

SB

49

Senator Hollis French


Capitol Room 404
465-3892
465-6595 fax



MEMORANDUM

Date: February 3, 2005

To: Senator Fred Dyson, Chair
Senate Health and Social Services Committee

From: Senator Hollis French 

RE: Request for Hearing on SB 49 – “An Act relating to listing certain anabolic steroids as controlled substances”

This is a request that you schedule a HESS Committee hearing on SB 49 – – “An Act relating to listing certain anabolic steroids as controlled substance” at the earliest possible time. The bill has been referred to your committee, with a further reference to the Judiciary Committee.

I have attached a copy of the bill for your information. Additional materials will be made available to the committee aide next week.

Attachment

ALASKA STATE LEGISLATURE

Senate
Judiciary
Committee

Senate
Labor & Commerce
Committee

Senate
Administrative
Regulation Review
Committee



SENATOR HOLLIS FRENCH

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SB 49 – OUTLAWING THE DISTRIBUTION AND USE OF ANABOLIC STEROIDS

Sponsor Statement

Alaska is one of only two states in the nation that do not outlaw anabolic steroids. SB 49 is meant to correct this oversight. While there is no strong evidence of rampant steroid abuse in Alaska, 20 percent of the state athletic directors recently surveyed indicated that they suspected steroid use among the young people they coached directly or those who played on other sports teams at their schools.

Anabolic steroid use is on the rise. While several recent allegations of steroid use by professional and Olympic athletes have garnered widespread media attention, less publicized but no less important is the rise in use by young people. Research supported by the National Institute of Drug Abuse indicates that steroid use among the nation's twelfth graders nearly doubled between 1991 and 2002, from 2.1 percent to 4 percent.

Despite recurring reports on the negative consequences of steroid abuse, many bodybuilders, athletes, and fitness buffs use anabolic steroids in the belief that the substances give them a competitive advantage and improve their physical performance. Young people who use anabolic steroids are particularly at risk. Some of the physical symptoms of steroid abuse include liver disorders, severe acne, high blood cholesterol levels, and sexual and reproductive disorders. Possible psychological disturbances include mood swings, depression, extreme irritability, hostility, and aggression.

Anabolic steroids are currently legal under Alaska law. Under SB 49, simple possession of anabolic steroids without a prescription would be a misdemeanor, and distribution or sale of anabolic steroids would be a felony. Please join me in supporting this bill, which is intended to make certain that athletes in Alaska do not yield to the temptation of steroids.



**Alaska State
Legislature**
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FOR IMMEDIATE RELEASE - February 4, 2005

French, Berkowitz Target Anabolic Steroids
Right now, there's no state law against use, possession

JUNEAU -- Sen. Hollis French and Rep. Ethan Berkowitz, both D-Anchorage, have filed bills to make the possession and use of anabolic steroids illegal in Alaska. Alaska is one of only two states in which steroids are still legal.

Anabolic steroid use is on the rise. Several recent allegations of steroid use by professional and Olympic athletes have gotten widespread media attention, but use by young people is also up. Research supported by the National Institute of Drug Abuse indicates that steroid use among the nation's 12th graders nearly doubled between 1991 and 2002, from 2.1 percent to 4 percent.

Despite recurring reports of the negative consequences of steroid abuse, many bodybuilders, athletes, and fitness buffs use anabolic steroids in the belief the substances give them a competitive advantage and improve their physical performance.

"While I have not found strong evidence of rampant steroid abuse in Alaska," said Senator French, "20 percent of the state athletic directors recently surveyed indicated that they suspected steroid use among the young people they coached directly or those who played on other teams at their schools. In good conscience, we cannot continue the loophole in our laws that allows our youth access to these dangerous substances."

Young people who use anabolic steroids are particularly at risk, although abuse of steroids can harm users of any age. Some of the physical symptoms of steroid abuse include liver disorders, severe acne, high blood cholesterol levels, and sexual and reproductive disorders. Possible psychological disturbances include mood swings, depression, extreme irritability, hostility, and aggression.

Under SB 49 and HB 80, simple possession of anabolic steroids without a prescription would be a misdemeanor under state law, and distribution or sale of anabolic steroids would be a felony. Federal law also outlaws the distribution, use, and sale of anabolic steroids.

