

# Performance-Enhancing Drugs: A Literature Review

## Introduction

Performance-enhancing drugs (PEDs) are substances that are used to improve athletic performance. They can be either legal or illegal, and they can be taken orally, injected, or applied topically. PEDs can have a number of side effects, including liver damage, heart problems, and psychological problems.

## Types of PEDs

There are a number of different types of PEDs, including:

**Anabolic steroids:** Anabolic steroids are synthetic derivatives of testosterone, the male sex hormone. They are used to increase muscle mass and strength.

**Human growth hormone (HGH):** HGH is a hormone that is produced naturally by the body. It is used to increase muscle mass and strength, and to improve recovery from injuries.

**Blood doping:** Blood doping is the process of increasing the amount of oxygen-carrying red blood cells in the blood. This can be done by transfusing blood from another person, or by injecting synthetic erythropoietin (EPO), a hormone that stimulates the production of red blood cells.

**Diuretics:** Diuretics are substances that increase the production of urine. They are used to reduce the amount of water in the body, which can help to improve performance in sports that involve weight categories.

## Side Effects of PEDs

PEDs can have a number of side effects, including:

**Liver damage:** Anabolic steroids can damage the liver. This can lead to jaundice, liver failure, and even death.

**Heart problems:** Anabolic steroids can increase the risk of heart attacks and strokes.

**Psychological problems:** Anabolic steroids can cause mood swings, aggression, and psychosis.

**Testicular shrinkage:** Anabolic steroids can cause testicular shrinkage and infertility in men.

**Virilization in women:** Anabolic steroids can cause virilization in women, including the growth of facial hair, deepening of the voice, and menstrual irregularities.

## Legal Status of PEDs

The legal status of PEDs varies from country to country. In the United States, anabolic steroids are classified as Schedule III controlled substances, which means that they have a potential for abuse but also have some accepted medical uses. HGH is also a controlled substance in the United States. Blood doping is illegal in most sports competitions.

## Conclusion

PEDs can have a number of serious side effects, and they are not without risks. If you are considering using PEDs, you should carefully weigh the risks and benefits before making a decision.

This white paper was written by the World Anti-Doping Agency (WADA). WADA is an international organization that is responsible for combating doping in sport. The white paper provides a comprehensive overview of PEDs, including their types, side effects, and legal status.