Main Groups of Natural Steroids

- Those produced primarily by gonads
  - Androgenic (masculinizing) steroids (like testosterone)
  - Estrogen & Progesterone (feminizing)
- Those produced by the adrenal glands
  - Adrenocortical steroids (aka corticosteroids) like cortisol
  - Reduce inflammation; released when we are exposed to prolonged stress, to allow us to continue to respond
  - Drug substitutes: cortisone, hydrocortisone, prednisone
- Steroid production by body is controlled by the hypothalamus, which monitors levels in blood to determine when production is necessary

Anabolic-Androgenic Steroids

- Testosterone and related substances have 2 major effects on body:
  - Masculinizing effects (“androgenic”)
  - Promote muscle development (“anabolic”)
- Available by prescription for medical conditions, but black-market steroids also sold illegally
- Abused steroids taken in much larger than medical doses (averaging 5-20 x more)

Side Effects in Males

- Testicular shrinkage, decreased sperm count & decreased natural testosterone
- Oily skin and acne
- Possible sustained painful erections
- Possible breast enlargement (gynecomastia) because steroids are metabolized into estrogen
- Male pattern baldness, but hairy other places
- Hot temper, violence & mood swings (“Roid rage”)
- Decreased growth hormone & bone growth—especially critical in those still growing

Side Effects in Women

- Lowered voice
- Increased facial & body hair
- Acne
- Male pattern baldness
- Enlarged clitoris; decreased periods
- Increased sex drive
- Increased aggressiveness

FYI - Prescribed Anabolic Steroid Drugs

- **Taken orally:**
  - danazol (Danacrine)
  - stanozolol (Winstrol)
  - oxandrolone (Oxandrin)
  - methyltestosterone (Android 10, Testred, Virilon)
  - fluoxymesterone (Halotestin)
  - (also black market versions)
- **Injected:**
  - nandrolone (Durabolin)
  - testosterone (Virilon)
  - (also black market versions)
- **Transdermal:** Androderm
- Steroids are “Controlled Substances” (Schedule III)
Anabolic Steroid Use
(Arnolds, Gym Candy, Pumpers, Stackers, Trainers, Juice, Roids)

- Average age for starting steroids = 16 yr., but many start earlier
- Dosage varies widely but always much higher than natural or therapeutic dose
- Many users “stack” (use pills & injectable); some may “shotgun” > a dozen types
- Can induce dependency

Risks
- Stresses liver, increasing risk of jaundice, hepatitis, liver tumors and liver cancer
- Negative effect on cholesterol levels (decreases good, increases bad)
- Increased risk of hypertension and cardiovascular events even in young people
- Violent behavior; can induce mania or hypomania
- Dependence

Anabolic Steroids
- Because of the potential for abuse anabolic steroids have been made Schedule III controlled substances
- Formerly OTC steroid relatives like Mark McGuire’s favorite androstendione (which is turned into testosterone in body) and Barry Bonds’ “THG” (“designer” anabolic steroid) are among the dietary supplements removed from the OTC market and made Schedule III