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Steroid Abuse in Today's Society

A Guide for Understanding Steroids and Related Substances

March 2004

STEROID ABUSE in Today's Society



[A Guide for Understanding Steroids and Related Substances](#)

Once viewed as a problem strictly associated with body builders, fitness "buffs," and professional athletes, the abuse of steroids is prevalent in today's society. This is an alarming problem because of increased abuse over the years, and the ready availability of steroids and steroid related products. The problem is widespread throughout society including school-age children, athletes, fitness "buffs," business professionals, etc. The National Institute on Drug Abuse (NIDA) estimates that more than a half million 8th and 10th grade students are now using these dangerous drugs, and increasing numbers of high school seniors don't believe steroids are risky. Another study indicated that 1,084,000 Americans, or 0.5 percent of the adult population, said that they had used anabolic steroids. These are just a couple of examples of how widespread the problem has become.

Some people are taking dietary supplements that act as steroid precursors without any knowledge of the dangers associated with their abuse.

Dietary supplements are sold in health food stores, over the internet, and through mail order. People may believe that these supplements will produce the same desired effects as steroids, but at the same time avoid the medical consequences associated with using steroids. This belief is dangerous. Supplements may also have the same medical

consequences as steroids.

This guide will help you understand why steroids are being abused, and how you can educate athletes and others about the dangers of these drugs. This guide will also discuss the dangerous medical effects of illegal use of steroids on health. The short-term adverse physical effects of anabolic steroid abuse are fairly well known. However, the long-term adverse physical effects of anabolic steroid abuse have not been studied, and as such, are not known. In addition, abuse of anabolic steroids may result in harmful side-effects as well as serious injury and death. The abuser in most cases is unaware of these hidden dangers. By working together we can greatly reduce the abuse of anabolic steroids and steroid related products. It is important to recognize this problem and take preventive measures to protect athletes and other users.

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.

The two major effects of testosterone are an androgenic effect and an anabolic effect. The term androgenic refers to the physical changes experienced by a male during puberty, in the course of development to manhood. Androgenic effects would be similarly experienced in a female. This property is responsible for the majority of the side effects of steroid use. The term anabolic refers to promoting of anabolism, the actual building of tissues, mainly muscle, accomplished by the promotion of protein synthesis.

WHY ARE STEROIDS ABUSED?

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. Also, individuals in occupations requiring enhanced physical strength (body guards, construction workers, and law enforcement officers) are known to take these drugs. 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.

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." Another mode of steroid use is called "pyramiding." With this method users slowly escalate steroid use (increasing the number of drugs used at one time and/or the dose and frequency of one or more steroids), reach a peak amount at mid-cycle and gradually taper the dose toward the end of the cycle. Please see "Appendix A" for additional information on patterns of anabolic steroid abuse.

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.

Examples of oral and injectable steroids are as follows:

Oral Steroids	Injectable Steroids
<ul style="list-style-type: none"> • Anadrol® (oxymetholone) • Oxandrin® (oxandrolone) • Dianabol® (methandrostenolone) • Winstrol® (stanozolol) 	<ul style="list-style-type: none"> • Deca-Durabolin® (nandrolone decanoate) • Durabolin® (nandrolone phenpropionate) • Depo-Testosterone® (testosterone cypionate) • Equipoise® (boldenone undecylenate) (veterinary product) ®

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 (see Appendix B). 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
- 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	Females
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. State executive offices have also recognized the seriousness of steroid abuse and other drugs of abuse in schools. For example, The State of Virginia enacted a new law that will allow student drug testing as a legitimate school drug prevention program. Some other states and individual school districts are considering implementing similar measures.

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.

COMMON TYPES OF STEROIDS ABUSED

The illicit anabolic steroid market includes steroids that are not commercially available in the U.S. as well as those which are available. Steroids that are commercially available in the U.S. include fluoxymesterone (Halotestin®), methyltestosterone, nandrolone (Deca-Durabolin®, Durabolin®), oxandrolone (Oxandrin®), oxymetholone (Anadrol®), testosterone, and stanozolol (Winstrol®). Veterinary steroids that are commercially available in the U.S. include boldenone (Equipose®), mibolerone, and trenbolone (Revalor®). Other steroids found on the illicit market that are not approved for use in the U.S. include ethylestrenol, methandriol, methenolone, and methandrostenolone.

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. The following chart illustrates how masking is accomplished:

Drug Group	Drug or Effect	How drug masks steroid use
Uricosuric Agents	Probenecid	Decreases entry of steroids into the urine
Diuretics	Spironolactone, Furosemide	Dilutes steroid concentration in the urine
Epitestosterone	Decreases Testosterone to	Reduces detection of

Epitestosterone ratio

testosterone usage

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 WIDESPREAD IS THE PROBLEM?

