Drug Enforcement Administration
Diversion Control Division
Drug & Chemical Evaluation Section

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Anabolic Steroids

(Street Names: Arnolds, Gym Candy, Pumpers, Roids, Stackers, Weight Trainers, Gear, and Juice)

Introduction:

Anabolic steroids are a class of drugs with a basic steroid ring structure that produce anabolic effects and androgenic effects. Athletes, bodybuilders, and others abuse anabolic steroids with the intent to improve athletic performance, muscle strength, and appearance.

Licit Uses:

In the U.S., only a small number of anabolic steroids are approved for either human or animal use. Testosterone and several of its esters, as well as methyltestosterone, nandrolone decanoate, and oxandrolone are the main anabolic steroids currently prescribed in the U.S. Some of the approved medical uses include the treatment of testosterone deficiency, delayed puberty, anemia, breast cancer, and tissue wasting resulting from AIDS. Trenbolone, boldenone, and mibolerone are used only in veterinary medicine.

Chemistry:

Most anabolic steroids are synthetically manufactured variations of testosterone.

Pharmacology:

No anabolic steroid is devoid of androgenic effects. Activation of androgen receptors in various cells and tissues primarily mediate the anabolic and androgenic effects. The anabolic effects include the growth of skeletal and cardiac muscle, bone, and red blood cells, whereas the androgenic effects include the development of male secondary sexual characteristics.

The adverse effects associated with anabolic steroids are dependent on the age of the user, the sex of the user, the anabolic steroid used, the amount used, and the duration of use. In adolescents, use can permanently stunt growth. In women, use can induce permanent physical changes including deepening of the voice, increased facial and body hair growth, and the lengthening of the clitoris. In men, use can cause shrinkage of the testicles, enlargement of the male breast tissue, and sterility. Anabolic steroid use can damage the liver and can cause an increase in cholesterol levels. Anabolic steroid use can also induce psychological effects such as aggression, increased feelings of hostility, psychological dependence, and addiction. Upon abrupt termination of long term anabolic steroid use, abusers may experience withdrawal symptoms including severe depression.

Illicit Uses:

Anabolic steroids are abused with the intent to enhance athletic performance, increase muscle strength, and improve appearance. The doses used are often 10 to 100 times higher than the doses used to treat medical conditions. Users typically take two or more anabolic steroids at the same time in a cyclic manner believing that this will improve their effectiveness and minimize the adverse effects. Anabolic steroid abuse is often accompanied by the use of other drugs.

User Population:

Anabolic steroids are abused by professional, amateur, recreational athletes, and bodybuilders. Adolescents and young adults in the general population also abuse steroids for its muscle growth effects.

Data from monitoring the Future (MTF) study, which surveys eighth, tenth, and twelfth grade students, showed that 0.8%, of eighth graders, 0.5% of tenth graders, and 1.3% of twelfth graders reported using steroids in 2022. According to the MTF study, the 'perceived availability of steroids' was relatively high prior to 2001 or 2002, but 2019 recorded declined appreciably at all grades and perceived availability within lower grades continued to decline in 2020. The study states that DEA's scheduling of some steroids have no doubt contributed to the drop in availability.

Illicit Distribution:

Anabolic steroids are available as injectable preparations, tablets and capsules, and gels and creams. Most anabolic steroids sold illegally in the U.S. come from abroad. The Internet is the most widely used means of buying and selling anabolic steroids. However, there is also evidence of diversion through unscrupulous pharmacists, doctors, and veterinarians.

New steroids, which have not undergone safety or efficacy testing in the U.S., have appeared over the years. Some of these "designer steroids" were supplied to athletes to avoid drug testing detection. Commercially available dietary supplements are sold purporting to contain novel anabolic steroids. These products, which are advertised to build muscle and increase strength, are readily available on the Internet.

The DEA's National Forensic Laboratory Information System (NFLIS) Drug database collects drug analysis information from participating federal, state, and local forensic drug laboratories. NFLIS-Drug data indicate that testosterone, methandrostenolone, nandrolone, trenbolone, and stanozolol continue to be the five most frequently encountered steroids by the participating federal, state, and local forensic laboratories. In 2021, there were 1,235 of testosterone, 233 reports of trenbolone, 127 reports of methandrostenolone, 158 reports of nandrolone, and 122 reports of stanozolol. In 2022, there were 1,070 reports of testosterone, 185 reports of trenbolone, 119 reports of methandrostenolone, 122 reports of nandrolone, and 102 reports of stanozolol. In 2023, there were 629 reports of testosterone, 136 reports of trenbolone, 87 reports of methandrostenolone, 65 reports of nandrolone, and 62 reports of stanozolol.

Control Status:

By enacting the Anabolic Steroid Control Acts of 1990 and 2004, Congress placed a total of 59 anabolic steroids in Schedule III of the Controlled Substances Act. The salts, esters, and ethers of these 59 anabolic steroids are also controlled. Congress provided a definition to administratively classify additional steroids as Schedule III anabolic steroids. On August 1, 2023, DEA published a final rule amending its regulations moving the expressly listed anabolic steroids from 21 CFR 1300.01(b) to 21 CFR 1308.13(f), adding 22 new substances from the Designer Anabolic Steroid Control Act of 2014, while providing a mechanism for temporary and permanent scheduling of anabolic steroids.

Comments and additional information are welcomed by the Office of Diversion Control, Drug and Chemical Evaluation Section. Fax 571-362-4250, Telephone 571-362-3249, or Email DPE@dea.gov.