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DOPING IN SPORTS AND THE USE OF STATE POWER

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Within the world of sports, a war against the use of performance-enhancing drugs has been waged since the late 1960s. Beginning in the late 1980s, however, the use of drugs in sports, generally referred to as “doping,”¹ began to attract the attention of the government. After a series of hearings in 1988, 1989, and 1990, Congress placed anabolic steroids on the list of controlled substances, making it a felony to distribute them for non-medical purposes,² and amended the Federal Food, Drug, and Cosmetic Act to make it a felony to distribute, or possess with the intent to distribute, human growth hormone (HGH) other than to treat disease.³ When the dietary supplement

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1. The term “doping” is used to refer to the use of performance-enhancing drugs in sports in general. See *STEDMAN’S MEDICAL DICTIONARY* 517 (26th ed. 1995). The term “blood doping” technically refers to the practice of infusing blood, either the athlete’s own (autologous) or someone else’s (homologous) in order to increase the number of red blood cells, which carry oxygen. See American Medical Association, Council on Ethical and Judicial Affairs, Blood Doping, Report B-I-85 (1985), available at http://www.ama-assn.org/ama1/pub/upload/mm/369/ceja_bi85.pdf.

2. See *Restoring Faith in America’s Pastime: Evaluating Major League Baseball’s Efforts to Eradicate Steroid Use: Hearing Before the H. Comm. on Gov’t Reform*, 109th Cong. 5 (2005) [hereinafter *Restoring Faith in America’s Pastime*] (opening statement of Chairman Tom Davis). Congress placed steroids in Schedule III of the list of controlled substances. *Id.* Substances on Schedule III have a lesser potential for abuse than the drugs or other substances in Schedules I and II, have a currently accepted medical use in treatment in the United States, and abuse of these substances may lead to moderate or low physical dependence or high psychological dependence. Drug Abuse Prevention and Control Act § 202, 21 U.S.C. § 812(b)(3) (2000).

3. Crime Control Act of 1990, Pub. L. No. 101-647, §1904, 104 Stat. 4789, 4853 (codified as amended at 21 U.S.C. § 333(e) (2000)). As originally proposed, section 333(e) was to read: [W]hoever knowingly distributes, or possesses with intent to distribute, human growth hormone for any use in humans other than the treatment of a disease or other recognized medical condition pursuant to the order of a physician is guilty of an offense punishable by not more than 5 years in prison, such fines as are authorized by title 18, United States code, or both.

manufacturer BALCO was accused of concocting and distributing steroid analogues, known as designer steroids,⁴ that could not be detected by existing tests and that technically were not covered by the Controlled Substances Act, Congress amended the Act in 2004 to close this loophole.⁵ In the winter of 2005, the U.S. Senate launched an investigation into the allegations of steroid use amongst baseball players.⁶ Senator John McCain threatened to revoke baseball's exemption from federal antitrust laws if it did not clean up its players.⁷ Later hearings targeted professional basketball and football.⁸ And in his first State of the Union message since the invasion of Iraq, President Bush declared:

Steroid Trafficking Act of 1989, S. 1829, 101st Cong. § 201 (1989). This would have allowed physicians to prescribe the drug for any purpose, in keeping with their traditional power to prescribe drugs for "off-label" uses—that is, for purposes for which they have not been reviewed and approved by the U.S. Food and Drug Administration. The final language of the amendment, however, reads:

[W]hoever knowingly distributes, or possesses with intent to distribute, human growth hormone for any use in humans other than the treatment of a disease or other recognized medical condition, *where such use has been authorized by the Secretary of Health and Human Services under section 355 of this title* and pursuant to the order of a physician, is guilty of an offense punishable by not more than 5 years in prison, such fines as are authorized by Title 18, or both.

21 U.S.C. § 333(e)(1) (emphasis added). This suggests that physicians may only prescribe HGH for purposes for which the FDA has approved. The meaning of the phrase "where such use has been authorized by the Secretary of Health and Human Services under section 355" is difficult to ascertain, since it is so poorly drafted and there is no clarifying legislative history. If it truly means that HGH cannot lawfully be prescribed for off-label uses, then it represents an unprecedented government invasion of physician decision-making autonomy.

4. See Jack Curry, *4 Indicted in a Steroid Scheme That Involved Top Pro Athletes*, N.Y. TIMES, Feb. 13, 2004, at A1. In February 2004, four men associated with BALCO were indicted on charges of illegally distributing steroids and other performance-enhancing drugs to athletes and making a concerted effort to conceal the distribution by using code words to refer to the drugs in communications with athletes. *Id.* The indictments were issued against Barry Bonds' personal trainer, a prominent coach of several Olympic track and field athletes, and two executives of BALCO following a two-year investigation of the company, during which an empty box of vials of serostin (a human growth hormone), empty containers of testosterone and Oxandrin (anabolic steroids), an empty box of Epogen (a prescription version of erythropoietin) and dozens of syringe wrappers were found in the trash outside the company's offices. *Id.*

5. Anabolic Steroid Control Act of 2004, Pub. L. No. 108-358, § 2195, 118 Stat. 1661 (2004).

6. *Restoring Faith in America's Pastime*, supra note 2.

7. See 150 CONG. REC. S3997–3998 (daily ed. Apr. 8, 2004) (statement of Sen. McCain).

8. *Steroid Use in Sports Part II: Examining the National Football League's Policy on Anabolic Steroids and Related Substances: Hearing Before the H. Comm. on Gov't Reform*, 109th Cong. (2005) [hereinafter *NFL Hearing*]; *Steroid Use in Sports Part III: Examining the National Basketball Association's Steroid Testing Program: Hearing Before the H. Comm. on Gov't Reform*, 109th Cong. (2005) [hereinafter *NBA Hearing*].

To help children make right choices, they need good examples. Athletics play such an important role in our society, but, unfortunately, some in professional sports are not setting much of an example. The use of performance-enhancing drugs like steroids in baseball, football, and other sports is dangerous, and it sends the wrong message—that there are shortcuts to accomplishment, and that performance is more important than character. So tonight I call on team owners, union representatives, coaches, and players to take the lead, to send the right signal, to get tough, and to get rid of steroids now.⁹

States have not directly addressed doping in competitive athletics. However, most states have updated their controlled substance acts to reflect the federal stance against anabolic steroids.¹⁰ They have also made additional efforts to regulate steroids in schools and to disseminate information about the dangers of anabolic steroids.¹¹

What accounts for this intrusion of government into the private world of sports? By what authority does government act? And most importantly, how does this bode for the legal status of use of biomedical enhancement outside of sports?

I. THE HISTORY OF DOPING IN SPORTS

The use of performance-enhancing substances is probably as old as competitive sport itself.¹² Records from the earliest Olympics reveal that athletes drank herbal beverages to give them energy.¹³ During the late 19th century, competitors ingested a variety of substances, including caffeine, cocaine, strychnine, and alcohol.¹⁴ The term “doping” comes from the 19th century Dutch word “dop,” the name for a potion that Zulu warriors consumed to help them vanquish their foes.¹⁵ In 1904, Thomas Hicks won the Olympic marathon after drinking French brandy, strychnine, egg whites, and sponges of warm water served to him from assistants in an automobile.¹⁶ In 1924, former

9. President George W. Bush, State of the Union Address (Jan. 20, 2004), available at <http://www.whitehouse.gov/news/releases/2004/01/20040120-7.html>.

10. See Appendix A for a table detailing how states have chosen to schedule drugs.

11. See Appendix B for a complete list of state laws relating to steroids.

12. World Anti-Doping Agency, History of Anti-Doping, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=312> [hereinafter WADA Anti-Doping History] (last visited Jan. 4, 2006).

13. See *id.*

14. Michele Verroken, *Drug Use and Abuse in Sport*, in *DRUGS IN SPORT* 18, 18 (David R. Mottram ed., 2d ed. 1996).

15. WADA Anti-Doping History, *supra* note 12.

16. *Id.*; Mary Delach Leonard, *St. Louis Hosts Olympics*, *STLTODAY.COM*, Jan. 13, 2004, <http://www.stltoday.com/stltoday/news/special/pd125.nsf/0/A67FC7DF8E1F5EF686256E12004D3ADD?OpenDocument>.

Tour de France winner Henri Pelissier showed the contents of his medicine bag to journalists: cocaine, chloroform, and various pills.¹⁷

During the 19th and early 20th centuries, the performance-enhancing drugs of choice primarily were stimulants and calmatives. Athletes continue to employ these types of substances, including amphetamines and beta-blockers (used in shooting competitions to improve accuracy by slowing the heart rate).¹⁸ In the mid-20th century, attention shifted to two primary objectives. The first was to increase the number of red blood cells in the circulatory system. Researchers discovered that with higher levels of red blood cells, more oxygen gets to the tissues, improving the athlete's energy and endurance.¹⁹ In the 1970s, a Swedish sports physician developed what became known as "blood doping"—the use of blood transfusions to increase the number of circulating red blood cells.²⁰ The next breakthrough came with the development of recombinant DNA manufacturing technology. This enabled drug companies in 1985 to synthesize erythropoietin (EPO),²¹ a naturally occurring substance that stimulates the manufacture of red blood cells.²² Lately, athletes have taken to sleeping in artificial atmospheres, so-called nitrogen tents and "houses." These mimic the effects of sleeping at high altitudes, which increases the blood's capacity to carry oxygen.²³

The second major goal of modern performance enhancement in sports has been to grow more muscle tissue. The chief substances of interest have been hormones known as anabolic steroids.²⁴ These have been commercially available in the United States since 1958, although their development was a long process.²⁵ The process began in the 1920s when researchers first

17. Tim Moore, *History, Drugs and the Tour de France*, AMAZON.COM, <http://www.amazon.co.uk/exec/obidos/tg/feature/-/187085/202-3712162-0701452>.

