

UNDERWRITING ANABOLIC STEROID USE

MD

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APEDs

DANGERS OF ANABOLIC STEROIDS

- Early heart attacks, CM
- Strokes
- Liver tumors
- Kidney failure
- Psychiatric problems
- Withdrawal symptoms
- Infections
 - HIV, viral hepatitis, other



APEDS

- Anabolic/androgenic steroids
- Non-steroidal anabolics
- Ergo / Thermogenics
- Nutritional substances

TYPES OF APEDs

1. Anabolic–androgenic steroids

- Synthetic, similar to natural male hormone, testosterone.
- Promote growth of skeletal muscle (anabolic)
- Promote development of male sexual characteristics (androgenic) in men and women



TYPES OF APEDs

2. Non-steroidal anabolics

- Insulin
- Insulin-like growth hormone IGF
- Human growth hormone hGH

TYPES OF APEDs

3. Ergo/thermogenics

- Xanthines – increase wakefulness
 - Ex caffeine, theophylline, theobromine

- Sympathomimetics

Drugs like epinephrine, norepinephrine, ephedrine

- Thyroid Hormones

regulate metabolism by altering thyroid function



TYPES OF APEDs

4. Nutritional/Dietary Supplements



- Legal – Creatine, – boosts exercise capacity
 - DHEA – steroid precursor
- Illegal (as of 2004) – steroid precursors
 - THG tetrahydrogestrinone



**Testosterone synthesized
1935**

**First known athletes to
use:**

**Russian weightlifters
1954**

**Gradual increased use by
bodybuilders and athletes**

Anabolic Steroid Act 1990

SOURCES OF ILLEGAL STEROIDS

Mexico

Some European nations

Thefts

Inappropriate prescribing

Clandestine labs



WHO USES ANABOLIC STEROIDS?



- Muscle dysmorphia
- Depression
- Eating disorders
- Sports which emphasize build
- Parental concern about weight

WHO USES ANABOLIC STEROIDS

- Less common among women







ORAL STEROIDS

Anadrol (oxymetholone)

Anavar (oxandrolone)

Dianabol (methandienone)

Winstrol (stanozolol)

Restandol (testosterone undecanoate)

INJECTABLE STEROIDS

- Deca–Durabolin (nandrolone decanoate)
- Durabolin (nandrolone phenpropionate)
- Depo–Testosterone (testosterone cypionate)
- Agovirin (testosterone propionate)
- Retandrol (testosterone phenylpropionate)
- Equipoise (boldenone undecylenate)

- Cycling

- Stacking

- Pyramiding

- Plateauing



SIDE EFFECTS OF ANABOLIC STEROID MISUSE



Cardiovascular system

high blood pressure

blood clots

heart attacks

stroke

artery damage

cardiomyopathy

high LDL, low HDL, $\Delta H/H$

Hormonal system, Men



- decreased sperm production
- enlarged breasts
- shrinking of the testicles
- male-pattern baldness
- hypogonadism

INFECTION

- HIV/AIDS
- hepatitis



MUSCULOSKELETAL SYSTEM

- short stature (if taken by adolescents)
- tendon injury

LIVER

- Peliosis hepatis
- Tumors – adenoma
- Cholestasis, \uparrow ALP



PSYCHIATRIC

- Aggression
- Mania
- Delusions
- Depression



SKIN

- severe acne and cysts
- oily scalp and skin
- abscess at injection site



HORMONAL SYSTEM, WOMEN

- voice deepening
- decreased breast size
- coarse skin
- excessive body hair growth
- male-pattern baldness

OTHER DRUG USE

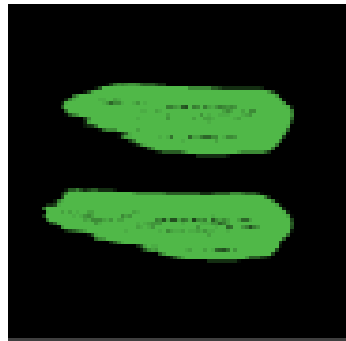


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- MJ
- Prescription opioids
- Cocaine
- Heroin

ARE STEROIDS ADDICTIVE?

- Continued use despite adverse consequences
- Avoiding other activities
- Significant effort and money goes toward obtaining the drug
- Efforts to quit or reduce use, without success
- Tolerance



**WORLD
ANTI-DOPING
AGENCY**

play true

ATHLETES



ATHLETES – 2017 WADA VIOLATIONS REPORT

- Weightlifting/power lifting 349
- Bodybuilding 270
- Field events 242
- Cycling 200
- Football 108

Rugby 80
Boxing 66
Wrestling 57
Basketball 39
Other 490

NUTRITIONAL SUPPLEMENTS

- Don't always know what's in them
- Not tested by FDA
- Occasional banned substances
- Pro hormones, anabolic steroids





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TREATMENT

- Diagnosis is difficult
- Address underlying causes.
- Psychological therapies
- Endocrine therapies
- Antidepressants
- Screen and treat for opiate dependence.

MORTALITY – ANABOLIC STEROIDS

- Journal of Internal Medicine, November 20, 2018
 - Danish study of 545 men who tested positive for steroids in fitness centers 2006–2018.
 - Over 12 years, compared these users to non-user control group from same gyms,
 - All cause mortality was **3 times higher**.
 - HR 3.0
 - Confirmed results by repeating study with 644 men who refused the doping tests.



UNDERWRITING

- Recognize clinical clues to steroid abuse
- Assess degree of psych impairment
- Look for clues of opiate or other drug use
- Review labs: LFTs, hepatitis, HIV
- Cardiovascular health

150K

M22 LOV 4 mo ago

6'2" 220 lb

College football player,
no PMHx, no meds
c/o gynecomastia, acne,
trouble keeping weight
on





- 250K
- M29
- 5'6" 130 lbs
- Previously healthy.
- Admitted to hospital 6 mo ago for severe depression; family described recent increased aggression and rage.
- Elevated lfts, no etoh hx

- 1,000,000
- 32M MD
- “great physical shape” is noted
- PMHx skin abscess L arm 1 y ago
- FHx F died MI age 57
- Med list: Multiple vitamins, supplements, testosterone IM monthly at men’s health clinic, Anastrozole, finasteride



Thank
You!

NIDA. Steroids and Other Appearance and Performance Enhancing Drugs (APEDs).

National Institute on Drug Abuse

<https://www.drugabuse.gov/publications/research-reports/steroids-other-appearance-performance-enhancing-drugs-apeds>. February 21, 2018.