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## Drugs in sports

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### Introduction

A drug is a chemical substance that, when absorbed into the body, can alter normal bodily function. Many drugs have been banned in sport if they are deemed to provide an unfair advantage, pose a health risk, or are seen to violate the 'spirit of sport'. The use of banned drugs by athletes is referred to as 'doping'. The International Olympic Committee (IOC), and more recently, the World Anti-Doping Agency (WADA) have been leading the way in the battle against drugs in sport. A performance-enhancing drug is any substance taken by athletes to improve performance. This term is referenced often and typically refers to anabolic steroid use in sports by professional and amateur athletes. Other substances may also be taken to improve performance, including human growth hormone (HGH), stimulants and diuretics.

Proponents of accepting performance enhancing drugs (PEDs) in sports argue that their harmful health effects have been overstated, that health risks are an athlete's decision to make, that using drugs is part of the evolution of sports much like improved training techniques and new technologies, and that efforts to keep athletes from using PEDs are overzealous, unproductive, unfairly administered, and bound to fail. Opponents argue that PEDs are harmful and potentially fatal, and that athletes who use them are cheaters who gain an unfair advantage, violate the spirit of competition, and send the wrong message to children. They say PED users unfairly diminish the historic achievements of clean athletes, and that efforts to stop PED use in sports should remain strong.

### History of Performance Enhancing Drugs in Sports

(776 BC – 1959)

#### 776 BC - 393 BC - Ancient Greeks Use Performance Enhancing Drugs

The use of drugs to enhance performance in sports has certainly occurred since the time of the original Olympic Games [from 776 to 393 BC]. The origin of the word 'doping' is attributed to the Dutch word 'doop,' which is a viscous opium juice, the drug of choice of the ancient Greeks. The ancient Olympic champions were professionals who competed for huge cash prizes as well as olive wreaths... Most forms of what we would call cheating were perfectly acceptable to them, save for game-fixing. There is evidence that they gorged themselves on meat -- not a normal dietary staple of the Greeks -- and experimented with herbal medications in an effort to enhance their performances...The ancient Greek athletes also drank wine potions, used hallucinogens and ate animal hearts or testicles in search of potency.



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### **Late 19th Century - French Cyclists and Lacrosse Players Drink Wine and Coca Leaves to Fight Fatigue and Hunger**

The modern applications [of drug use in sports] began in the late nineteenth century, with preparations made from the coca leaf -- the source of cocaine and related alkaloids. Vin Mariani, a widely used mixture of coca leaf extract and wine, was even called 'the wine for athletes.' It was used by French cyclists and... by a champion lacrosse team. Coca and cocaine were popular because they staved off the sense of fatigue and hunger brought on by prolonged exertion.

### **1904-1920 - Performance Enhancing Drugs Used in the Modern Olympic Games**

In 1904 Olympics marathon runner, Thomas Hicks, was using a mixture of brandy and strychnine [a stimulant that is fatal in high doses] and nearly died. Mixtures of strychnine, heroin, cocaine, and caffeine were used widely by athletes and each coach or team developed its own unique secret formulae. This was common practice until heroin and cocaine became available only by prescription in the 1920s.

### **1928 - First Rule Against Doping in Sports**

The International Association of Athletics Federation (IAAF), the governing body for the sport of track and field, becomes the first international sporting federation to prohibit doping by athletes. "International Association of Athletics Federation (IAAF).

### **1940-1945 - Nazis Test Steroids on Prisoners and Hitler**

According to anecdotal accounts, the Nazis test anabolic steroids on prisoners, Gestapos and Hitler himself [between 1940 and 1945]. Testosterone and its analogs are used by German soldiers to promote aggressiveness and physical strength. Retrospectively, according to his physician, Hitler's mental state toward the end of his life exhibits characteristics that some scientists associate with heavy steroid use: mania, acute paranoid psychoses, overly aggressive and violent behavior, depression and suicidal ideologies.



(1960-1989)

### **Aug. 26, 1960 - First Athlete to Die in Olympic Competition Due to Doping**

Danish cyclist, Knut Jensen, dies on Aug. 26, 1960 at the Summer Olympics in Rome during the 100km team time trial race. His collapse, which fractured his skull, is initially thought to be caused by the high temperatures that day. His autopsy, however, reveals traces of an amphetamine called

Ronicol. Jensen is the second athlete ever to die during Olympic competition (the first was a marathon runner in 1912 that died from heat exhaustion).

