

Masculinizing effects seen in women, such as deepening of the voice, body and facial hair growth, enlarged clitoris, and baldness are not reversible. The long-term adverse physical effects of anabolic steroid abuse in men and in women, other than masculinizing effects, have not been studied, and as such, are not known. However, it is speculated that possible long-term effects may include adverse cardiovascular effects such as heart damage and stroke.

POSSIBLE PHYSICAL SIDE EFFECTS INCLUDE THE FOLLOWING:

- High blood cholesterol levels – high blood cholesterol levels may lead to cardiovascular problems
- Severe acne
- Thinning of hair and baldness
- Fluid retention
- High blood pressure

POSSIBLE PHYSICAL SIDE EFFECTS INCLUDE THE FOLLOWING: (CONT'D)

- Liver disorders (liver damage and jaundice)
- Steroids can affect fetal development during pregnancy
- Risk of contracting HIV and other blood-borne diseases from sharing infected needles
- Sexual & reproductive disorders:

Males

- Atrophy (wasting away of tissues or organs) of the testicles
- Loss of sexual drive
- Diminished or decreased sperm production
- Breast and prostate enlargement
- Decreased hormone levels
- Sterility

Females

- Menstrual irregularities
- Infertility
- Masculinizing effects such as facial hair, diminished breast size, permanently deepened voice, and enlargement of the clitoris.

POSSIBLE PSYCHOLOGICAL DISTURBANCES INCLUDE THE FOLLOWING:

- Mood swings (including manic-like symptoms leading to violence)
- Impaired judgment (stemming from feelings of invincibility)
- Depression
- Nervousness
- Extreme irritability
- Delusions
- Hostility and aggression

LAWS AND PENALTIES FOR ANABOLIC STEROID ABUSE

The Anabolic Steroids Control Act of 1990 placed anabolic steroids into Schedule III of the Controlled Substances Act (CSA) as of February 27, 1991. Under this legislation, anabolic steroids are defined as any drug or hormonal substance chemically and pharmacologically related to testosterone (other than estrogens, progestins, and corticosteroids) that promotes muscle growth.

The possession or sale of anabolic steroids without a valid prescription is illegal. Simple possession of illicitly obtained anabolic steroids carries a maximum penalty of one year in prison and a minimum \$1,000 fine if this is an individual's first drug offense. The maximum penalty for trafficking is five years in prison and a fine of \$250,000 if this is the individual's first felony drug offense. If this is the second felony drug offense, the maximum period of imprisonment and the maximum fine both double. While the above listed penalties are for federal offenses, individual states have also implemented fines and penalties for illegal use of anabolic steroids.

The International Olympic Committee (IOC), National Collegiate Athletic Association (NCAA), and many professional sports leagues (e.g. Major League Baseball, National Basketball Association, National Football League (NFL), and National Hockey League) have banned the use of steroids by athletes, both because of their potential dangerous side effects and because they give the user an unfair advantage. The IOC, NCAA, and NFL have also banned the use of steroid precursors (e.g. androstenedione) by athletes for the same reason steroids were banned. The IOC and professional sports leagues use urine testing to detect steroid use both in and out of competition.

STEROID ALTERNATIVES

A variety of non-steroid drugs are commonly found within the illicit anabolic steroid market. These substances are primarily used for one or more of the following reasons: 1) to serve as an alternative to anabolic steroids; 2) to alleviate short-term adverse effects associated with anabolic steroid use; or 3) to mask anabolic steroid use. Examples of drugs serving as alternatives to anabolic steroids include clenbuterol, human growth hormone, insulin, insulin-like growth factor, and gamma-hydroxybutyrate (GHB). Examples of drugs used to treat the short-term adverse effects of anabolic steroid abuse are erythropoietin, human chorionic gonadotropin (HCG), and tamoxifen. Also, diuretics and uricosuric agents may be used to mask steroid use.

Over the last few years, a number of metabolic precursors to either testosterone or nandrolone have been marketed as dietary supplements in the U.S. These dietary supplements can be purchased in health food stores without a prescription. Some of these substances include androstenedione, androstenediol, norandrostenedione, norandrostenediol, and dehydroepiandrosterone (DHEA), which can be converted into testosterone or a similar compound in the body. Whether they promote muscle growth is not known.

ARE ANABOLIC STEROIDS ADDICTIVE?

An undetermined percentage of steroid abusers may become addicted to the drug, as evidenced by their continuing to take steroids in spite of physical problems, negative effects on social relations, or nervousness and irritability. Steroid users can experience withdrawal symptoms such as mood swings, fatigue, restlessness, and depression. Untreated, some depressive symptoms associated with anabolic steroid withdrawal have been known to persist for a year or more after the abuser stops taking the drugs.

HOW CAN WE CURTAIL THEIR USE?

The most important aspect to curtailing abuse is education concerning dangerous and harmful side effects, and symptoms of abuse. Athletes and others must understand that they can excel in sports and have a great body without steroids. They should focus on getting proper diet, rest, and good overall mental and physical health. These things are all factors in how the body is shaped and conditioned. Millions of people have excelled in sports and look great without steroids. For additional information on steroids please see our website at **www.DEAdiversion.usdoj.gov**