18. See Ron Kroichick, *Lab Scandal Brings Issue of Steroids in Sports to the Forefront*, S.F. CHRON., Oct. 26, 2003, at B1.

19. IVAN WADDINGTON, *SPORT, HEALTH, AND DRUGS: A CRITICAL SOCIOLOGICAL PERSPECTIVE*, 146 (2000).

20. *Id.*

21. Fu-Kuen Lin et al., *Cloning and Expression of the Human Erythropoietin Gene*, 82 PROC. NAT'L ACAD. SCI. 7580, 7580–82 (1985).

22. John M. Tokish et al., *Ergogenic Aids: A Review of Basic Science, Performance, Side Effects, and Status in Sports*, 32 AM. J. SPORTS MED. 1543, 1547 (2004).

23. *Id.*

24. Anabolic steroids are distinguished from estrogenic steroids, progestrogenic steroids, and corticogenic steroids. Estrogenic and progestrogenic steroids are derived from estrogen and progesterone, respectively, and are widely used for hormone replacement therapy in women and as hormonal contraceptives. WILLIAM N. TAYLOR, *ANABOLIC STEROIDS AND THE ATHLETE*, 168 (2d ed. 2002). Corticogenic steroids are anti-inflammatory agents and are often used in conjunction with analgesics. See Karl Heusler & Jaroslav Kalvoda, *Between Basic and Applied Research: Ciba's Involvement in Steroids in the 1950s and 1960s*, 61 STEROIDS 492, 499 (1996).

25. See JOHN M. HOBERMAN, *MORTAL ENGINES: THE SCIENCE OF PERFORMANCE AND THE DEHUMANIZATION OF SPORT* 266 (1992).

attempted to isolate testosterone, which was not accomplished until 1935.²⁶ In subsequent years, research on testosterone focused on clinical applications, and when the anabolic-androgenic steroids were first marketed, they were used to treat burn victims.²⁷ However, testosterone's muscle-building properties were already well known, and it was rumored that Soviet athletes had been using testosterone to great effect starting in the 1950s.²⁸ With high demand for steroids, pharmaceutical companies began to synthesize them in earnest and by the mid-1960s, more than a dozen anabolic steroids were on the market for medicinal purposes.²⁹

Studies examining the effects of anabolic steroids followed. From the mid-1960s to the mid-1970s, approximately twenty scientific studies were published on the potential ability of anabolic steroids to increase strength and muscle mass.³⁰ Opinion was divided. Half the studies claimed that anabolic steroids did have such properties, but the other half disagreed.³¹ While the scientific community remained split, anecdotal evidence was mounting that steroids were, in fact, extremely effective in their ability to improve muscle strength and mass. Anabolic steroids were also increasingly popular among athletes, particularly weightlifters and track-and-field competitors.³²

Breakthroughs in performance enhancement in sports are now beginning to flow from the revolution in human genetics. Recombinant DNA manufacturing has allowed unlimited quantities of HGH to be produced.³³ Many athletes believe that HGH, previously available only from the pituitary glands of cadavers, can increase the size and strength of muscle tissue and decrease body fat via enhanced protein synthesis and a mobilization of fat tissue.³⁴ In addition to its perceived anabolic benefits, some athletes also believe that HGH can strengthen and prevent damage to tendons, prevent stress fractures, and speed the healing process after injuries.³⁵ Another genetic intervention that is beginning to impact athletics is genetic testing. Researchers have discovered genetic variations associated with the ability to run short and long distances respectively.³⁶ In Australia, a genetic test for this

26. TAYLOR, *supra* note 24, at 178.

27. WADDINGTON, *supra* note 19, at 144.

28. *Id.*

29. TAYLOR, *supra* note 24, at 17.

30. *Id.* at 111.

31. *Id.*

32. WADDINGTON, *supra* note 19, at 144–45.

33. See Verroken, *supra* note 14, at 23; P.H. Sonksen, *Hormones and Sport: Insulin, Growth Hormone and Sport*, 170 J. ENDOCRINOLOGY 13, 18 (2001).

34. Sonksen, *supra* note 33, at 18–19.

35. *Id.* at 21.

36. E.g., Nan Yang et al., *ACTN3 Genotype Is Associated with Human Elite Athletic Performance*, 73 AM. J. HUM. GENETICS 627, 627 (2003).

variation can now be purchased for approximately \$100.³⁷ It is conceivable that athletes, teams, schools, coaches, and parents will employ the test to identify the running sport best suited to individual genetic profiles.

In the future, gene transfer technology may allow more exotic interventions. Gene therapy can be used to manipulate the chemical signals involved in normal muscle repair to stimulate and augment the process.³⁸ The sports community is closely watching research on the use of gene therapy to treat muscle-wasting diseases, because the same techniques could be used to grow and nourish muscle in healthy persons. The emerging field of pharmacogenetics, which uses genetic testing to individualize drug treatment, also could dramatically increase the safety and effectiveness of performance-enhancing drugs in sports.³⁹

37. Chip Le Grand, *Gene Test Identifies Sporting Chance*, THE AUSTRALIAN, Nov. 22, 2004, at 3. The test is marketed by Genetic Technologies of Melbourne. *Id.*

38. In normal muscle repair, the microscopic tears in the muscle fiber produced by physical exertion set off a chemical signal that triggers regeneration of the tissue by repairing the outer membrane of the muscle fibers and adding new myofibrils to the interior. H. Lee Sweeney, *Gene Doping*, SCI. AM., July 2004, 63, 64. This process is mediated by insulin-like growth factor-1 (IGF-1), which signals muscle-specific stem cells called satellite cells to proliferate via normal cell division and fuse with the muscle fiber to add new nuclei to the cell, while another growth-regulating factor, myostatin, signals them to stop. *Id.* at 64–66. Research has been conducted in which a synthetic gene that produces IGF-1 in skeletal muscle has been introduced into the skeletal muscle cells of mice using a virus as the vector and creating mice genetically engineered to overproduce IGF-1 in skeletal muscle tissue. *Id.* at 66–67. The research has demonstrated that such techniques result in muscles that grow larger and retain more regenerative capacity even as the animal ages. *Id.* This enhanced muscle repair and growth ability was demonstrated even in sedentary animals, indicating that gene therapy using IGF-1 can mimic the normal, exercise-induced regenerative process. *Id.* It is also possible that gene therapy could be used to block myostatin production, another mechanism by which muscle growth could be enhanced. *Id.* at 69.

39. The rationale for pharmacogenetics is that a significant amount of the variation in individuals' reactions to different drugs—why only some people suffer adverse reactions from certain substances, for example, or why some therapeutic entities are effective only in some people—is believed to be due to genetic differences. See Lars Noah, *The Coming Pharmacogenomics Revolution: Tailoring Drugs to Fit Patients' Genetic Profiles*, 43 JURIMETRICS J. 1, 7 (2002). The idea is to conduct genetic testing on patients to discern these differences and then tailor drug therapy based on the results. See *id.* On June 23, 2005, the FDA approved the first drug to treat heart failure in a self-defined African-American population. Press Release, U.S. Food and Drug Admin., FDA Approves BiDil Heart Failure Drug for Black Patients (June 23, 2005), <http://www.fda.gov/bbs/topics/NEWS/2005/NEW01190.html>. Yet there is substantial controversy over whether African-Americans are genetically identifiable. See Sharona Hoffman, *Is There a Place for "Race" as a Legal Concept?*, 36 ARIZ. ST. L.J. 1093, 1116–17 (2004). For further insights into the ethical and legal issues raised by pharmacogenetics, see Allen Buchanan et al., *Pharmacogenetics: Ethical Issues and Policy Options*, 12 KENNEDY INST. ETHICS J. 1 (2002) and Noah, *supra*.

II. ANTI-DOPING EFFORTS WITHIN SPORT

A. *History*

Athletes have long sought competitive advantage by introducing substances into their bodies. But it was not until the 1930s that the first signs of a change in attitude towards doping in sport became apparent. At the time, amphetamines were becoming increasingly popular among athletes and had replaced strychnine as the performance enhancement of choice.⁴⁰ In 1933, the International Olympic Committee (IOC) first turned its attention to doping. During a meeting of the Olympic Committee, Paul Rousseau, a member of the French National Olympic Committee, delivered a statement to the IOC claiming that doping was a violation of the spirit of the Olympics.⁴¹ Rousseau's report was followed by an inquiry into doping, and in 1937, Lord Burghley addressed the practices, methods, and effects of doping in the thirty-seventh session of the IOC in Moscow.⁴² The following year, the IOC condemned doping.⁴³

Concerns about doping were suspended during World War II, during which new amphetamines were developed for and used by the military.⁴⁴ Pioneering research also was conducted into the effects and chemical structures of testosterone and other steroids.⁴⁵ In 1948, the therapeutic effects of cortisone were identified and there was a push for mass production.⁴⁶ The next decade was a highly productive one in steroid research, with the development of prednisone and perdnisolone (both powerful anti-inflammatories)⁴⁷ and the commercial introduction of the first anabolic-androgenic steroid, Dianabol.⁴⁸

Simultaneously, the medical establishment began to investigate the use of amphetamines by competitive athletes. In 1957, *The New York Times* reported that Olympic swimmers freely admitted to using "pep pills."⁴⁹ Following the

40. WADDINGTON, *supra* note 19, at 114.

41. Ruud Stokvis, *Moral Entrepreneurship and Doping Cultures in Sport* 6 (Amsterdam School for Social Science Research, Working Paper No. 03/04, 2003), available at <http://www2.fmg.uva.nl/asst/frdocs/wp/downloads/ASSR-WP0304.pdf>. The International Amateur Athletic Federation first banned doping in 1928. WADA Anti-Doping History, *supra* note 12.