In today's society people are willing to take great risk to excel in sports and perform their jobs better. Also, we live in a society where image is paramount to some people. Therefore, the popularity of performance enhancing drugs such as anabolic steroids and anabolic steroid substitute products are the choice of some people to achieve these goals. Steroid abuse is still a problem despite the illegality of the drug and the banning of steroids by various sports authorities and sports governing bodies. The following examples indicate how diverse this problem is and how widespread it is across all age groups.

General Public

The Substance Abuse and Mental Health Services Administration's National Household Survey on Drug Abuse determined 1,084,000 Americans, or 0.5 percent of the adult population, said that they had used anabolic steroids. In the 18 to 34 age group, about 1 percent had ever used steroids.

School-Age Children

The "Monitoring the Future" study conducted in 2002 determined that since 1991 there has been a significant increase of steroid use by school age children. This annual study, supported by the NIDA and conducted by the Institute for Social Research at the University of Michigan, surveys drug use among eighth, tenth, and twelfth graders in the United States. The first year data was collected on younger students was in 1991. Since 1991 there has been a significant increase in reported steroid use by teenagers. For all three grades, the 2002 levels represent a significant increase from 1991. The following chart illustrates the increase of steroid abuse among teenagers who reported using steroids at least once in their lifetime:

Percent of Students Reporting Steroid Use 1991 - 2002

Year	Eighth grade	Tenth Grade	Twelfth Grade
1991	1.9%	1.8%	2.1%
1999	2.7%	2.7%	2.9%
2002	2.5%	3.5%	4.0%

The 2002 survey also indicated additional data related to steroid abuse by school age children:

Percent of Students Reporting Steroid Use in 2002

Student Steroid Use	Eighth grade	Tenth Grade	Twelfth Grade
Past month use	0.8%	1.0%	1.4%
Past year use	1.5%	2.2%	2.5%
Lifetime use	2.5%	3.5%	4.0%

In addition, the 2002 survey also determined how easy it was for school aged children to obtain steroids. The survey indicated 22% of eighth graders, 33.2% of tenth graders, and 46.1% of twelfth graders surveyed in 2002 reported that steroids were "fairly easy" or "very easy" to obtain. More than 57% of twelfth graders surveyed in 2002 reported that using steroids was a "great risk." Also, another study indicated that steroids are used predominately by males. The survey determined the annual prevalence rates were two to four times as high among males as among females.

The "Monitoring the Future" study also determined that misuse and abuse of steroids is a major concern among school aged children. Some of their findings are alarming and indicate a need for concern:

- A survey in 1999 determined that 479,000 students nationwide, or 2.9 percent, had used steroids by their senior year of high school.
- A survey in 2001 determined the percentage of 12th graders who believed that taking these drugs causes "great risk" to health declined from 68 percent to 62 percent.

The Center for Disease Control and Prevention (CDC) conducts the Youth Risk Behavior Surveillance Study, a survey of high school students across the United States. A survey conducted in 2001 indicated that 5% of all high school students reported lifetime use of steroid tablets/injections without a doctor's prescription. The survey also indicated that 5.8% of ninth graders, 4.9% of tenth graders, 4.3% of eleventh graders, and 4.3% of twelfth graders reported lifetime illegal use of steroids.

A majority of the studies performed on steroid abuse indicate males are twice as likely to abuse steroids as females.

Professional & College Sports

The NFL suspended running back Mike Cloud of the New England Patriots, defensive

back Lee Flowers of the Denver Broncos, and Keith Newman of the Atlanta Falcons for violating the league's steroid policy. All three players tested positive for steroids and received a four game suspension without pay during the regular season. Three members of the Norwick University (located in Northfield, Vermont) football team were arrested for possession of 1,000 anabolic steroid tablets. During interviews with the three football players they advised authorities that several other students and football players were using steroids. In professional baseball it is widely believed that steroid abuse is rampant. The news media has reported countless instances where players were taking steroids or other performance enhancing drugs. There is also continuous debate about steroid testing and other drug testing in professional baseball.