### **1967 - International Olympic Committee (IOC) Establishes Medical Commission to Fight Doping**

Partly in reaction to Tommy Simpson's death, the International Olympic Committee (IOC) establishes the Medical Commission to fight against doping in sports. The Commission is given three guiding principles: protection of the health of athletes, respect for medical and sport ethics, and equality for all competing athletes.

### **Feb. 1968 - First Drug Testing at Olympic Games**

The IOC instituted its first compulsory doping controls at the Winter Olympic Games in Grenoble, France in 1968 and again at the Summer Olympic Games in Mexico City in the same year. At that time the list of banned substances issued in 1967 included narcotic analgesics and stimulants, which comprised sympathomimetic amines, psychomotor stimulants and miscellaneous central nervous system stimulants [including alcohol]. Although it was suspected that androgenic anabolic steroids were being used at this time, testing methods were insufficiently developed to warrant the inclusion of anabolic steroids in the list of banned substances.

### **May 4, 1968 - First Horse Disqualified from Kentucky Derby for Banned Substance**

Dancer's Image became the only winner in the Kentucky Derby's 134-year history to be disqualified for using a banned substance when traces of phenylbutazone, a non-steroidal anti-inflammatory drug (NSAID), were found in his urine sample after the race. Phenylbutazone was made legal at the Kentucky Derby by a judge's ruling in 1971.



### **Oct. 1968 - First Olympic Athlete Disqualified for Doping Violation**

Hans-Gunnar Liljenwall, a member of the Swedish modern pentathlon team, was stripped of his bronze medal at the Mexico City Olympics when he tested positive for excessive alcohol. Liljenwall said he had two beers to calm his nerves during the pistol shooting part of the pentathlon. He became the first athlete ever disqualified from the Olympic Games for doping, and the whole Swedish team was forced to return their medals as well. At the same Olympics, 14 other athletes tested positive for tranquilizers which were not banned at the time.

### **1972 - First Full-Scale Drug Testing of Olympic Athletes for Narcotics and Stimulants**

"When [drug] testing took place at the Games of 1968 it was of a limited nature. The IOC itself was clear about the limits of its responsibility on doping control.

The first full-scale testing of Olympic athletes occurred at the 1972 Summer Olympic in Munich, Germany. Tests were limited to narcotic analgesics and to the three classes of stimulants; however, testing was much more comprehensive with 2079 samples being analyzed. Seven athletes were disqualified.

### **1975 - Anabolic Steroids Added to IOC's Banned Substances List**

Anabolic steroids are added to the IOC's list of banned substances because a test that is considered to be reliable is developed.

### **1976 - Steroid Testing Conducted for the First Time at the Montreal Olympics**

#### **Sep. 27, 1988 - Ben Johnson Stripped of Gold Medal after Positive Drug Test**

Ben Johnson, a Canadian sprinter, is stripped of his gold medal at the 1988 Olympic Games in Seoul, Korea after testing positive for stanozolol, an anabolic steroid. Johnson claims that his herbal drink was spiked, but officials decline his explanation and suspend him from competition for two years. International Olympic Committee officials send the Canadian home from the competition in disgrace. Johnson is later banned for life after a second positive test in 1993.



(1990-1999)

### **Oct. 5, 1990 - Congress Passes Anabolic Steroids Control Act**

Congress toughens its stance with the Anabolic Steroids Control Act, which places steroids in the same legal class as amphetamines, methamphetamines, opium and morphine."

### **May 14, 1992 - Former NFL Player Dies of Brain Cancer after Using Steroids and HGH for Two Decades**

"NFL defensive end Lyle Alzado dies of brain cancer on May 14. The 43-year-old two-time All-Pro believed his disease was the result of more than two decades of steroid and HGH use (which, at its peak, cost him as much as \$30,000 a year). Scientific research has yet to demonstrate a link between steroids or HGH and brain cancer.