42. ALBERT DIRIX & XAVIER STURBOIS, *THE FIRST THIRTY YEARS OF THE INTERNATIONAL OLYMPIC COMMITTEE MEDICAL COMMISSION 1967–1997*, at 14 (1998).

43. *Id.*

44. WADDINGTON, *supra* note 19, at 115.

45. Heusler & Kalvoda, *supra* note 24, at 492.

46. *Id.* at 493.

47. *Id.*

48. HOBBERMAN, *supra* note 25, at 266.

49. *Athletes Report Use of 'Pep Pills,'* N.Y. TIMES, June 8, 1957, at 20.

Times report, the American College of Sports Medicine authorized its president to appoint a committee to study amphetamine use among American athletes.⁵⁰ Two years later, Henry Beecher (famous for his uncovering of ethical abuses in human subjects research)⁵¹ published a study in the *Journal of the American Medical Association* confirming that amphetamines did affect swimmers.⁵² Beecher found that athletes who were given doses of amphetamines before attempting to beat their previous best performances were more successful than those who did not take the pills.⁵³

While amphetamines were becoming increasingly popular, there were also indications that they were harmful. In 1960, the IOC focused its attention on the use of amphetamine sulfates in pill form.⁵⁴ During the Rome Olympics, twenty-two-year-old Danish cyclist Knud Enemark Jensen died of amphetamine use.⁵⁵ According to contemporary news reports, Jensen collapsed from heatstroke approximately thirteen miles from the finish line of the 100-kilometer (62.5-mile) team road race and died later at the hospital.⁵⁶ Later it was revealed that Jensen and two teammates had taken large doses of amphetamines to boost their performance.⁵⁷ Subsequently, in 1962, the IOC began discussions in earnest with the Federation Internationale Medicine-Sportive (FIMS), an organization of sports physicians, expressing concern that the problem of doping was growing.⁵⁸

Although attention was being drawn to amphetamine abuse by the early 1960s, anabolic steroids were not subject to similar scrutiny until much later. Throughout the 1950s, there were rumors that the Soviets were experimenting with testosterone as a way to improve athletic performance; these rumors were not confirmed until the mid-1950s, at which point American team physician Dr. John Ziegler obtained testosterone and began experimenting with it.⁵⁹ Ziegler's work and collaboration with the pharmaceutical company Ciba resulted in the commercial introduction of Dianabol, the first steroid marketed in the United States.⁶⁰

50. *Sport Physicians to Check on Pills*, N.Y. TIMES, June 9, 1957, at 52.

51. See Henry K. Beecher, *Ethics and Clinical Research*, 274 NEW ENG. J. MED. 1354 (1966).

52. Gene M. Smith & Henry K. Beecher, *Amphetamine Sulfate and Athletic Performance*, 170 J. AM. MED. ASS'N 542 (1959).

53. *Id.* at 557.

54. DIRIX & STURBOIS, *supra* note 42, at 14.

55. WADA Anti-Doping History, *supra* note 12.

56. *Dane in Rome Bike Race Dies*, N.Y. TIMES, Aug. 27, 1960, at 13.

57. James C. Puffer, *Drugs in Colleges: To Test or Not To Test*, N.Y. TIMES, May 29, 1988, § 8 (Sports), at 7.

58. Stokvis, *supra* note 41, at 7.

59. WADDINGTON, *supra* note 19, at 144.

60. HOBBERMAN *supra* note 25, at 266.

In the following years, doping generated considerable attention and discussion, but relatively little action. In 1963, the Council of Europe set up a commission on drugs and doping, but the committee was unable to agree on a definition of doping.⁶¹ In 1965, another report on doping was delivered to the IOC, but did not result in any definitive policy change.⁶² At the highest levels, doping was condemned, but it was neither banned outright, nor were athletes subjected to testing.⁶³ However, France and Belgium introduced anti-doping laws in the 1960s,⁶⁴ and the international governing bodies of cycling (the UCI) and soccer (FIFA) introduced testing for athletes in championship competitions in 1966.⁶⁵

The problem of doping, however, continued. In 1967, British cyclist Tom Simpson died during the Tour de France,⁶⁶ and his autopsy report included positive tests for both amphetamine and methyl-amphetamine.⁶⁷ Like Jenson, Simpson collapsed on an incredibly hot day after hours of physical exertion, and his official cause of death was listed as “heart failure caused by exhaustion.”⁶⁸ Simpson’s death was also notable because he had previously acknowledged his drug use to the press, likening amphetamine use to a couple of extra cups of coffee.⁶⁹ Simpson and others also implied that stimulant use was rampant among cyclists.⁷⁰ French cyclist Jacques Anquetil claimed that no one “used dope . . . but stimulants were another thing. Everybody had to be hyped up to maintain the speeds demanded by the public.”⁷¹ In addition, anabolic steroids were increasingly popular among athletes. By 1968, a third of the American track and field team was reported to be using them.⁷²

The IOC responded to Simpson’s death and public discussions of doping by forming the Olympic Medical Commission in 1967.⁷³ In 1968, it began testing athletes for the first time, although it was not until 1976 that the first

61. Council of Europe, *Europack: An Education and Information Guide on Sport Without Doping*, http://www.coe.int/T/E/cultural_co-operation/Sport/Doping/eEuropack.asp [hereinafter Council of Europe] (last visited Jan. 4, 2006).

62. Stokvis, *supra* note 41, at 8.

63. Council of Europe, *supra* note 61.

64. *Id.*

65. WADA Anti-Doping History, *supra* note 12.

66. John Hess, *Simpson Dies in Tour de France*, N.Y. TIMES, July 14, 1967, at 24 [hereinafter Hess, *Simpson*].

67. *Drugs Discovered in Cyclist’s Autopsy*, N.Y. TIMES, Aug. 4, 1967, at 26.

68. *Id.*

69. Hess, *Simpson*, *supra* note 66, at 24.

70. *Id.*; John L. Hess, *Anti-Doping Rules Threatening Anquetil’s Bicycle Speed Mark*, N.Y. TIMES, Sept. 29, 1967, at 62 [hereinafter Hess, *Anti-Doping*].

71. Hess, *Anti-Doping*, *supra* note 70, at 62.

72. WADDINGTON, *supra* note 19, at 145.

73. WADA Anti-Doping History, *supra* note 12.

tests for anabolic steroids were conducted,⁷⁴ almost twenty years after they first became commercially available in the United States.⁷⁵ Though the IOC publicly condemned doping, it was largely powerless to stop the use of performance enhancing drugs. The IOC's first banned drugs list contained only two categories, stimulants and narcotic analgesics, because these were the only questionable substances that could be detected by existing testing.⁷⁶ In 1983, testosterone was added, followed by diuretics, beta-blockers, and blood doping in 1985.⁷⁷ As the IOC struggled to keep up with doping methods, it also had to keep track of masking methods. In 1985, the IOC banned the manipulation of urine samples and added Probenecid and other masking agents to the prohibited list two years later.⁷⁸ It also started blood tests in 1988 for some athletes and continued adding substances to the list, including human chorionic gonadotropin (used to reverse the testicular shrinking that sometimes accompanies anabolic steroid use) in 1987, and HGH and peptide hormones in 1989.⁷⁹

While the IOC's list of banned substances and methods continued to grow throughout the late 1970s and 1980s, it was still unsuccessful at catching dopers. At the Moscow Games in 1980, no Olympic athlete tested positive,⁸⁰ even though the East Germans were systematically doping their athletes.⁸¹ Between 1976 and 1994, no more than a dozen athletes tested positive for performance enhancers in any given Olympics, and in several Olympics there were no positive tests at all.⁸² Despite the high-profile disqualification of gold medalist Ben Johnson at the Seoul Olympics in 1988,⁸³ doping control made very little headway in effectively banning performance enhancing drugs, and the perception remained that the IOC was neither catching dopers nor punishing those who were implicated.⁸⁴

The IOC was vocal about its anti-doping efforts, but it often seemed that its rhetoric was just talk. This was particularly apparent when Chinese

74. JOHN HOBERMAN, TESTOSTERONE DREAMS: REJUVENATION, APHRODISIA, DOPING 243 (2005).

75. See HOBERMAN *supra* note 25, at 266.

76. Verroken, *supra* note 14, at 23.

77. *Id.* at 23–24.

78. *Id.* at 24–25.

79. *Id.*

80. Michele Verroken & David R. Mottram, *Doping Control in Sport*, in DRUGS IN SPORT 235, 237 (David R. Mottram ed., 2d ed. 1996).

81. Associated Press, *Swimming: Olympian Tells of Steroid Use*, N.Y. TIMES, Apr. 21, 1998, at C5.

82. Verroken & Mottram, *supra* note 80, at 237.

83. Edward H. Jurith & Mark W. Beddoes, *The United States' and International Response to the Problem of Doping in Sports*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 461, 467 (2002).

84. See *id.* at 481.

swimmers were accused of doping in the early 1990s.⁸⁵ Despite repeated calls for investigations, the IOC and FINA (the international governing body of swimming) refused to admit a problem existed.⁸⁶ FINA also declined to enforce its own anti-doping rules against the Chinese.⁸⁷ When swimmer Yuan Yuan was found with thirteen vials of HGH at the World Championships in Perth, Australia, she was the only athlete disciplined, despite the fact that she was carrying enough HGH for the entire team.⁸⁸ The scandal was further exacerbated when China nominated Juan Samaranch, president of the IOC, for the Nobel Peace Prize in 1993, which some alleged was meant to curry favor to avoid sanctions.⁸⁹ In 1998, a doping scandal rocked the Tour de France, when the entire Festina team was disqualified,⁹⁰ seven teams were implicated in doping, and dozens of athletes tested positive for EPO.⁹¹ In 2000, Andreea Raducan, a Romanian gymnast, was stripped of her gold medal at the Sydney Olympics following a positive drug test for pseudoephedrine (a stimulant commonly found in cold medicine).⁹² Rumors also abounded that American track and field athletes were actively involved in doping and the BALCO scandal.⁹³ Shot-putter C.J. Hunter resigned from the sport following four positive drug tests in 2000.⁹⁴ With mounting political pressure to confront the problem of doping, the IOC made the decision to remove itself from drug testing, and the World Anti-Doping Agency (WADA) was formed on November 10, 1999.⁹⁵ WADA was created to be an independent oversight agency, but the IOC still exercises considerable control over it and holds sixteen spots on the thirty-five-person board.⁹⁶ The agency was created with a list of express objectives: “Promote and coordinate the fight against doping[;] [r]einforce the ethical basis for anti-doping and protect the health of athletes[;] [e]stablish and maintain a list of prohibited substances[;] [c]oordinate no notice, out-of-competition testing[;] [d]evelop analytical standards[;] [p]romote

85. See David Galluzzi, *The Doping Crisis in International Athletic Competition: Lessons from the Chinese Doping Scandal in Women's Swimming*, 10 SETON HALL J. SPORT L. 65, 77–90 (2000), for a full explanation of the Chinese doping scandal in women's swimming.