Law Enforcement

Despite the illegality of steroids without a prescription and the known dangers of steroid abuse the problem continues to grow in the law enforcement community. In Minneapolis, a police sergeant was charged for possession of steroids. He admitted to being a user of steroids. In Miami, a police officer was arrested for the purchase of human growth hormone kits (HGH) from a dealer. The dealer had also informed Federal officials that the police officer had purchased anabolic steroids from him on four other occasions. In Tampa, a police officer was sentenced to 70 months in jail for exchanging 1,000 ecstasy tablets from police custody for steroids.

HOW CAN WE CURTAIL THEIR ABUSE?

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

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APPENDIX A: FACTS ABOUT STEROIDS AND ATHLETIC PERFORMANCE ENHANCEMENT¹

Patterns of Anabolic Steroid Abuse

Cycling

- Alternating periods of anabolic steroid use (on cycle) with periods of either no use or the use of low doses of anabolic steroids (off cycle)
- Cycling periods usually last from 6 to 16 weeks
- Anecdotal reasons for cycling
 - Reduction of tolerance development
 - Reduction of adverse effects
 - Prevent detection of steroid use
 - Insure peak performance during competition

Stacking

- Never done in medical practice
- Concurrent use of two or more steroids together
- Injectables may be stacked with oral preparations
- Short acting steroids may be stacked with longer acting steroids

Stacking the Pyramid

- A stacking regimen wherein there is a progressive increase in the doses and types of steroids used in the initial part of the cycle and a gradual reduction in the doses and types of steroids used in the latter half of the cycle
- This regimen is believed to give the optimal, desired steroid effects while decreasing the likelihood of detection of anabolic steroid use

Alternatives to Anabolic Steroids

- Human chorionic gonadotropin
- Human growth hormone
- Insulin-like growth factor
- Insulin
- Clenbuterol
- Erythropoietin (EPO)
- Gamma-hydroxybutyrate (GHB)
- Vitamins and amino acids

Doses of Anabolic Steroids Abused

Steroid abusers select doses depending upon their particular objectives. For athletes, the doses selected are to some extent determined by the sporting event.

- **Endurance athletes:** At or slightly below replacement levels of 5 to 10 mg/day.
- **Sprinters:** 1.5 to 2 times replacement levels.
- **Weightlifters & body builders:** 10 to 100 times normal doses.
- **Women:** Regardless of sport tend to use lower doses than men.

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APPENDIX B: PHYSICAL & MENTAL EFFECTS OF STERIOD ABUSE ON MALES AND FEMALES¹

Short-Term Adverse Physical Effects of Anabolic Steroids in Men

- Acne
- Skin tissue damage at the site of injection
- Shrinkage of the testicles
- Decreased sperm production and motility
- Decreased semen volume
- Frequent or continuing erections

- Enlargement of the breast (gynecomastia)
- Elevated blood pressure
- Increased LDL cholesterol levels
- Decreased HDL cholesterol levels
- Fluid retention leading to swelling
- Abnormal liver function
- Prostate enlargement
- Bleeding (usually nose)

Short-Term Adverse Physical Effects of Anabolic Steroids in Prepubertal Boys

- Precocious sexual development
- Penis enlargement
- Painful, prolonged penile erections
- Increased frequency of penile erections
- Premature closure of the growth plates in long bones resulting in a decrease in the total height achieved
- Fluid retention leading to swelling

Short-Term Adverse Physical Effects of Anabolic Steroids in Women

- Acne
- Oily skin
- Tissue damage at injection site
- Deepening of the voice
- Increased body and facial hair growth
- Enlargement of the clitoris
- Male pattern baldness
- Decreased breast size
- Menstrual irregularities (missed periods or no periods)
- Fluid retention leading to swelling

Adverse Cardiovascular Effects of Anabolic Steroids in Men and Women

- Increased blood pressure -----> potential coronary artery disorder
- Increased LDL cholesterol -----> potential coronary artery disorder
- Enlargement of the heart
- Actual death of heart cells
- Heart attacks (cardiac infraction)
 - - Spasms of the coronary arteries
 - - Increased blood clotting
- Stroke

Possible Long-Term Consequences of Anabolic Steroid Abuse in Men and Women

- Adverse cardiovascular effects
- Liver dysfunction
- Liver tumors
- Liver cancer
- Cancer of the prostate (men only)

Other Potential Risks Faced by Anabolic Steroid Abusers in Men and Women

- Skin infections
- HIV infection (needle sharing) -----> AIDS
- Hepatitis infections
- Violent trauma

Psychological Effects of Anabolic Steroid Abuse in Men and Women

Psychotic and Manic Reactions (rare occurrence)