### **Dec. 15, 1994 - First British Female to Test Positive for PEDs Receives Four Year Ban**

Commonwealth Games champion runner, Diane Modahl, becomes the first British female athlete to test positive for performance enhancing drugs. She is banned from competition for four years in a ruling by the British Athletic Foundation (BAF) on Dec. 15, 1994. Modahl claims that the Lisbon laboratory stored her urine sample improperly. One year later, she is cleared of the charges because of the possibility that the sample was not refrigerated. However, she is cleared to return to competition until Mar. 1996. The case gains international attention because of the ruling that her samples were handled incorrectly, and because Modahl launches an unsuccessful five-year campaign for a one million pound compensation from the BAF.



### **Nov. 10, 1999 - World Anti-Doping Agency (WADA) Is Established**

"The World Conference on Doping in Sport held in Lausanne on 2-4 February 1999 produced the Lausanne Declaration on Doping in Sport. This document provided for the creation of an independent international anti-doping agency to be fully operational for the Games of the XXVII Olympiad in Sydney in 2000. Pursuant to the terms of the Lausanne Declaration, the World Anti-Doping Agency was established on 10 November 1999 in Lausanne to promote and coordinate the fight against doping in sport internationally. WADA was set up as a foundation under the initiative of the IOC with the support and participation of intergovernmental organizations, governments, public authorities, and other public and private bodies fighting against doping in sport. The agency consists of equal representatives from the Olympic Movement and public authorities.

(2000-2013)

### **Nov. 7, 2003 - British Sprinter Dwain Chambers Banned from Olympics for Life for Positive THG Test**

British sprinter Dwain Chambers becomes the first person to test positive for the steroid THG in an out-of-

competition drug test conducted on Aug. 1, 2003. On Nov. 7, 2003, he is suspended from all competition for two years and banned from the Olympics for life. Chambers and his 2002 World Championships 4x100m relay teammates must return the silver medals they won because Chambers had been taking THG around the time of the relay race. His 100 meter record of 9.87 is annulled and he has to return his prize money from 2003.



**2004 - WADA Takes over Control of the Prohibited List  
2004 - WADA Removes Caffeine from the List of Banned Substances**

Prior to 2004, athletes who tested positive for a level of caffeine greater than 12 micrograms per milliliter (about 8 cups of coffee) were banned from competition. WADA removes caffeine from the list of banned substances in 2004 because of research showing that caffeine exceeding the amount allowed might actually decrease performance, and to avoid undue punishment for athletes whose bodies metabolize caffeine at different rates.

**Feb. 9, 2006 - US Skeleton Racer Banned for Use of Hair Growth Medicine on the Eve of the Winter Olympics**

US Olympic skeleton racer Zach Lund is banned from athletic competition for one year on Feb. 9, 2006, the night before the opening ceremonies of the 2006 Winter Olympics in Torino, Italy. On Nov. 10, 2005 Lund tested positive for Finasteride, a substance in his hair growth stimulant. Finasteride was not on the list of banned substances until Jan. 1, 2009, and was removed from the list on Jan. 1, 2009. The one year ban is a reduction from the two years recommended by the World Anti-Doping Agency because the Court of Arbitration determined that "Mr. Lund bears no significant fault or negligence.



**Nov. 1, 2007 - Tennis Player Martina Hingis Retires from Tennis after Testing Positive for Cocaine**

Martina Hingis, former world number one and five-time Grand Slam champion, announces her retirement from

tennis on Nov. 1, 2007 after learning that both the A and B samples of a urine test conducted on June 29, 2007 at Wimbledon are positive for the presence of cocaine. She is banned from competition for two years. The trace amount of cocaine metabolite in her urine is so low that she would have passed a drug test administered by the US military. Hingis claims she has never used cocaine and independently submits to a hair test that is negative for drugs. Hingis, age 27, argues that the urine samples were handled improperly but states that she has no desire to fight the doping officials or to contest the two-year ban.