86. *Id.* at 78–90.

87. *Id.* at 80–81.

88. *Id.* at 84.

89. *Id.* at 97–98.

90. John T. Wendt, *WADA, Doping and THG*, ENT. & SPORTS LAW., Winter 2004, at 1, 28.

91. Jurith & Beddoes, *supra* note 83, at 467.

92. *Id.*

93. See Jere Longman, *Anti-Doping Agency Enters a Gray Area*, N.Y. TIMES, May 27, 2004, at D1.

94. Associated Press, *Track and Field: C.J. Hunter Reassigned at North Carolina State*, N.Y. TIMES, Aug. 14, 2004, at D5.

95. Jurith & Beddoes, *supra* note 83, at 480–81.

96. Steve Keating, *IOC Unveils Clean-up Campaign*, INDEPENDENT (London), Nov. 11, 1999, at 27.

harmonized sanctions[;] [d]evelop education programs[;] [p]romote and coordinate peer-reviewed research.”⁹⁷ Since its inception, WADA has developed a variety of long-term planning initiatives, including its Strategic Plan for 2004–2009, addressing a World Doping Code, education, research, and improving WADA’s testing and enforcement capacity.⁹⁸ With funding from the IOC and national anti-doping agencies, WADA certifies laboratories, oversees and conducts drug testing, funds doping research, and undertakes significant outreach and education projects.⁹⁹

B. Rationales for Banning Doping

Success in sports is the product of many ingredients. Among them are good equipment; proper coaching; hard work; a financially and emotionally supportive environment, including one’s family; psychological traits, such as mental focus and a drive to win; the right physical constitution, including the ability to absorb punishment; and good medical care for illness and injury. Yet organized sports deem one potential ingredient—doping—to lie beyond the pale of acceptability. The question is why.

At the outset, it is important to note that this is not the same question as asking whether athletes who are caught using banned substances deserve to be punished. Morally, these athletes are no different from baseball players who “cork” their bats¹⁰⁰ or marathon runners who begin their races by slipping onto the course near the finish line.¹⁰¹ Disagreements may arise concerning which substances should be banned,¹⁰² how infractions should be detected (for example, whether to conduct drug testing only during competition),¹⁰³ and

97. Jurith & Beddoes, *supra* note 83, at 482 (citations omitted).

98. World Anti-Doping Agency, Strategic Plan, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=257> (last visited Jan. 4, 2006).

99. World Anti-Doping Agency, Science and Research, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=249> (last visited Jan. 4, 2006).

100. In June 2003, Chicago Cubs slugger Sammy Sosa was ejected from the game when a 50-cent-piece-sized chunk of cork was discovered in his bat after it split. *Unsplendid Splinter: Cubs Rally Past Rays After Sosa’s Ignominious Ejection*, SI.COM, June 3, 2003, http://sportsillustrated.cnn.com/baseball/news/2003/06/03/sosa_ejected_ap/. The object of corking is to lighten the bat, making it easier to swing. See Peter Gammons, *Criticism of Sosa Way Off Base*, ESPN.COM, June 6, 2003, <http://sports.espn.go.com/mlb/gammons/story?id=1564438>.

101. On April 21, 1980, a woman named Rosie Ruiz was the first woman to finish the Boston Marathon. Kevin Paul Dupont, *Rosie Ruiz: From Kenmore Square to West Palm Beach, Fla., It’s Been Mystery*, BOSTON GLOBE, April 14, 1996, at 69. Later it was determined that she had started the race about a mile from the finish line. *Id.*

102. See discussion *infra* accompanying notes 144–153 concerning appropriateness of banning relatively harmless substances.

103. See Jere Longman, *U.S. Swim Coach Calls for Increase of Random Testing*, N.Y. TIMES, Aug. 19, 2000, at D6 (discussing call by U.S. women’s Olympic swim coach for more frequent out-of-competition drug testing of his athletes and allegations that the world swimming governing

whether alleged wrongdoers are afforded proper procedural protections.¹⁰⁴ Once the rules are adopted, however, competitors have no morally defensible option except to abide by them or refrain from engaging in the sport. The question here is different. Assuming that drugs are against the rules, what we are trying to find out is why.

1. Safety

One of the reasons originally set forth by the Olympic Medical Commission for banning doping was “[p]rotecting the athletes’ health.”¹⁰⁵ Listening to opponents of doping, one would think that the substances used by athletes to improve performance were extremely dangerous, if not lethal. In regard to steroids, for example, the National Institute on Drug Abuse states:

The major side effects from abusing anabolic steroids can include liver tumors and cancer, jaundice (yellowish pigmentation of skin, tissues, and body fluids), fluid retention, high blood pressure, increases in LDL (bad cholesterol), and decreases in HDL (good cholesterol). Other side effects include kidney tumors, severe acne, and trembling.¹⁰⁶

NIDA describes a number of additional gender-specific side effects:

For men—shrinking of the testicles, reduced sperm count, infertility, baldness, development of breasts, increased risk for prostate cancer.

body fails to devote enough resources to random testing); Dick Patrick, *Olympic-Style Drug Testing is Rigid*, USA TODAY, July 8, 2002, at 8C (contrasting Major League Baseball’s lack of random drug testing to the random testing of the Olympics); *Thorpe Urges More Drug Testing*, ABC ONLINE, Aug. 11, 2004, <http://www.abc.net.au/sport/content/200408/s1173477.htm> (discussing Australian Olympic swimmer Ian Thorpe’s call for more out-of-competition drug testing of athletes).

104. See Jere Longman, *Jones’s Lawyers Challenge Evidence Against Her*, N.Y. TIMES, May 26, 2004, at D1 (discussing the attempts by Marion Jones’ lawyers to discount documentary evidence of her steroid use on the grounds that it did not prove her guilt beyond a reasonable doubt); Jere Longman & Liz Robbins, *Sprinter Barred from Olympics As U.S. Doping Scandal Grows*, N.Y. TIMES, May 20, 2004, at A1 (discussing the suspension of U.S. sprinter Kelli White from Olympic competition based on documents obtained in the BALCO lab investigation rather than a positive drug test, and discussing athletes’ legal challenges to attempts to suspend them without positive drug test results); Dick Patrick, *Jones’ Attorney: Drug Agency Has No Compelling Evidence*, USA TODAY, May 25, 2004, at 1A (discussing objections by attorney for Olympic track gold medalist Marion Jones that the U.S. Anti-Doping Agency improperly sanctioned her for doping without an admission of drug use or a positive urine sample).

105. INTERNATIONAL OLYMPIC COMMITTEE, MEDICAL: THE FIGHT AGAINST DOPING & PROMOTION OF ATHLETES’ HEALTH, July 2004, at 1, http://multimedia.olympic.org/pdf/en_report_838.pdf.

106. *Steroids (Anabolic-Androgenic)*, NIDA INFO FACTS, (National Institute on Drug Abuse), March 2005, at 1, <http://www.drugabuse.gov/PDF/Infofacts/Steroids05.pdf> [hereinafter NIDA].

For women—growth of facial hair, male-pattern baldness, changes in or cessation of the menstrual cycle, enlargement of the clitoris, deepened voice.

For adolescents—growth halted prematurely through premature skeletal maturation and accelerated puberty changes. This means that adolescents risk remaining short for the remainder of their lives if they take anabolic steroids before the typical adolescent growth spurt.¹⁰⁷

NIDA also mentions risks of HIV/AIDS and hepatitis from injections, aggression, psychiatric side effects, such as mood swings, depression, paranoid jealousy, extreme irritability, delusions, impaired judgment, and dependency on heroin to counteract insomnia and irritability.¹⁰⁸

These assessments have been reinforced in Congressional hearings on steroids. Senator Jim Bunning (R-Ky.), a former baseball player, testified:

So it's important for the American public to understand just how harmful steroids can be to someone's health. Side effects of steroid use include fatal conditions like liver cysts, liver cancer, blood clotting, hypertension and can even lead to heart attack and stroke and many other bad things. Baseball has helped to open a Pandora's box and now there's a chance to fix that damage and educate the public on the terrible health effects of steroids.¹⁰⁹

Parents described how their sons had committed suicide on account of steroids:

20 short months ago, our youngest son, Taylor, took his own life. He was 2 weeks away from beginning his senior year in high school

. . . I am absolutely convinced that Taylor's secret use of anabolic steroids played a significant role in causing the depression, the severe depression that resulted in his suicide. And I have also learned that the events leading up to and including Taylor's suicide are right out of the medical textbook on steroids.¹¹⁰

Olympic gold medalist Carl Lewis testified:

We have heard many stories. One that I can focus on, just recently, I believe, was a West German female athlete who at one point had taken up to 40 steroids, different types of steroids and different types of drugs. She had so much scar tissue and such a reaction in her hip, her buttocks and her hip area, that they couldn't even get needles in her skin. They were breaking off in her skin. She ultimately died from steroid use. So we are talking about someone who went completely crazy, taking injections, injections, injections, one after another. That area was as hard as a rock. They couldn't even put a needle in it.