- Most likely seen in people with prior mental illness

Anger, Hostility, Aggression and/or Violent Behavior

- Occurs in some but not all anabolic steroid users
- Unpredictable who will respond
- Increased likelihood with higher doses
- Minor provocations evoke exaggerated responses
- Presents danger to spouse, family, and friends
- Presents danger to law enforcement

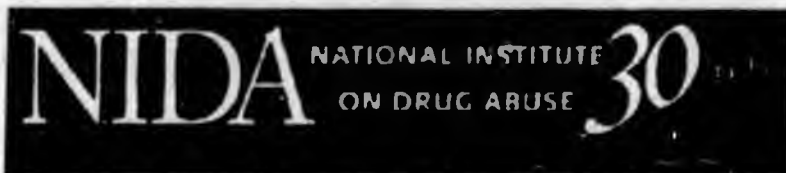
¹ Dr. James Tolliver (Pharmacologist), DEA, Drug and Chemical Evaluation Section (ODE)

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NIDA Community Drug Alert Bulletin - Anabolic Steroids

Steroid abusers often do not realize that over time, these drugs can take a heavy toll on their health.

Dear Colleague;

Since the 1950s, some athletes have taken anabolic steroids to build muscles and boost their athletic performance. Increasingly, other segments of the population also have been taking these synthetic substances. The Monitoring the Future study, an annual survey of drug abuse among middle and high school students across the country, showed a significant increase from 1998 to 1999 in anabolic steroid abuse among middle schoolers. During the same year, the percentage of 12th-graders who believed that taking these drugs causes "great risk" to health declined from 68 percent to 62 percent.

Studies show that, over time, anabolic steroids can indeed take a heavy toll on a person's health. Abuse of oral or injectable anabolic steroids is associated with increased risk for heart attacks and strokes, and the abuse of most oral anabolic steroids is associated with increased risk for severe liver problems, including hepatic cancer. People who share needles or use nonsterile injection techniques put themselves at risk for contracting dangerous infections, such as HIV/AIDS, hepatitis B and C, and bacterial endocarditis.

Anabolic steroid abuse can also cause undesirable body changes. Men may develop enlarged breasts and women's bodies may become masculinized. Both sexes can develop acne and hair loss.

This Community Drug Alert Bulletin summarizes some of the latest scientific information on anabolic steroids. NIDA also has established a Web site to provide scientific information about anabolic steroids: <http://www.steroidabuse.org>. As research produces new information, NIDA will continue to make every effort to quickly disseminate these findings via the Web site and subsequent Alerts. Our objective is to keep the Nation's communities up-to-date concerning the risks of abusing anabolic steroids and science-based approaches to preventing and treating such abuse.

Sincerely,

Alan I. Leshner, Ph.D.
Director

Anabolic steroids are:

**COMMUNITY
BULLI**
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- Synthetic substances related to the male sex hormones (androgens). They promote growth of skeletal muscle (anabolic effect) and the development of male sexual characteristics (androgenic effects), and also have other effects. (The term "anabolic steroids" will be used throughout this bulletin because of its familiarity, although the proper term for these compounds is "anabolic/androgenic" steroids.)
- Used by doctors to treat conditions that occur when the body produces abnormally low amounts of testosterone, such as delayed puberty and some types of impotence, and also to treat body wasting in patients with AIDS and other diseases.
- Legally available in the United States only by prescription. Anabolic steroid abusers obtain drugs that have been made in clandestine laboratories (sometimes with poor quality control standards), smuggled from other countries, or diverted illegally from U.S. pharmacies.
- Distinct from steroidal supplements. In the United States, supplements such as dehydroepiandrosterone (DHEA) and androstenedione (street name Andro) can be purchased legally without a prescription through many commercial sources including health food stores. They are often taken because the user believes they have anabolic effects.

Anabolic steroid abuse is:

- Increasing among adolescents, and most rapidly among females. The 1999 Monitoring the Future study, a NIDA-funded survey of drug abuse among middle school and high school students across the United States, recorded that 2.7 percent of 8th-graders, 2.7 percent of 10th-graders, and 2.9 percent of 12th-graders reported having taken anabolic steroids at least once in their lives. These figures represent increases since 1991 of approximately 50 percent among 8th- and 10th-graders and 38 percent among 12th-graders.
- Probably widespread among athletes and would-be sports competitors at all levels, although few data are available to provide exact estimates of prevalence. Many anabolic steroid abusers are unwilling to report the practice, because the International Olympic Committee and many other amateur and professional sports organizations have banned anabolic steroids.
- Motivated in most cases by a desire to build muscles and improve sports performance. Some individuals are motivated by erroneous perceptions of their own bodies (that is, a mistaken belief that they look underweight or obese) and others by a desire to prevent recurrence of physical or sexual attacks they have experienced.

