

Anabolic Steroids

The use of drugs to enhance strength and endurance has been observed for thousands of years. Today, individuals, including adolescents, continue to employ a variety of drugs, such as anabolic steroids, in hope of improving their athletic performance and appearance. Anabolic steroids are not mood altering immediately following administration. Instead, the appetite for these drugs has been created predominantly by our societal fixations on winning and physical appearance.

Anabolic steroids are synthetic versions of the primary male sex hormone, testosterone. Testosterone, produced primarily by the testes, is responsible for the masculinization and muscle growth during male adolescence. Anabolic steroids are administered primarily in the oral and injectable forms, and needle sharing has been reported, especially among adolescents. These drugs are usually obtained from black market sources, which often include distributors of other illegal drugs.

Individuals who use anabolic steroids, particularly those experienced in weight training, will experience increases in strength and muscle significantly beyond those observed from training alone. Regardless, the use of anabolic steroids is not without negative consequences. First, steroid use is illegal and in violation of state and federal laws. Second, it's considered cheating! To protect the health of the athletes and to maintain the spirit of fair competition, virtually all organizations overseeing athletic competitions, including the National Federation of State High School Associations, oppose the use of anabolic steroids. However, many adolescents who use anabolic steroids do not participate in school-sponsored sports. Third, adolescent steroid users are exposing themselves to potentially serious health problems during the physically and emotionally vulnerable period when their own hormonal cycles are changing. Physical health concerns associated with steroid use include liver and heart disease, and stroke, while physiological effects consist of drug dependence and increased aggression.

In females, anabolic steroids have been associated with a number of adverse effects, some of which appear to be permanent even when drug use is stopped. These include menstrual abnormalities, deepening of voice, shrinkage of breasts, male-pattern baldness, and an increase in sex drive, acne, body hair and clitoris size. Younger steroid users, both male and female, are at risk of permanently halting their linear growth, which could result in shorter stature than nature had intended. It is becoming increasingly obvious that anabolic steroid use is not just confined to collegiate, professional and Olympic athletes. There is a growing body of evidence that high school and even junior high school students are using steroids.

Lifetime prevalence rates for steroid use among male adolescents generally range between 4 and 12 percent and between .5 and 2 percent for female adolescents. A review of national-level studies of adolescent steroid use shows a mixed trend between 1989 and 1996. In one national study using 1989 steroid usage rates for males and females as a benchmark, a significant decline in use occurred between 1989 and 1996. However, since 1991, steroid use by males, as measured by 2 of 3 national surveys, has been generally stable. Furthermore, since 1991, data from these same three national surveys point to a significant increase in anabolic steroid use among adolescent females. The 1995 Youth Risk and Behavior Surveillance System showed that of 9th to 12th graders in public and private high schools in the U.S., 4.9% of males and 2.4% of females have used anabolic steroids at least once in their lives. Based on 1995 estimates of high school students, these prevalence rates translate to approximately 375,000 adolescent males and 175,000 female steroid users. It should also be noted that the use of anabolic steroids by adolescents is not limited to the United States. Studies in Canada, South Africa, England, and Sweden have reported overall levels of steroid use for high school-age students similar to those in the United States.



Only a partial profile can be created to characterize the adolescent steroid user. Steroid users are more likely to be males and to use other illicit drugs, alcohol and tobacco. Student athletes are also more likely than non-athletes to use steroids; football players, wrestlers, weightlifters, and bodybuilders have significantly higher prevalence rates than students in other activities. However, the effects of age, race, gender, and grade level on steroid use are not fully understood. In addition, several other areas, such as academic performance and socioeconomic status, require further investigation before associations can be made with a reasonable degree of confidence. During the past decade, several strategies have been employed to fight anabolic steroid use among adolescents. These activities have focused primarily on the passage of federal and state laws prohibiting the use of anabolic steroids, as well as the implementation of numerous prevention, education and intervention programs. Only a handful of high schools have elected to employ drug tests as a deterrent to steroid use, most likely because of the prohibitive costs of such tests (~ \$120/test). While law enforcement has had some impact, it is not the complete answer, especially given the rise in steroid use among adolescent females. Prevention programs need to be multifaceted. A consistent message against steroid use needs to come from parents, teachers, and coaches on a continual basis. Adolescents need to learn refusal skills as well as to be provided with the latest and most accurate information on sports nutrition, strength training, conditioning, and the use of supplements. Most importantly, young people need a strong moral and ethical compass that establishes clear boundaries that will not be crossed in pursuit of victory.

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Current Comments are official statements by the American College of Sports Medicine concerning topics of interest to the public at large.

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