107. *Id.*

108. *Id.* at 1–2.

109. *Restoring Faith in America's Pastime*, *supra* note 2, at 56 (statement of Sen. Jim Bunning).

110. *Id.* at 118 (testimony of Donald M. Hooton).

Athletes have died.¹¹¹

Still, the truth regarding the health risks associated with doping is less clear. Many of the adverse health effects attributed to steroids stem from oral use of a class of compounds known as the 17- α -alkylated steroids.¹¹² These compounds indeed can cause elevations in liver enzymes and an increased risk of liver cancer.¹¹³ But these effects are due to the fact that orally ingested compounds are broken down in the liver. The same results are not true of injected steroid compounds.¹¹⁴ Some studies have suggested that anabolic steroids raise blood pressure, but the effects were transitory.¹¹⁵ One study found that steroids produced changes in echocardiograms,¹¹⁶ and another saw changes that could indicate a predisposition to arrhythmias, which can produce sudden death.¹¹⁷ Studies also report a decrease in high density lipoproteins (“good” cholesterol) and an increase in low density lipoproteins (“bad” cholesterol), but this is mainly the case with oral steroids and the levels return to normal once steroid use is discontinued.¹¹⁸ Moreover, some research shows that anabolic steroids beneficially increase lipoprotein-a (LPa), which promotes cardiovascular health.¹¹⁹

Steroids are hormones, and the steroids that build muscles are versions of the male hormone, testosterone. As a consequence, they are both anabolic—i.e., muscle-building—and androgenic—that is, they produce masculine physical characteristics. Over the years, efforts have been made to isolate the anabolic from the androgenic effects, but without success.¹²⁰ As a result, anabolic steroids in women produce acne, voice deepening, hair loss, breast reduction, and enlargement of the clitoris.¹²¹ In males, anabolic steroids suppress the natural production of hormones. This can cause testicular

111. *Anabolic Steroid Restriction Act of 1989: Hearing on H.R. 995 Before the Subcomm. on Crime of the H. Comm. on the Judiciary*, 101th Cong. 24 (1989) (statement of Carl Lewis).

112. See Fred Hartgens & Harm Kuipers, *Effects of Androgenic-Anabolic Steroids in Athletes*, 34 *SPORTS MED.* 513, 516, 540 (2004) (discussing the hepatic effects caused by the slower degradation of orally active compounds by the liver). The term “17- α -alkylated steroid” refers to the chemical structure of a particular class of steroids that are administered orally rather than injected. See *id.* at 516. Anabolic steroids come in a variety of forms, including the alkylated oral agents and several injectable compounds, both oil- and water-based. See TAYLOR, *supra* note 24, at 36.

113. Hartgens & Kuipers, *supra* note 112, at 540–41; Eric C. Kutscher et al., *Anabolic Steroids: A Review for the Clinician*, 32 *SPORTS MED.* 285, 290 (2002).

114. Hartgens & Kuipers, *supra* note 112, at 540.

115. *Id.* at 539–40.

116. See *id.*

117. Anu Stolt et al., *QT Interval and QT Dispersion in Endurance Athletes and in Power Athletes Using Large Doses of Anabolic Steroids*, 84 *AM. J. CARDIOLOGY* 364, 366 (1999).

118. Hartgens & Kuipers, *supra* note 112, at 537–38.

119. *Id.* at 538.

120. See TAYLOR, *supra* note 24, at 16–17.

121. Kutscher et al., *supra* note 113, at 292.

atrophy, decreased sperm production, sperm irregularities, and gynaecomastia (male breast development).¹²² The effects in males are usually reversible once steroid use is discontinued; in females, the changes may be harder to reverse.¹²³ In terms of psychiatric effects, the evidence is equivocal. Some studies report effects on mood and aggression; others do not.¹²⁴

Researchers have attempted to study mortality among steroid users. An oft-cited experiment in mice found that adult males given anabolic steroids for six months at doses comparable to those taken by bodybuilders had a 4.3 percent increase in mortality and that a year after exposure 52 percent of them had died compared with only 12 percent of the controls.¹²⁵ Another study found that power lifters had a mortality rate of 12.9 percent over 12 years compared with 3.1 percent of the general population, but this study did not confirm that the subjects had used steroids, did not measure the amount, if any, and did not control for other substances and behaviors.¹²⁶

What is most striking about all of this research is that virtually none of it is definitive. There are no long-term, double-blind, randomized, placebo-controlled investigations of steroid use by athletes. Much of the data, including anecdotal reports, or observational studies in which the subjects' use of steroids, as well as other potentially dangerous substances that would confound the results, is unconfirmed and unmeasured. This has led some researchers to conclude that the health hazards of steroids have been overstated, that serious health effects are rare, and that the most common side

122. Hartgens & Kuipers, *supra* note 112, at 535–536.

123. Kutscher et al., *supra* note 113, at 292.

124. Compare Ann S. Clark & Leslie P. Henderson, *Behavioral and Physiological Responses to Anabolic-Androgenic Steroids*, 27 NEUROSCIENCE & BIOBEHAVIORAL REVS. 413, 415 (2003) (describing aggression in animals given anabolic steroids), and Harrison G. Pope et al., *Effects of Supraphysiological Doses of Testosterone on Mood and Aggression in Normal Men*, 57 ARCHIVES GEN. PSYCHIATRY 133, 133 (2000) (concluding testosterone cyprionate in doses of up to 600 mg. per week significantly increased incidence of manic behavioral symptoms), with Shalender Bhasin et al., *The Effects of Supraphysiologic Doses of Testosterone on Muscle Size and Strength in Normal Men*, 335 NEW ENG. J. MED. 1, 6 (1996) (concluding testosterone enanthate doses of 600 mg. per week produced no increased incidence of angry behavior compared to controls), Hartgens & Kuipers, *supra* note 112, at 542 (noting some studies report lower aggression among body-builders presumed to use anabolic steroids), and Kutscher et al., *supra* note 113, at 293 (describing mixed reports on the relationship between anabolic steroids and psychiatric effects).

125. Franklin H. Bronson & Curt M. Matherne, *Exposure to Anabolic-Androgenic Steroids Shortens Life Span of Male Mice*, 29 MED. & SCI. SPORTS & EXERCISE 615, 615 (1997). The one-year mortality effect was dose-related; 35 percent of mice receiving a low dose of steroids died compared with 12 percent of controls. *Id.*

126. M. Parssinen et al., *Increased Premature Mortality of Competitive Powerlifters Suspected to Have Used Anabolic Agents*, 21 INT'L J. SPORTS MED. 225, 225–226 (2000).

effects are reversible and benign.¹²⁷ Others conclude that the only adverse effects firmly supported by experimental data are potentially unfavorable effects in blood lipid profiles and an increased risk for mood changes and aggression.¹²⁸ In fact, only one reported study actually administered injected high doses of anabolic steroids (600 mg. per week of testosterone enanthate) to human subjects and compared the effects with a control group. The investigators found that steroids significantly increased muscle size and strength and produced no adverse effects; however, the treatment period lasted only ten weeks.¹²⁹

Of course, the lack of definitive data on long-term anabolic steroid use does not mean that steroids are safe for athletes. There are some disturbing indications in the literature. Even lawfully manufactured compounds administered under a doctor's supervision may entail some health risks. More importantly, athletes may be using illicit preparations with uncertain identity, strength, and purity, and at extremely high and widely varying dosages.¹³⁰ Athletes also continue to use both oral and injectable steroids, potentially exposing them to the greater potential for liver toxicity associated with the oral compounds.

Yet an enormous number of persons are reported to be using steroids. One account puts the number of U.S. athletes using steroids at between one and three million.¹³¹ A noted expert on steroid use found that 29.3 percent of college football players and 20 percent of college track-and-field athletes admitted using the substance.¹³² Thirty-three percent of elite power athletes and competitive bodybuilders interviewed by questionnaire and 55 percent interviewed by phone admitted to steroid use.¹³³ The National Institute of Drug Abuse claimed in 1999 that half-a-million eighth and tenth graders were using steroids.¹³⁴ The Centers for Disease Control and Prevention (CDC)

127. Nick A. Evans, *Current Concepts in Anabolic-Androgenic Steroids*, 32 AM. J. SPORTS MED. 534, 537 (2004).

128. Ingemar Thiblin & Anna Petersson, *Pharmacoepidemiology of Anabolic Androgenic Steroids: A Review*, 19 FUNDAMENTAL & CLINICAL PHARMACOLOGY 27, 40 (2004).

129. Bhasin et al., *supra* note 124, at 2, 5–6.

130. See NIDA, *supra* note 106, at 1.

131. Tokish et al., *supra* note 22, at 1544.

132. C.E. Yesalis et al., *Athletes' Projections of Anabolic Steroid Use*, 2 CLINICAL SPORTS MED. 155, 160 (1990).

133. Charles E. Yesalis et al., *Self-Reported Use of Anabolic-Androgenic Steroids by Elite Power Lifters*, 16 PHYSICIAN & SPORTSMED. 91, 93 (1988); see also Ray Tricker et al., *The Incidence of Anabolic Steroid Use Among Competitive Bodybuilders*, 19 J. DRUG EDUC. 313, 321 (1989) (finding 54 percent of male body builders to have been regular steroid users).