Anabolic steroids are taken:

- Orally as tablets or capsules (Anadrol® [oxymetholone], Oxandrin® [oxandrolone], Dianabol® [methandrosthenolone], Winstrol® [stanozolol], and others); by injection into muscles (Deca-Durabolin® [nandrolone decanoate], Durabolin® [nandrolone phenpropionate], Depo-Testosterone® [testosterone cypionate], Equipoise® [boldenone undecylenate], and others); or by ointment preparations rubbed into the skin. Doses taken by abusers can be up to 100 times more than the doses used for treating medical conditions.
- In combinations, a practice called "stacking." Abusers frequently take two or more anabolic steroids together, mixing oral and/or injectable types, sometimes adding drugs such as stimulants or painkillers. The rationale for stacking is a belief—which has not been tested by science—that the different drugs interact to produce a greater effect on muscle size than could be obtained by simply increasing the dose of a single drug.
- In cyclic dosage regimens, a practice called "pyramiding." At the beginning of a

cycle, the person starts with low doses of the stacked substances and then gradually increases the doses for 6 to 12 weeks. In the second half of the cycle, the doses are slowly decreased to zero. This is sometimes followed by a second cycle during which the person continues to train, but without drugs. Abusers believe that pyramiding allows the body time to adjust to the high doses, and the drug-free cycle allows time for the body's hormonal system to recuperate. As with stacking, the perceived benefits of pyramiding have not been substantiated scientifically.

Health consequences associated with anabolic steroid abuse include:

- *In boys and men*, reduced sperm production, shrinking of the testicles, impotence, difficulty or pain in urinating, baldness, and irreversible breast enlargement (gynecomastia).
- *In girls and women*, development of more masculine characteristics, such as decreased body fat and breast size, deepening of the voice, excessive growth of body hair, and loss of scalp hair, as well as clitoral enlargement.
- *In adolescents of both sexes*, premature termination of the adolescent growth spurt, so that for the rest of their lives, abusers remain shorter than they would have been without the drugs.
- *In males and females of all ages*, potentially fatal liver cysts and liver cancer; blood clotting, cholesterol changes, and hypertension, each of which can promote heart attack and stroke; and acne. Although not all scientists agree, some interpret available evidence to show that anabolic steroid abuse—particularly in high doses—promotes aggression that can manifest itself as fighting, physical and sexual abuse, armed robbery, and property crimes such as burglary and vandalism. Upon stopping anabolic steroids, some abusers experience symptoms of depressed mood, fatigue, restlessness, loss of appetite, insomnia, reduced sex drive, headache, muscle and joint pain, and the desire to take more anabolic steroids.
- *In injectors*, infections resulting from the use of shared needles or nonsterile equipment, including HIV/AIDS, hepatitis B and C, and infective endocarditis, a potentially fatal inflammation of the inner lining of the heart. Bacterial infections can develop at the injection site, causing pain and abscess.

To encourage youths to avoid anabolic steroid abuse:

- Present a balanced picture of what these drugs can do for them and to them. Most adolescents know that anabolic steroids build muscles and can increase athletic prowess. Research has shown that failure to acknowledge these potential benefits creates a credibility problem and can actually make youths more likely to try the drugs.
- Make use of the authority of coaches and the team ethos. In the most promising program currently under study, coaches and team leaders are trained to educate team members about the effects of anabolic steroid abuse, both desirable and adverse, in the general context of training. They also provide information about nutrition and, of course, exercise and other training techniques for improving performance without the steroid abuse by as much as 50 percent and also reduces alcohol abuse among teammates.
- It is uncertain whether drug testing programs can discourage anabolic steroid abuse. However, the first scientific studies of this practice are currently under way.

Contact the National Clearinghouse for Alcohol and Drug Information (NCADI) at 1-800-729-6686 or Web site: <http://www.health.org/> for free NIDA publications. For

faxed drug abuse information in Spanish and English, call NIDA's INFOFAX line at 1-888-NIH-NIDA or, for those with impaired hearing, 1-888-TTY-NIDA.