**Jan. 11, 2008 - Track Star Marion Jones Sentenced to Six Months in Prison**

Olympic gold medalist and track and field champion Marion Jones is sentenced to six months in prison on Jan. 11, 2008 for lying to a court and deceiving federal investigators. The prison sentence comes after Jones was already stripped of her Olympic medals by the International Olympic Committee. "Gary Gaffney, MD" Sentenced to Jail: Marion Jones Will Not Be Coming Out of the (Cell) Blocks for 6 Months," Steroid Nation blog, Jan. 11, 2008"



**May 4, 2009 - US Swimmer's Two-Year Doping Suspension Cut to One Year Due to Circumstances**

A doping arbitration panel accepts US swimmer Jessica Hardy's claim that she accidentally ingested the banned substance that caused her to fail a drug test and get dropped from the 2008 US Olympic team one month before the Beijing Olympics. The banned substance, anabolic agent clenbuterol, was in a nutritional supplement made by one of her sponsors, AdvoCare. The panel reduces her suspension from two years to one year. Hardy may still be unable to compete in the 2012 Olympics because Rule 45 of the Olympic Charter states that any person who has been sanctioned with a suspension of more than six months for a doping violation may not participate in the next Olympic Games following the end of the suspension.



**Aug. 18, 2011 - First Professional Athlete in the US to Test Positive for HGH Is Suspended for 50 Games**

"Mike Jacobs, a first baseman in the Colorado Rockies organization who has played over 500 games in the major leagues, including dozens with the Mets, is the first professional baseball player to test positive for human growth hormone, a banned performance-enhancing drug. Major League Baseball announced Thursday that Jacobs, who was playing for the Class AAA Colorado Springs Sky Sox this season, has been suspended for 50 games for failing the drug test. The Rockies subsequently released him. Jacobs, 30, is the first professional athlete in the United States to test positive for H.G.H., said a spokesman for the World Anti-Doping Agency. His blood sample was sent to U.C.L.A.'s Olympic Analytical Laboratory, which is accredited by the World Anti-Doping Agency, and scientists there detected H.G.H. in it. The drug, which is believed to boost lean muscle mass and aid in recovery, is illegal to possess in the United States without a doctor's prescription.



**Aug. 5, 2013 - Alex Rodriguez Suspended through 2014; 12 Players Suspended 50 Games for Violating MLB Drug Policy**

"Major League Baseball's investigation into the link between the now-shuttered Biogenesis anti-aging clinic and performance-enhancing substances provided to more than a dozen players culminated in Monday's [Aug. 5, 2013] announcement that 13 players have been suspended. Yankees third baseman Alex Rodriguez topped the list on one of the most significant disciplinary days in baseball history. MLB handed down a suspension that would sideline the 38-year-old Rodriguez without pay through the end of the 2014 regular season. [If his appeal is denied and he serves out his suspension, there will still be \$61 million left on the final three years of his contract, 2015-17].

**Drug Tests Used in Sports**

Drug Tests in Use (as of Dec. 22, 2008)	Test Type	Test For
Liquid Chromatography	Hair	Multiple illegal substances
Gas Chromatography/Mass Spectrometry	Urine	Multiple illegal substances
Testosterone/Epitestosterone Ratio	Urine	Testosterone
Carbon Isotope Ratio	Urine	Testosterone
Human Growth Hormone (HGH/rHGH)	Blood	HGH/THGH
Isoelectric Focusing	Urine	Erythropoietin (EPO)
Continuous Erythropoiesis Receptor Activator (CERA)	Blood	CERA EPO

Drug Tests in Development (as of Dec. 22, 2008)	Test Type	Test For
Hydroxyprolysis	Urine	Steroids
Nanotrap	Urine	HGH
Selective Androgen Receptor Modulators (SARMs)	Blood	Testosterone masking agent
Myostatin Inhibitor	Blood	Gene manipulation
Gene Doping	Blood/Tissue/Urine	Gener manipulation