134. *Anabolic Steroid Control Act of 2004: Hearing on H.R. 3866 Before the Subcomm. on Crime, Terrorism, and Homeland Security of the H. Comm. on the Judiciary*, 108th Cong. 8 (2004) [hereinafter *Anabolic Steroid Control Act of 2004 Hearing*] (statement of Joseph Rannazzisi, U.S. Drug Enforcement Administration).

estimates that one million adolescents have used or are using steroids.¹³⁵ Girls are reported to be using steroids, not just to enhance athletic performance, but also “to get the toned, sculpted look of models and movie stars.”¹³⁶ During a 1999 hearing, one congressman testified: “[W]e are seeing a public health crisis with respect to these drugs in American youths. It seems that now the same number of kids using some kind of steroid, is the number that are using cocaine.”¹³⁷

Moreover, athletes are subject to frequent and thorough medical examinations. All but one state high school athletic association, and 97 percent of colleges and universities, require prospective athletes to undergo a preparticipation physical examination (PPE).¹³⁸ Fifty-one percent of colleges and universities require annual PPEs.¹³⁹ PPEs also are standard for professional players.¹⁴⁰ Although laboratory tests are not routine for the PPE, the examinations include an extensive medical history (with specific questions designed to screen for susceptibility to common athletic health risks) and a physical examination.¹⁴¹ Given how rampant anabolic steroid use is believed to be, and how long many athletes have been using steroids, one would expect to see far more frequent reports of serious health problems among athletes if steroids were as hazardous as NIDA and others make them out to be.

Not only may the dangers of steroids be exaggerated, but there are other factors that undermine the persuasiveness of the safety rationale. In the first place, society already tolerates a substantial amount of danger in sports. It is estimated that from July 2000 to June 2001, 4.3 million people visited hospital

135. *NFL Hearing*, *supra* note 8, at 47 (testimony of Linn Goldberg, M.D.).

136. Associated Press, *Girls Are Abusing Steroids Too—Often to Get That Toned Look*, USA TODAY.COM, April 26, 2005, http://www.usatoday.com/news/health/2005-04-25-girls-steroids_x.htm.

137. *Effects of Performance Enhancing Drugs on the Health of Athletes and Athletic Competition: Hearing Before the S. Comm. on Com., Sci., and Transp.*, 106th Cong. 4 (1999) [hereinafter *Effects of Performance Enhancing Drugs*] (statement of Sen. Ron Wyden).

138. David W. Glover et al., *The Preparticipation Physical Examination: Steps Toward Consensus and Uniformity*, 27 *PHYSICIAN & SPORTSMED.* 29, 30 (1999) (discussing high school athletic association physical examination requirements); James M. Lyznicki et al., *Cardiovascular Screening of Student Athletes*, 62 *AM. FAM. PHYSICIAN* 765, 773 (2000), available at <http://www.aafp.org/afp/20000815/765.html> (discussing physical examination requirements as colleges and universities). Guidelines of the National Collegiate Athletic Association require that athletes undergo a PPE. NATIONAL COLLEGIATE ATHLETIC ASSOCIATION, *SPORTS MEDICINE HANDBOOK 2005–2006*, at 6 (2005).

139. Lyznicki et al., *supra* note 138, at 773.

140. Matthew J. Mitten, *Emerging Legal Issues in Sports Medicine: A Synthesis, Summary, and Analysis*, 76 *ST. JOHN'S L. REV.* 5, 13 (2002).

141. See Kurt Kurowski & Sangili Chandran, *The Preparticipation Athletic Evaluation*, 61 *AM. FAM. PHYSICIAN* 2683, 2683 (2000), available at <http://www.aafp.org/afp/20000501/2683.html>.

emergency rooms for nonfatal, sports- and recreation-related injuries.¹⁴² In males, basketball, bicycle, and football injuries were the most frequent.¹⁴³ If people really wanted athletes to be safe, they would either eliminate dangerous sports or change the rules, like prohibiting the use of rigid hockey sticks and requiring professional boxers to wear much more protective helmets or much more highly-cushioned gloves. True, changing the rules in this way could alter the fundamental nature of the sports. But the fact that we allow these sports to be fundamentally dangerous shows that we are not fundamentally interested in safety. More importantly, it begs the question of why the risks of being injured playing the sport are deemed acceptable but the risks from enhancements are not.

The most telling argument against the safety rationale against doping, however, is that sports prohibit even the use of safe drugs. Andreea Raducan, a Romanian gymnast, was stripped of her gold medal at the 2002 Olympics because she took two over-the-counter cold pills.¹⁴⁴ For many years, the Olympics banned caffeine in concentrations in excess of twelve micrograms per milliliter of urine.¹⁴⁵ A 150-pound person would need to ingest about 600 milligrams of caffeine to exceed the twelve microgram level.¹⁴⁶ This is the

142. *Nonfatal Sports- and Recreation-Related Injuries Treated in Emergency Departments—United States, July 2000–June 2001*, MORBIDITY & MORTALITY WKLY. REP. (Ctrs. for Disease Control & Prevention), Aug. 23, 2002, at 737 [hereinafter CDC REPORT].

143. *Id.* at 739. In females, the most frequent injuries occurred in bicycle, basketball, and playground sports. *Id.*

144. Dick Patrick, *Drugs Taint Games*, USA TODAY, Sept. 26, 2000, at 1A (reporting that Raducan took two tablets of a cold medication that contained pseudoephedrine). This is the same ingredient and strength sold over-the-counter in the United States as Sudafed. See Pfizer, Sudafed Nasal Decongestant Tablets, <http://www.pfizerch.com/product.aspx?id=512> (last visited Jan. 9, 2006). In 2004, WADA removed pseudoephedrine from the list of substances banned in the Olympics and placed it in its Monitoring Program, meaning that athletes will continue to be tested for the substance so that WADA can monitor patterns of use and restore the substance to the banned list if warranted. WORLD ANTI-DOPING AGENCY, THE 2005 MONITORING PROGRAM (2005), available at http://www.wada-ama.org/rtecontent/document/Monitoring_Program_2005.pdf [hereinafter WADA MONITORING LIST]. Pseudoephedrine is under scrutiny in the United States because it is used to manufacture methamphetamine. *Support Grows for Law Restricting Sale of Cold Medicines*, CHI. TRIB., June 6, 2005, at 10. A number of states have passed laws requiring pharmacies to place over-the-counter drugs containing the ingredient behind the pharmacy counter and limiting the number of pills that an individual may purchase. *Id.*

145. INTERNATIONAL OLYMPIC COMMITTEE EXECUTIVE BOARD, OLYMPIC MOVEMENT ANTI-DOPING CODE APPENDIX A, § I.A.a. (2003), available at http://www.medycyna.sportowa.pl/download/doping_code_e.pdf. WADA placed caffeine on its 2005 Monitoring Program. WADA MONITORING LIST, *supra* note 144. For a description of this program, see *supra* note 144.

146. See Mark S. Juhn, *Popular Sports Supplements and Ergogenic Aids*, 33 SPORTS MED. 921, 925 (2003).

equivalent of one sixteen-ounce cup of Starbucks coffee plus a couple of Mountain Dews.¹⁴⁷

In short, protecting athletes' health is not an adequate explanation for the war against doping. Any doubt about this has been dispelled by WADA itself. In 2003, WADA replaced the three rationales originally given by the Olympic Medical Commission for banning doping¹⁴⁸ with three criteria for determining when a substance should be banned: (1) "[i]t is performance-enhancing," (2) "[i]t represents a risk to the health of the athlete," and (3) "[i]t is against the spirit of sport."¹⁴⁹ Significantly, WADA declared that only two of the three criteria needed to be satisfied in order for a substance to be banned.¹⁵⁰ Consequently, even substances that do not represent a risk to athletes' health can be banned so long as they enhance performance and are "against the spirit of sport."

Just because safety is neither a necessary nor a sufficient factor to explain the war on doping does not make it irrelevant, however. Although the health risks from steroids and other performance-enhancing substances may be exaggerated, they nevertheless may be substantial, especially if athletes use underground preparations of uncertain identity, strength, and purity, at uncontrolled dosages, without proper medical supervision, over extended periods of time.¹⁵¹ Although there seems to be a striking dearth of documented

147. See Barbara F. Harland, *Caffeine and Nutrition*, 16 NUTRITION 522, 523, 524 (2000). The safety of caffeine is well-established. See Terry E. Graham, *Caffeine and Exercise: Metabolism, Endurance and Performance*, 31 SPORTS MED. 785, 804 (2001); Juhn, *supra* note 146, at 925–26.

148. See INTERNATIONAL OLYMPIC COMMITTEE, *supra* note 105, at 1.

149. *In-Depth: Prohibited List*, ATHLETE'S PASSPORT (World Anti-Doping Agency), Apr. 2004, at 2, http://www.wada-ama.org/rtecontent/document/April_04.pdf.

