



# Athletes and Performance Enhancing Drugs

*Substance Misuse Prevention Newsletter: A Collection of Readings*

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## Consequences of Use

The following are a few examples of risks associated with some of the most commonly used performance enhancing drugs:

**Stimulants:** Some of the many risks include, irritability, addiction, insomnia, palpitations, stroke and heart attacks (Mayo Clinic, 2020). These can be especially dangerous for those with underlying cardiovascular issues.

**Anabolic/Designer Steroids:** Risks in men include shrunken testicles, prominent breasts and prostate gland enlargement. Risks in women include an irreversible deepening of the voice, irreversible enlargement of the clitoris, irreversible baldness, amenorrhea and an increase in body hair. Risks seen in all genders may include tendon rupture, liver abnormalities, hyperlipidemia, hypertension, psychiatric disorders such as depression, heart issues and aggressive behaviors (Mayo Clinic, 2020).

See the articles listed on the second page for an in depth look at all the risks associated with performance enhancing drugs.

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University Health and Counseling Services

## What are Performance Enhancing Drugs?

According to the Mayo Clinic (2020), there are many drugs and supplements that fall under the category of Performance Enhancing Drugs (PHD). These include anabolic steroids, androstenedione, erythropoietin, human growth hormone, creatine, diuretics, designer steroids and stimulants. Athletes most commonly use these drugs and supplements in hopes that they will enhance their athletic abilities and increase their likelihood of excelling in their chosen sport. All of these drugs have different physiological effects. Due to the different mechanisms of action of each drug, the risk factors vary. Individuals may choose a drug based on a desired outcome. For example, stimulants (e.g. Ritalin, Adderall, Concerta) work on the central nervous system by increasing the activity of norepinephrine and subsequently elevate heart rate, blood pressure, breathing and blood sugar (National Institute of Drug Abuse [NIH], 2018). Stimulants also increase the activity of dopamine. Individuals may take these in order to feel energized and enhance their endurance. Another commonly used substance is Anabolic Steroids (e.g. testosterone). These are often used to increase muscle mass and strength (Mayo Clinic, 2020). See the articles listed on the second page for an in depth look at all the drugs listed above.

In 2006 a law was passed that ensured that dietary supplements were also included on the NCAA banned substance list. Student athletes in Maine are banned from using these substances and all schools must list all banned substances in their athletic policies (Maine Center for Disease Control & Prevention, n.d.).

Here is a link to the 2020/2021 NCAA Banned Substances List that all students must abide by: <http://www.ncaa.org/sport-science-institute/topics/2020-21-ncaa-banned-substances>



## DEA Steroid Fact Sheet - How to Identify Steroids and their Effects

[https://www.dea.gov/sites/default/files/2020-06/Steroids-2020\\_0.pdf](https://www.dea.gov/sites/default/files/2020-06/Steroids-2020_0.pdf)

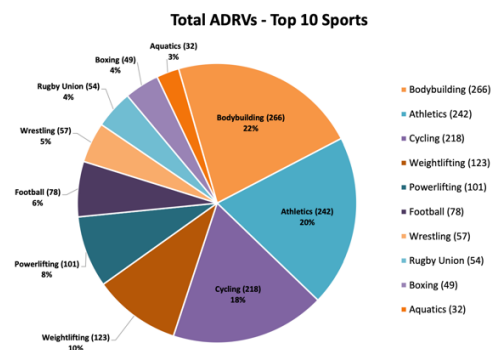
### Terminology

**Stimulants:** Speed, Uppers, Vitamin R

**Steroids:** Gear, Juice, Roids, Stackers, Weight Gainers, Pumpers, Arnolds

### World Anti-Doping Agency Statistics

5. The sports with the highest number of ADRVs committed by athletes:



**Link to WADA's Latest (2017) Report:**  
[https://www.wada-ama.org/sites/default/files/resources/files/2017\\_adrv\\_report.pdf](https://www.wada-ama.org/sites/default/files/resources/files/2017_adrv_report.pdf)

## Physiologic Effects and Risks Associated with Performance Enhancing Drugs

**Mayo Clinic Article Explaining the Mechanism of Action and Risks Associated with Performance Enhancing Drugs:**

<https://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/performance-enhancing-drugs/art-20046134>

**NIH Article on Stimulants:**

<https://www.drugabuse.gov/publications/drugfacts/prescription-stimulants>

**NIH Article on Anabolic Steroids:** <https://teens.drugabuse.gov/drug-facts/steroids-anabolic#topic-5>

## Education & Testing

Educating students on which substances are banned and the risks associated with the use of PED's is crucial as many are detrimental to both their health and their ability to partake in sports. Furthermore, over the counter supplements are not well regulated and thus not all ingredients are listed, which puts students at risk for unintentionally digesting banned and harmful substances (NCAA, n.d.). Transparency is important. If students are unsure if a dietary supplement is safe they should feel comfortable approaching their coach about this concern and together utilize the NCAA's [Drug Free Axis Resource](#). This is a confidential portal where students and staff can submit questions about whether or not banned substances may be present in a supplement, prescription or over the counter medication. This resource ensures that athletes and staff are staying safe and taking proper precautions. Students should also be aware of drug testing policies and sign all NCAA compliance forms. All institutions associated with the NCAA are subject to drug testing (NCAA, 2020). You can review the NCAA 2020/2021 Drug Testing Guide for all details surrounding how and when athletes may be tested.

**Link to the NCAA's 2020/2021 Drug Testing Program:**

[https://ncaaorg.s3.amazonaws.com/ssi/substance/2020-21SSI\\_DrugTestingProgramBooklet.pdf](https://ncaaorg.s3.amazonaws.com/ssi/substance/2020-21SSI_DrugTestingProgramBooklet.pdf)

**NCAA Drug Education & Testing Video:**

<https://www.ncaa.org/sport-science-institute/ncaa-drug-testing-program>

**For comments on this newsletter or suggestions for future articles please contact: Diane Geyer, LCPC, LADC, CCS, NCC~ Clinician and Coordinator of Clinical Substance Use Services at USM or Jillian Littlefield, RN and Graduate Assistant ~ Email:**  
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