**Top 10 Pros and Cons**

PRO Performance Enhancing Drugs	CON Performance Enhancing Drugs
<b>1. Health Risk</b>	
<b>PRO:</b> "If each of us ought to be free to assume risks that we think are worth taking, shouldn't athletes have the same freedom as anyone else? In particular, if athletes prefer the gains in performance allegedly provided by the use of steroids, along with the increased risk of harm to the alternative of less risk and worse performance, what gives anyone the right to interfere with their choice? After all, if we should not forbid smokers from risking their health by smoking, why should we prohibit track stars or weightlifters from taking risks with their health in pursuit of their goals?"	<b>CON:</b> "Performance enhancers, like steroids and other forms of doping, have a negative effect on long-term health. For then users of these enhancers are hurting themselves in the long run without on the average improving their short-term rewards from athletic competition, as long as competitors also use harmful enhancers. This is the main rationale for trying to ban steroids and other forms of doping from athletic competitions."
<b>2. Seeking an "Unfair" Advantage</b>	
<b>PRO:</b> "There is no coherent argument to support the view that enhancing performance is unfair; if it were, we would ban coaching and training. Competition can be unfair if there is unequal access to particular enhancements, but	<b>CON:</b> "Remember that athletes don't take these drugs to level the playing field, they do it to get an advantage. And if everyone else is doing what they're doing, then instead of taking 10 grams or 10 cc's or whatever it is, they'll take 20 or

equal access can be achieved more predictably by deregulation than by prohibition."	30 or 40, and a vicious circle simply gets bigger. The end game will be an activity that is increasingly violent, extreme, and meaningless, practiced by a class of chemical and or genetic mutant gladiators. The use of performance-enhancing drugs is not accidental; it is planned and deliberate with the sole objective of getting an unfair advantage."
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**3. Drugs vs. Technology**

**PRO:** "Sport is for enjoyment and competition, and usually aims to improve; but what is the difference between increasing skill and performance by training, and taking drugs? If it is the use of personal effort rather than outside help, then what of ropes, crampons and oxygen for climbing? What of advanced training by teams of sports physiologists who wire athletes to equipment monitoring heart, muscle, brain and nerves to optimise activity; or teams of sports psychologists improving your responses and neutralising those observed in competitors? What of dieticians tampering with foods and additives - drugs by any other name - to improve performance?"

**CON:** "When used by fully trained, elite athletes, [performance-enhancing] drugs can improve performance to a much greater extent than any combination of the most intensive, sophisticated, and costly non pharmaceutical interventions known to modern sports science. Scientifically based training regimens, special diets, and complex physiological and biomechanical measurements during exercise and recovery cannot match the enhancing effects of drugs... Thus, drug use in a subgroup of athletes who -- even in the absence of drugs are able to compete at an elite level causes their separation into a distinct athletic population, distanced from 'natural' humans by a margin determined by the potency of the drug combinations that are used."

**4. Coercion**

**PRO:** "Why should we think that those who take drugs to remain competitive with the drug users are coerced into doing so? No one is forced to become a competitive athlete. The pressures that the non-drug users may well feel are no different than any other pressures that come with committing oneself to playing the game at a relatively high level of competition. If some athletes spend much more time in the weight room than others and thereby build their muscular strength to levels significantly higher than their opponents, those opponents who want to remain competitive may feel compelled to also put in more time with weights. But there is nothing unethical or immoral about the situation that should

**CON:** "One athlete's decision to use performance enhancing drugs also exerts a powerful effect on the other athletes in the competition. As reported by Sports Illustrated, half of all recently surveyed Olympic athletes admitted that they would be willing to take a drug -- even if it would kill them eventually -- as long as it would let them win every event they entered five years in a row. This type of 'win at any cost' mentality is pervading sports at all levels of competition and results in athletes feeling coerced to use substances just to remain on par with other athletes."

lead those interested in maintaining sportsmanship to forbid or severely regulate weight training."

**5. Effectiveness of Drug Testing**

**PRO:** "According to the IOC [International Olympic Committee] director general, the fact that only eight athletes out of 11,000 Olympic competitors tested positive is proof that 'the war on doping is being won.' But the argument that the small number of athletes testing positive is indicative of the low prevalence of doping is nonsense. The number of positive tests is an extremely poor indicator of the prevalence of doping... There is general recognition among those involved in elite level sport that those testing positive represent only the tip of the iceberg. It is impossible to estimate precisely how big that iceberg is, but it is clearly very large... Firstly, drug-using athletes often beat tests because they have access to specialized medical advice from sports physicians... Secondly, there is evidence of collusion between dope-using athletes and senior officials. Positive tests have been 'lost' at several Olympics."

