

## STEROIDS

### **What Are Steroids?**

Steroids are hormones of 3 types:

1. Anabolic Androgenic Steroids – like testosterone, that builds muscle and masculinize (hair, deep voice, sex).
2. Glucocorticosteroids – like cortisone or prednisone, that are anti-inflammatory or immunosuppressants used in swelling, rashes, asthma, or bronchitis.
3. Minerocorticosteroids – like vasopressin, that are produced by the adrenal glands for salt and water regulation.

We'll focus on anabolic steroids.

### **How Do Steroids Work?**

By altering testosterone to prolong its effects, steroids act on androgen receptors on certain cells including muscle cells increasing tissue production. Steroids also block the effects of cortisol, a catabolic or muscle-destroying hormone. Exercise increases the availability of androgen receptor sites. Steroid use must be accompanied with physical exercise to increase muscle size and strength. The goal would be to saturate these receptor sites. Some users will stack steroids, use them in combination, often an oral and injectable. Others will pyramid, cycling increases then decreases of the dose for 6-18 weeks and time without use, to keep the receptors sensitive and avoid crash, which occurs when stopping steroids acutely.

### **Can A Doctor Prescribe Me Some?**

Since the Anabolic Steroid Control Act of 1990, they are controlled substances and require a physician's prescription. Ethically, they can only be prescribed for an appropriate medical condition, such as testicular failure, hypogonadism, muscular dystrophy, or AIDS-wasting syndrome.

### **What Are The Differences Between Oral and Injectable Steroids?**

The oral steroids have to be absorbed by the gut and then metabolized by the liver. Steroids injected into muscle tend to be absorbed more slowly and bypass the liver. Do not share needles! HIV and other viruses can be passed from one person to another this way.

### **What Are The Names Of The Common Oral Steroids?**

Andro (androstenedione)-precursor  
Anadrol-50 (oxymetholone) *5 mg/kg daily for anemia*, liver toxic, most powerful, water retention

Anavar (oxandrolone) *5-10 mg daily*, women use, less masculinizing

Andriol (testosterone undecanoate)

Androviron (mesterolone) not converted to estrogen by the liver

Danocrine (danazol) *200-800 mg daily*

Dianabol (methandrostenolone) *2.5-5 mg daily*, the first widely used steroid since 1958, not used as much due to liver toxicity, estrogenic, water retention

Halotestin (fluoxymesterone) *2-10 mg daily*, liver toxicity, not estrogenic, acne, hair loss, strength not mass improved

Maxibolin (ethylestrenol) *4-8 mg daily*

Metandren (methyltestosterone) *5-40 mg daily*, short-acting, 150 minute half-life, liver toxic, also called Android

Methosarb (calusterone) *50 mg daily*

Nibil (methenolone acetate) not liver toxic, also Primobolan, not estrogenic, mild anabolic, fewer side effects

Nilevar (norenthandrolone) water retention, gynecomastia

Teslac (testolactone) *250 mg 4x daily for breast cancer*

Winstrol (stanozolol) *6 mg daily*, Ben Johnson used in 1988, liver toxic, less masculinizing, not estrogenic

## What Are The Names Of The Common Injectable Steroids?

Deca-Durabolin (nandrolone decanoate) *50-100 mg IM every 3-4 weeks*, popular, less masculinizing, longer acting, positive urine tests months later, not liver toxic, less hair loss, less conversion to estrogen

Depo-testosterone (testosterone cypionate) *50-400 mg IM every 2-4 weeks*, long-lasting, testosterone replacement in 2 week intervals, estrogenic, water retention

Delatestryl (testosterone enanthate) *50 to 400 mg IM 2-4 weeks*, long-lasting, 2 week intervals, for hypogonadic men, lowers sperm count, possible male contraceptive

Drolban (drostanolone propionate) *100 mg IM 3x weekly for breast cancer*

Durabolin (nandrolone phenpropionate) *25-50 mg IM weekly for breast cancer*, shorter half-life than Deca

Equipoise (boldenone undecylenate)

Primobolan Depot (methenolone enanthate) not estrogenic

Testex (testosterone propionate) *10-25 mg IM every 2-4 weeks*, not liver toxic, shorter IM, 2-3 day intervals

Winstrol Depot (stanozolol) not estrogenic

## Is Having/Using Steroids Legal?

There are serious penalties for the manufacture, distribution, or non-medically prescribed use of anabolic steroids. Steroids are banned by baseball and for MLB positive urine drug screens the penalties are:

- 1<sup>st</sup> +: Administrative Track
- 2<sup>nd</sup> +: 3-15 game suspension (without pay) and up to a \$1,000 fine
- 3<sup>rd</sup> +: 15-30 game suspension and up to a \$5,000 fine
- 4<sup>th</sup> +: a one-year suspension and up to a \$10,000 fine
- 5<sup>th</sup> +: permanent suspension

## What Are The Benefits?

Possible increase in muscle mass and strength, mobilize fat stores and increase erythropoiesis (red blood cells).

## What Are The Risks?

1. There is an increased risk of joint-related injuries because the increase in muscle mass is not accompanied by a corresponding increase in tendon, ligament, or joint size or strength. Steroids may actually weaken tendons. The more rapid the weight gain, the higher the risk of injury.

2. Positive urine tests – the half-lives of steroids vary from person to person, so they may stay in your system and come up positive.

3. Side Effects – Usually go away after the steroids leave your system. There are higher rates of side effects with higher doses and more chronic use:

- Acne
- Anxiety
- Aggression (Roid Rage)
- Decreased sperm production
- Deepening of the voice
- Depression
- Fluid retention
- Gynecomastia
- Increased appetite
- Increased cholesterol
- Increased energy
- Increased libido
- Irregular hair growth
- Liver tumors and cysts
- Male pattern baldness
- Mania
- Paranoia
- Personality change
- Prostate enlargement
- Psychological dependence
- Sexual problems
- Testicular atrophy
- Trouble sleeping

## Can I Take Something To Mask The Presence of Steroids In My Urine?

MLB is testing for adulterants or masking agents and they count as positive urine tests.

## References:

Galloway, S. "The Steroid Bible," 1997.  
Llewellyn, W. "Anabolics 2002," 2002.  
MLB, "Steroids and Nutritional Supplements," 2001.