150. *Id.*

151. The main adverse effects associated with HGH injections are insulin resistance, glucose intolerance, decreased endogenous HGH secretion, carpal tunnel syndrome, water retention, and potential cardiovascular effects. Juhn, *supra* note 146, at 931; Paul J. Jenkins, *Growth Hormone and Exercise*, 50 CLINICAL ENDOCRINOLOGY 683, 686 (1999). These risks are mainly extrapolated from observations of patients with acromegaly, characterized by excessive endogenous production of growth hormone (GH) of up to 100 times the normal amount, due to pituitary dysfunction. Jenkins, *supra*, at 686. Little is known about the adverse effects of the long-term use of HGH by athletes. Christer Ehrnborg et al., *Growth Hormone Abuse*, 14 BAILLIERE'S CLINICAL ENDOCRINOLOGY & METABOLISM 71, 74 (2000). The usual dose for adult GH-deficient patients is 1–2 IU/day. *Id.* at 73. Athletes have been reported to use supraphysiological dosages as high as 10–25 IU/day, but the mean dose appears to be around 4 IU/day. *Id.* Presently, the most common adverse effects noted among these users are excessive sweating and fluid retention. *Id.* at 74–75; see also Karel Van Loon, *Safety of High Doses of Recombinant Human Growth Hormone*, 49 HORMONE RES. 78, 80–81 (1998). Another concern is the use of oral dietary supplements and black market products purporting to be HGH or "HGH precursors." See Juhn, *supra* note 146, at 930–31. These may contain dangerous ingredients, and products that actually contain HGH may be contaminated with agents that can cause Creutzfeld-Jacob or other diseases. *Id.* at 931. Excessive amounts of EPO can raise hemoglobin

reports of steroid toxicity in modern athletes, it is conceivable that long-term, high-dose use could produce latent adverse effects that would not become apparent until many years had passed. Moreover, it is a truism of pharmacology that no drug is completely safe. Even fairly benign substances like caffeine can be lethal if ingested in sufficient quantities,¹⁵² and even modest risks may not be worth taking. In short, drug safety is a relative concept: a drug is safe if its risks are outweighed by its benefits.¹⁵³

Some would say that, in the case of performance-enhancing drugs in sports, the outcome of this risk/benefit analysis is clear: the risks never can be outweighed by the benefits simply because there are no benefits, or at least, no socially accepted benefits. Obviously, this would be true if doping were against the rules; there can be no socially recognized benefit from breaking the rules, any more than there can be from a substance that makes it easier to commit crimes, assuming that it accomplished nothing else of social value. But this Article does not assume that doping is against the rules; instead, it asks whether it should be. Could doping provide any benefit, assuming it was not against the rules? Or, to put it another way, why might a sport allow athletes to use performance-enhancing drugs?

a. Better Playing

One reason athletes might be permitted to use performance-enhancing drugs would be to help them play better: runners could run faster or longer distances, shooters and archers could hit more bulls-eyes, weightlifters could snatch greater weights, and so on. Allowing players to play better clearly is a legitimate goal of sports, as it is the fundamental reason for coaching, training, and practice.¹⁵⁴ Moreover, it is clear that better technology is one legitimate

levels to the point that the blood actually thickens dangerously, especially during exercise, when sweating decreases blood viscosity. W. Jelkmann, *Use of Recombinant Human Erythropoietin As an Antianemic and Performance Enhancing Drug*, 1 CURRENT PHARMACEUTICAL BIOTECH. 11, 24 (2000). This condition can increase the risk of heart problems and blood clots. Tokish et al., *supra* note 22, at 1548. EPO is suspected in the deaths of five Dutch cyclists in 1987 and of eighteen other cyclists between 1997 and 2000. *Id.*

152. The acute lethal oral dose of caffeine for adults is estimated to be between five and ten grams, depending on the individual. Juan A. Carrillo & Julio Benitez, *Clinically Significant Pharmacokinetic Interactions Between Dietary Caffeine and Medications*, 39 CLINICAL PHARMACOKINETICS 127, 133 (2000). Achieving this dose would require consuming 50–100 cups of coffee per day, assuming a cup of coffee contained 100 milligrams of caffeine. *Id.* Although death from excessive caffeine intake is rare, it has occurred after suicidal or accidental ingestion of large amounts of caffeine. *Id.*

153. U.S. FOOD AND DRUG ADMINISTRATION, CENTER FOR DRUG EVALUATION AND RESEARCH, BENEFIT VS. RISK: HOW CDER APPROVES NEW DRUGS 1, <http://www.fda.gov/cder/about/whatwedo/testtube-5.pdf>.

154. Opponents of doping might assert that coaching, training, and practice allow athletes to make the most of their *natural* talents, while drugs give them *unnatural* abilities. But the fact that

way to enable players to play better. Hence, there has been increased interest in high-tech sports training equipment and sports psychology,¹⁵⁵ not to mention in the development of better equipment, such as fiberglass pole-vault poles, super-sized tennis racquets, and TechZilla softball bats.¹⁵⁶ Nor is there anything illegitimate about the fact that, unlike training and equipment, drugs are taken internally. So is food, and yet an important part of an athlete's preparation is proper diet, often regulated by experts in accordance with state-of-the-art nutritional science. Indeed, one of the classic ways to enhance athletic performance is "carbohydrate loading," in which the athlete consumes

a talent is "natural" does not give it any superior moral status, because athletes have done nothing to deserve their natural talents. Oddly, it seems to be precisely the absence of merit that makes philosopher Michael Sandel revere natural talent, which he calls "the gifted character of human powers and achievements." Michael J. Sandel, *The Case Against Perfection: What's Wrong with Designer Children, Bionic Athletes, and Genetic Engineering*, THE ATLANTIC MONTHLY, April 2004, at 51, 54. Furthermore, performance-enhancing drugs may be used to supplement rather than replace natural talents. Doping opponents also might claim that athletes who gained an advantage from drugs, even though they might be able to run faster, jump farther, and so on, were, by definition, not playing "better." But if drugs enable athletes to do these things, then in what sense can the athletes not be said to be performing "better"? One possibility is that they have not earned the improvement in performance, as they would have if it resulted, for example, from harder training. But many of the ingredients of an athlete's performance are unearned, including, as stated above, natural talent. Critics of doping may have in mind a notion similar to Peter Kramer's argument in *Listening to Prozac* that anti-depressants make you feel different, but not better. See PETER D. KRAMER, LISTENING TO PROZAC xix (1993). But either this is tautological (greater speed caused by drugs is, by definition, not greater speed), or, as explained below, it is an expression of aesthetic value which says nothing more than that doping opponents find drugs unappealing. See discussion *infra* Part II.B.7.

155. See B. Donohue et al., *Improving Athletes' Perspectives of Sport Psychology Consultation*, 28 BEHAV. MODIFICATION 182 (2004) (discussing the effectiveness of interview methods); Daniel S. Kirschenbaum et al., *Effects of Differential Self-Monitoring and Level of Mastery on Sports Performance: Brain Power Bowling*, 6 COGNITIVE THERAPY & RES. 335 (1982) (assessing the effectiveness of methods on improving bowling scores); Joannie M. Schrof et al., *The Winning Edge: The High-Tech Gizmos, Training Wizardry, and Special Diets That Propel Olympians to Glory*, U.S. NEWS & WORLD REP., July 29, 1996, at 38 (describing new Olympic imaging and performance-analyzing equipment).

156. Pole vault poles originally were made of bamboo, but the game switched to fiberglass poles in the early 1960s, resulting in significantly higher vaults. John Jerome, *Physics at the Bar*, 5 SCIENCE 84, 85 (1984). Oversized tennis racquets were introduced in the 1970s and have a playing surface that is about 50 percent larger than traditional racquets. Tom Herman, *Navratilova Notwithstanding, Rage in Tennis Game Is a Bigger Racquet*, WALL ST. J., Aug. 26, 1980, at 35. Some expert players think that the larger racquets are more powerful, provide a greater margin of error, give players a longer reach, and are more intimidating. *Id.* TechZilla bats have twin, multi-braced aluminum walls to enable slow-pitch softball batters to hit balls farther distances. Brendan I. Koerner, *Ready for Hardball Softball*, N.Y. TIMES, May 30, 2004, § 3 (Business), at 2.

a large amount of carbohydrates before competition.¹⁵⁷ The question is why sports refuse to allow athletes to take drugs to improve performance when they permit them to do all these other things.

b. Leveling the Playing Field

A second reason sports might permit athletes to use performance-enhancing drugs might be to help level the uneven playing field created by differences in natural talent or luck. Often, these differences, rather than the athletes' effort or determination, dictate who succeeds. Yet athletes have done nothing to merit these advantages, and therefore do not deserve to benefit from them.¹⁵⁸ This is why many sports segregate competitors into classes based on

157. Carbohydrate loading is a technique commonly used by endurance athletes to improve performance during high intensity exercise lasting longer than sixty to ninety minutes. *Carbo-Loading: Boost your Endurance During High-Intensity Workouts*, CNN.COM, Nov. 30, 2004, <http://www.cnn.com/HEALTH/library/HQ/00385.html>. It works by increasing the amount of glycogen stored in the muscles. *Id.* When carbohydrates are digested, they are converted into sugar to provide energy to the cells. *Id.* Excess sugar not used by the cells is stored in the liver and muscles as glycogen. *Id.* Normally, the body stores only small amounts of glycogen, which are depleted after sixty to ninety minutes of exercise, causing fatigue. *Id.* Before a major endurance event, athletes will taper the amount of exercise to conserve glycogen stores while at the same time increasing carbohydrate consumption to force the body to store more glycogen, thus boosting endurance during extended high intensity exercise. *Id.* It is a very common practice among distance runners and other endurance athletes, as it tends to be most effective with extended periods of high-intensity exercise. *Id.*

158. This is not the same as saying that the advantages conferred by natural talent or luck are *unfair*, however. One of the possible reasons that sports, not to mention society in general, allow people to profit from that which they have done nothing to deserve is that the distribution of talent and luck is presumed to be random (except by those who believe that they are gifts from God). Since in theory anyone could have been born with natural talent or be lucky, it is not unfair to let these factors be ingredients for success.

The notion that random distribution is fair is ingrained in American jurisprudence and ethics. In an early case addressing how to select which persons to jettison from an overcrowded lifeboat, the court recommended drawing lots, stating: “[W]e can conceive of no mode so consonant both to humanity and to justice.” *U.S. v. Holmes*, 26 F. Cas. 360, 367 (E.D. Pa. 1842). Courts also have approved lotteries as a constitutionally permissible method for allocating scarce public housing and liquor licenses. *Holmes v. N.Y. City Hous. Auth.*, 398 F.2d 262, 265 (2d Cir. 1968) (housing); *Hornsby v. Allen*, 330 F.2d 55, 56 (5th Cir. 1964) (liquor licenses). The possibility of random reward arguably is a major factor in sustaining religious superstition and in maintaining sharp inequalities of wealth; people believe that random rewards come from God, and the poor view state lotteries as “the only possibility for breaking out of the cycle of poverty.” Ronald P. Keeven, *Pros and Cons of Gambling Amendment: Money Used for Legalized Betting Drains Resources of the Poor*, ST. LOUIS POST-DISPATCH, Mar. 27, 1994, at 3B.