**CON:** "The detection methods are accurate and reliable. They undergo rigorous validation prior to being introduced. WADA is, of course, keenly interested in the efficiency, as well as the effectiveness, of the global anti-doping system and supports research to help enhance testing efficiency. Working collaboratively with national anti-doping agencies such as the U.S. Anti-Doping Agency (USADA) in the sharing of information has uncovered the designer steroid THG, and WADA-certified laboratories continue to keep a watchful eye for previously unknown doping agents. The I.O.C. retains ownership of the athlete's samples (blood and urine) for eight years following the Olympic Games. During the ensuing eight years, if a technique is developed that would enable the detection of a prohibited substance... the stored specimen could be tested for that specific substance and the athlete would be held accountable."

**6. Legalizing Performance Enhancing Drugs**

**PRO:** "We believe that rather than drive doping underground, use of drugs should be permitted under medical supervision. Legalisation of the use of drugs in sport might even have some advantages. The boundary between the therapeutic and ergogenic - i.e., performance enhancing - use of drugs is blurred at present and poses difficult questions for the controlling bodies of antidoping practice and for sports doctors. The antidoping rules often lead to complicated and costly administrative and medical follow-up to ascertain whether drugs taken by athletes are legitimate therapeutic agents or illicit. Further more, legalisation of doping, we believe, would encourage more sensible, informed use of

**CON:** "There are several reasons to ban performance-enhancing drugs: respect for the rules of sports, recognition that natural talents and their perfection are the point of sports, and the prospect of an 'arms race' in athletic performance. The rules in each sport in effect determine which characteristics among all possible sources of difference influence who wins and who loses. Rules are changed at times to preserve a sport. Basketball banned goaltending—swatting the ball away just as it was about to go into the hoop—when players became so tall and athletic that they could stand by the basket and prevent most shots from having a chance to go in. Sports that revere records and historical comparisons (think of baseball and home runs) would