Access NIDA's specialized Web site, <http://www.steroidabuse.org/>. Additional information on other illicit drugs can be accessed through NIDA's home page on the World Wide Web: <http://www.drugabuse.gov/>.

This page accessed **190546** times since 4/17/00.

NIDA Community Alert Bulletin on Steroid Abuse was published in April, 2000

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Health & Fitness

This steroids stuff just gets more scary

Posted Thursday, December 09, 2004



Barry Rozner

By Barry Rozner

Put down your coffee, stow your muffins and place your bagel in its upright and locked position.

You might want to sit down and fasten your seat belt, because this is the sort of turbulent moment that shakes you off of every preconceived notion.

According to the Centers for Disease Control, the group with the highest use of anabolic steroids today is ... freshman girls.

Yes, high school freshman girls.

About 7.3 percent have admitted to using steroids, and that figure is thought to be two or three times higher.

"Unlike many other drugs, kids don't admit it because it's not cool to be on steroids, not to mention the fact that it makes you paranoid," explained Linn Goldberg, professor of medicine at Oregon Health & Science University in Portland. "The girls believe it helps them shape their bodies, and the boys believe it helps them hit home runs, and so that's their identity.

"The body builders I've treated say it's really about shallow egos and lack of self-confidence, so you can see why kids are so at risk, especially since kids are, by nature, risk-takers."

Goldberg, a fellow of the American College of Sports Medicine and United States Olympic Committee Crew Chief for Drug Surveillance, says there can be no doubting the short- and long-term effects of steroid use.

"Some people will say there isn't enough evidence yet and that we haven't proven a thing," Goldberg said. "Those are the same people who said it about asbestos and cigarettes.

"We know steroids will raise your bad cholesterol, lower your good cholesterol, raise your blood pressure, promote clotting of the blood and increase the risk of tumors, especially liver tumors.

"Those are just a few things and those all lead to other things."

But in young people, it's much worse. They get all of the above, and more. Let's take, for example, a 13-year-old male on steroids.

"We do know that he won't get any taller," Goldberg said. "It rewires his brain and tricks it into thinking he's much older than he is.

"You're giving a powerful hormone to the receptors in the brain that want to go at a slow pace, but steroids trick the receptors into thinking this boy is fully grown, so he

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stops growing and instead of being 6-foot, or 6-foot-3, he'll stop at 5-5 or 5-6.

"The heightened aggression that comes on might persist forever, as will changes in personality. As if adolescence wasn't tough enough, it heightens adolescence.

"About 10 years down the road, he can expect to start experiencing liver problems and heart problems.

"There's female breast enlargement and his testis will shrink and he could become sterile. Then, there's the prostate, which grows with testosterone. Prostate cancer loves testosterone. It can't get enough of the stuff.

"A 13-year-old boy is basically inviting prostate cancer by using steroids."

And a 13-year-old girl?

"Her brain is rewired as well and in many ways she will become an adolescent male, and the changes are mostly permanent," Goldberg said. "It lowers her voice, she'll grow facial hair and body hair and the genitalia will grow.

"This doesn't even take into account all the changes in cardiovascular risk factors and cancer risk factors."

That all sounds very pleasant. What about the so-called legal supplements?

"They could be taking something that's not manufactured with any standards or safety controls," Goldberg said. "The FDA is excluded from analyzing supplements that are sold in your local stores, but the IOC studied supplements sold in the U.S. and found 18 percent were spiked with true anabolic steroids, though the label said nothing about it.

"Creatine has never been studied among kids, but in short studies there have been problems with elevations in markers of kidney function.

"Kids can get the actual steroids pretty easily from local gyms. The body builders get them off the Internet or from Mexico. And in the last two years, major steroid raids were broken up at high schools in Utah and Arizona."

It also is the only drug increasing in use while even alcohol and tobacco are dropping.

So if 6.1 percent of high school students admit to using anabolic steroids, and the real number may be two to three times that, why is it happening?

"Steroid users believe that parents are more accepting of it than typical drugs of abuse, since the drugs aren't for getting high," Goldberg said. "Kids may think parents want them to get a college scholarship no matter what the cost, or maybe even a pro contract.

"Girls may be doing it for sports or just for body-shaping. So these substances have a 'pro-social' effect and may mean parents are unwittingly encouraging children to use them.

"Parents who have unrealistic expectations are partially responsible for the emphasis placed on sports in middle school, high school and college, and the reaction of kids to that emphasis.