<p>drugs in amateur sport, leading to an overall decline in the rate of health problems associated with doping. Finally, by allowing medically supervised doping, the drugs used could be assessed for a clearer view of what is dangerous and what is not. Acknowledging the importance of rules in sports, which might include the prohibition of doping, is, in itself, not problematic. However, a problem arises when the application of these rules is beset with diminishing returns: escalating costs and questionable effectiveness."</p>	<p>become unmoored by drug-aided athletes obliterating old standards. Athletes, caught in the sport arms race, would be pressed to take more and more drugs, in ever wilder combinations and at increasingly higher doses. The drug race in sport has the potential to create a slow-motion public health catastrophe. Finally, we may lose whatever is most graceful, beautiful, and admirable about sport."</p>	<p>that the most reliable indicator of steroid use was a teen's own self, self esteem and body image. The suggestion, and I think we can all agree it's pretty intuitive, is that teenage boys who do take steroids do so not because they want to look like Barry Bonds or Mark McGwire, but because they want to look good for teenage girls."</p>	<p>to use. That it is simply part of what one must do to become an elite athlete."</p>
<p><b>7. Sportsmanship</b></p>		<p><b>9. Sports Fans</b></p>	
<p><b>PRO:</b> "How, exactly, does the spirit of sport forbid gene transfer but not carbo-loading? The [WADA] code doesn't say. It defines the spirit of sport as 'ethics,' 'fair play,' 'character' and a bunch of other words that clarify nothing. The definition includes 'courage' and 'dedication.' Doesn't it take more courage and dedication to alter your genes than to snarf a potato? Human growth hormone appears on WADA's 'Prohibited List' of substances and methods, even though the Food and Drug Administration, the National Institutes of Health, and the American Association of Clinical Endocrinologists have vouched, to varying degrees, for its safety. Evidently growth hormone violates the spirit of sport, but stuffing yourself with steaks doesn't."</p>	<p><b>CON:</b> "Anti-doping programs seek to preserve what is intrinsically valuable about sport. This intrinsic value is often referred to as 'the spirit of sport'; it is the essence of Olympism; it is how we play true. The spirit of sport is the celebration of the human spirit, body and mind, and is characterized by the following values:</p> <ul style="list-style-type: none"> <li>• Ethics, fair play and honesty.</li> <li>• Health.</li> <li>• Excellence in performance.</li> <li>• Character and education.</li> <li>• Fun and joy.</li> <li>• Teamwork.</li> <li>• Dedication and commitment.</li> <li>• Respect for rules and laws.</li> <li>• Respect for self and other participants.</li> <li>• Courage.</li> <li>• Community and solidarity.</li> </ul> <p>Doping is fundamentally contrary to the spirit of sport."</p>	<p><b>PRO:</b> "In America's major league sports, particularly football and baseball, the widespread perception of drug use does not seem to have had a negative impact on audience interest. The fascination of watching Mark McGwire break the home-run record in 1998 was undiminished by his overt use of nandrolone (not a banned substance in baseball), which stimulates the body to produce more of its own steroids. And do spectators believe that the number of US football players weighing 300lb, which has risen from 10 in 1986 to more than 300 today, is solely through muscle build-up achieved by eating the concentrated protein contained in egg whites? The estimate of a former professional is that at least 30% of US major-league football players are taking steroids; most people say that the figure is much higher. Fans are not put off by this, and players say they would trade a longer life for a chance of glory."</p>	<p><b>CON:</b> "To the extent that the public perceives that a PED [performance enhancing drug] reduces the role of skill and replaces it by chemically induced brute strength and endurance, it is likely to lose interest in the sports in which it is used. The harm would be primarily financial, but this in turn could lead to the demise of professional leagues and contests. Sporting events would increasingly become tests of rivals' access to good pharmaceutical technology and knowledge and their bodies' ability to use these chemicals efficiently. Even though skill, strategy, and effort would still play a central role in athletic success, pharmaceutical technology and athletes' bodily responses to it would also play a significant role. It is not that people are not interested in science fairs; it is just that people expect sport to be a different kind of test, one in which athletes' own qualities is the major determinants of success."</p>
<p><b>8. Athletes as Role Models</b></p>		<p><b>10. Hall of Fame Induction</b></p>	
<p><b>PRO:</b> "Survey data actually shows that teen steroid use has mirrored the use of other illicit drugs over the years. It went up mildly in the 1990's, and has since either dropped off slightly, or leveled off since 2000. It's likely that the same trends that govern cocaine or marijuana use govern teen steroid use far more than what's happening in the sports pages. In fact, a study released last year, and one of the few studies to actually attempt to find out what motivates teen boys to take steroids, found</p>	<p><b>CON:</b> "For many male high school athletes, pro athletes are major influences. They are the role models. They choose the jersey numbers of their favorite professional players. They emulate their training regimens. They emulate their style of play. And they are influenced by their drug use. When a professional athlete admits to using steroids, the message young athletes hear is not always the one that is intended. Young athletes often believe that steroid use by their role models gives them permission</p>	<p><b>PRO:</b> "Let's stop pretending that the Baseball Hall of Fame is a real-life fantasy world -- a place where we celebrate only the people and events we can all unanimously agree deserve to be celebrated and transform it into an institution that reflects both the good and bad of the sport. Wait wasn't that Cooperstown's mission all along? Shouldn't it be a place where someone who knows nothing about baseball can learn about its rich history? Isn't it a museum, after all? If that's the case -- and I say it is -- then how can we leave out Pete Rose, the all-time hits</p>	<p><b>CON:</b> "It doesn't matter whether the player's production, either home runs or hits, was drug enhanced once, twice or ten times. It doesn't matter; it's still cheating and impugning the integrity of the game and the player's accomplishments. Those great players currently enshrined in the Hall of Fame achieved that honor strictly on the merits of their god-given talents and not by utilizing artificial means to enhance their accomplishments. The game has been tarnished by steroid charges, and the issue of enshrinement in baseball's Hall of Fame of players who have</p>

leader and most memorable competitor of his era? And how can we even consider leaving out McGwire, Barry Bonds and Sammy Sosa, the three most memorable hitters of the 1990s? We're supposed to stick our heads in the historical sand and pretend these people were never born?"	used steroids, regardless of their career statistics, is a critical issue that may well impact the standards and integrity of the Hall of Fame itself."
<b>PRO Performance Enhancing Drugs</b>	<b>CON Performance Enhancing Drugs</b>

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