"Taking steroids, the pharmacy approach to looking better or performing better, is a bad idea. You alter nature and the reaction is highly unpredictable.

"In essence, taking steroids is Russian roulette."

Sen. Hollis French

From: raymond.sawyer@AKANCH.ANG.AF.MIL
Sent: Wednesday, February 09, 2005 2:37 PM
To: Sen. Hollis French
Subject: RE: 2004 Anabolic Steroid Control Act

Senator Hollis,

Please use his letter as you need. I have coached youth sports for over twenty years, and it was not until three years ago that I saw a shift in the attitude of steroid use. In the past, steroids was a taboo subject, even by those taking it. Now, I have kids coming up to me bragging of the supplements they purchased on the internet, mind you the kids are thirteen and fourteen year olds. What ever you can do to stop kids from ruining their lives you have my support. Again, thank you.

Raymond Sawyer

-----Original Message-----

From: Sen. Hollis French
[mailto:Senator_Hollis_French@legis.state.ak.us]
Sent: Wednesday, February 09, 2005 2:15 PM
To: SAWYER, RAYMOND, CIV, 176 WG, 6070
Subject: RE: 2004 Anabolic Steroid Control Act

Dear Mr. Sawyer,

Thank you for writing, and for including your son's invaluable perspective on this issue. His experience comports with what we are hearing from some athletic directors: that there is more steroid useage out there than most folks are aware of.

With your permission, I would like to include your son's letter in the materials we circulate to other legislators by way of informing them about this particular issue. Please let me know if that would be OK.

Yours,
Hollis French

-----Original Message-----

From: raymond.sawyer@AKANCH.ANG.AF.MIL
[mailto:raymond.sawyer@AKANCH.ANG.AF.MIL]
Sent: Wednesday, February 09, 2005 12:28 PM
To: Sen. Hollis French
Cc: Rep. Vic Kohring; Sen. Charlie Huggins; Sen. Lyda Green
Subject: 2004 Anabolic Steroid Control Act

Honorable Senator French,

I am forwarding a letter from my son, Shannon Keola Sawyer, in regards to your efforts of combating this "allowed" drug. Before you read his letter, please allow me to personally thank you for taking on this beast of a task.

Sincerely,

Raymond Sawyer
1204 G. Frontier Dr
Palmer, AK 99645

Senator,

My name is Shannon Sawyer, and I heard you are working on a problem I have been battling with for sometime. You see I am a very hard working athlete. I won the 2004 Tanana Wrestling State Championship 160 lb bracket when I weighed only 148 lbs. This year I started high school football, and not only made the varsity team, but was their starting varsity linebacker. Two years ago I entered my first bodybuilding competition at the 2003 Mr.

Alaska, and I competed in the twenty year old and under class. I placed fifth. Last year I placed third. My GPA is 3.85 (I got a B in Spanish). Last year I was class president, member of the MATSU Youth Advisory Board, and voted on as the Alaska DARE youth advisor. I just turned fifteen, and I do not use any drug, alcohol, or supplement that is identified as banned. You see I am a natural athlete.

I initially saw steroids as a way people could cheat the system, or more appropriately, how to get what took me years to accomplish in a matter of months. However, after witnessing friends and teammates go through this evil change after taking over the counter prohormone, I started to voice my concerns. The changes I witnessed included violent mood changes, hostile outburst, physical changes that included Gynocomastia (male breast), and due to my own physic I have been accused of taking this garbage. I initially went to coaches who played the "I didn't know that" game. The Athletic Advisor was the same. It wasn't until I met Mr. Bob Sanders, State Program Director, Dare Alaska, who was willing to listen. Since becoming a member last year, I have talked about this problem to several members in government to include Governor Swarzenegger of California.

Steroids do enhance the strength and size of the user, but at what cost? Having a 250 pound enraged individual coming at me does not sound like a sporting event, or not one that the majority of Alaskan want to participate in. The health concerns to those who use steroids are not a concern to the user. They want to get big, strong, and they want it now. They do not see the rage, violent outburst, skin problems, enlarged breast on males, or the countless other internal problems that I am not aware of. The bottom line is, these drugs are banned, made illegal, however still out in our playgrounds (yes, reports of steroid use by elementary kids), school boys and girl locker rooms, and gyms. Alaska now has a champion in you to help further put a damper on the flow of this poison. What ever I can do to assist in getting information out to the youth of Alaska, please let me know.

Shannon Sawyer
Palmer AK