As it happens, obtaining natural talent from one's genes is not completely random: athletes' children are more athletically gifted than other children, especially when both parents are athletic. See Hermine H. M. Maes et al., *Inheritance of Physical Fitness in 10-yr-old Twins and Their Parents*, 28 MED. & SCI. SPORTS & EXERCISE 1479, 1479 (1996). Twin studies indicate that performance-related fitness characteristics (such as static strength and running

weight, age, or experience.¹⁵⁹ In the same fashion, athletes could take performance-enhancing drugs to compensate for natural deficiencies or bad luck.¹⁶⁰

One problem with this approach is that athletes with natural talent or good luck also could avail themselves of drugs, thereby maintaining their advantages. A related objection is that, if one athlete took drugs, all would have to, just to stay even. The combined result would be a sort of futile arms race: everyone would be subject to the drug risks without obtaining any offsetting benefit. But these criticisms assume that enhancements would affect everyone to the same degree—producing, for example, a fifty-pound increase in weightlifting ability across the board. This is not necessarily, or likely, to be the case, because people tend to react somewhat differently to biological interventions.¹⁶¹ Even if all athletes used drugs, a competitor might hope that he or she would derive a greater advantage than the next person. But more importantly, the same criticism can be lodged against all efforts to improve athletic performance. If training for many hours every day enables all athletes to improve, for example, why bother? The athletes would be just as well off if no one practiced; but sports do not prohibit training, even though training causes injuries. The question, then, is whether the risks of drugs are

speed) and health-related characteristics (such as flexibility and maximum oxygen uptake) are moderately to highly heritable. *Id.* at 1479. Several studies have focused on locating specific genes for athleticism, with most of the candidates affecting cardiac function. *See, e.g.,* George Gayagay et al., *Elite Endurance Athletes and the ACE I Allele—The Role of Genes in Athletic Performance*, 103 *HUM. GENETICS* 48 (1998); H. E. Montgomery et al., *Human Gene for Physical Performance*, 393 *NATURE* 221 (1998); Bernd Wolfarth et al., *A Polymorphism in the Alpha₂-Adrenoceptor Gene and Endurance Athlete Status*, 32 *MED. & SCI. SPORTS & EXERCISE* 1709 (2000). Advances in genetic science are likely to make the distribution of natural talent increasingly less random. As noted earlier, there now is a genetic test for different types of running prowess; this test could be administered to early-stage embryos fertilized in vitro and the results employed to select which embryos to implant in the womb. *See supra* text accompanying notes 36–37.

159. An interesting question is why other sports do not. Someone once tried to form a basketball league for players of normal height, but the attempt ultimately failed. *See* Elizabeth Comte, *WBL: A Short Circuit with a Worldwide Reach*, *SPORTING NEWS*, May 21, 1990, at 44.

160. One of the original justifications put forward by the Olympic Medical Commission for banning doping was “maintaining equal opportunities for all at the time of competition.” *See* INTERNATIONAL OLYMPIC COMMITTEE, *supra* note 105, at 1. It also is curious that the original rationale spoke in terms of “maintaining” equal opportunities. It can be argued that athletes never are equal at the moment of competition. Some are born with greater natural abilities. Some have wealthy parents, or the good luck not to become injured. Not every Olympic gymnast can be trained by Bela Karoli; not every figure skater is able to grow up like Sarah Hughes, practicing on her personal backyard ice rink. *See* Jeff Metcalfe, *Poised at the Top*, *PHOENIX GAZETTE*, Feb. 9, 1992, at G1; Linda Robertson, *Hughes Continues to Win Fans as She Balances Demands of Skating, Being 16*, *MIAMI HERALD*, Apr. 6, 2002, at 1D.

161. Ultimately, pharmacogenetics may enable these differences in drug response to be determined in advance.

sufficiently great, or greater than the risks of other methods of improving performance, so that drugs should be treated differently. Perhaps this would validate banning the use of extremely dangerous drugs, but it certainly does not justify a ban on all substances.

One solution to the futility problem would be to establish a true handicapping regime that permitted only disadvantaged athletes to use drugs, and only in sufficient amounts to offset their lack of talent or luck. This would require methods to identify and measure advantage and disadvantage, which are likely to be at least as expensive and intrusive as the testing regimes employed to detect the use of banned substances.¹⁶² But perhaps this would be tolerable in the interest of equality.

Of course, the system would not be fair if enhancements were not available to everyone. If they were too costly or the supply was too limited regardless of how much athletes were willing to pay, so that only some athletes were fortunate enough to obtain the performance advantages, the use of enhancements could exacerbate, rather than alleviate, inequality. Currently, this does not seem to be much of a problem. Athletes do not complain that only some of them have access to certain substances. If anything, the drugs are too readily available. But a fairness problem could arise in the future if especially expensive or exotic enhancements were developed. In that case, the goal of equality might require subsidies so that all competitors could avail themselves of these substances, or a ban so that none could.

c. Increasing Fan Appeal

A third potential benefit from performance-enhancing drugs could be increased value for fans. A substantial number of baseball fans, for example, do not strongly object to the use of steroids because it enables batters to hit more home runs. According to a 2005 poll, fans cited the outlandish salaries of players as the biggest problem facing baseball, followed by steroids, and then ticket prices.¹⁶³ When asked directly by journalists about his views on

162. A deliciously wicked depiction of handicapping the talented is provided by Kurt Vonnegut in the short story *Harrison Bergeron*, which begins:

The year was 2081, and everybody was finally equal. They weren't only equal before God and the law. They were equal every which way. Nobody was smarter than anybody else. Nobody was better looking than anybody else. Nobody was stronger or quicker than anybody else. All this equality was due to the 211th, 212th, and 213th Amendments to the Constitution, and to the unceasing vigilance of agents of the United States Handicapper General.

KURT VONNEGUT, JR., *Harrison Bergeron*, in *WELCOME TO THE MONKEY HOUSE* 7, 7 (1968).

163. Associated Press, *Fans Frown on High Pay: Salaries Rank Above Steroids in Latest Poll*, *AUGUSTA CHRONICLE*, Apr. 5, 2005, at C5.

steroids, and specifically Mark McGwire's congressional testimony,¹⁶⁴ Mike Davidson, the fan who retrieved McGwire's record-tying sixty-first home run ball, replied, "It's no big deal. Like he said, it's in the past. It really doesn't matter."¹⁶⁵ Indeed, more runs may sell more tickets and raise advertising revenue.

Even if drugs created serious health risks, participants might take them to enhance fan appeal. Clearly much of the risk inherent in sports is tolerated, if not encouraged, for this purpose. For many spectators, it is the anticipation of beholding injury and even death that makes them watch sports events. Think of automobile or downhill ski racing, even football and hockey, not to mention boxing. These sports easily could be made much safer: cars could have governors set at low speeds, more speed control gates could be placed on downhill ski runs, tackle football could be replaced with touch, and so on. But these safety measures would make the sporting events less exciting and less remunerative.

In summary, performance-enhancing drugs may yield cognizable benefits: allowing players to play better, compensating for deficiencies in natural talent and luck, and boosting fan appreciation. The question, then, is whether these benefits outweigh the risks.

This question is hard to answer because of the lack of efficacy and safety information on doping substances. As noted above, the only study on the use of anabolic steroids by athletes found that they increased muscle mass, but the study only lasted ten weeks.¹⁶⁶ Similarly, little information is available about the safety and efficacy of HGH as a performance-enhancer in sports.¹⁶⁷ Moreover, this lack of information is perpetuated by doping critics and bioethicists who maintain that it would be unethical to conduct studies in human subjects on the safety and efficacy of banned substances.¹⁶⁸ This stance

164. Former St. Louis Cardinal Mark McGwire, rather than address whether he had in fact taken steroids during his career, consistently responded to Congressional questioning that he was "not here to talk about the past." *Restoring Faith in America's Pastime*, *supra* note 2, at 242.

165. Gary Smith, *Steroids and Baseball: What Do We Do Now?*, SPORTS ILLUSTRATED, Mar. 28, 2005, at 40 (conducting extensive interviews with fans who were integrally involved in Mark McGwire's and Sammy Sosa's home run contest in 1998).

166. Bhasin et al., *supra* note 124, at 1-2. The treatment period lasted 10 weeks, but the study included a 4-week control period and a 16-week recovery period. *Id.*

167. The few controlled studies that have been conducted on the effect of HGH in athletes have not shown that it has a significant positive effect on muscle growth or strength. See Matthias M. Weber, *Effects of Growth Hormone on Skeletal Muscle*, 58 HORMONE RES. 43, 46 (2002). Although HGH appears to increase lean body mass in non-HGH deficient individuals, this is attributable to water retention rather than to an increase in lean muscle mass. *Id.* at 45. Moreover, athletes may not inject actual HGH but ingest "precursor" substances, which are ineffective since HGH is broken down when orally administered. Juhn, *supra* note 146, at 930.

168. See, e.g., Hartgens & Kuipers, *supra* note 112, at 517 ("Because of ethical considerations, only relatively low doses for a limited time period can be studied.").

is an artifact of the belief, described earlier, that doping cannot have a legitimate purpose, and therefore, a priori, there is no possible benefit that could offset any risks. If, as argued in the forgoing Sections, this argument is fallacious, there would seem to be no valid reason to maintain this embargo.

2. Ethics of Sport

A second reason put forth by the Olympic Medical Commission in 1967 for banning doping in sports was “[d]efending medical and sports ethics”¹⁶⁹ and WADA continues to cite “against the spirit of sports” as a ground for prohibiting particular substances.¹⁷⁰

Numerous sociologists and philosophers have attempted to describe the ethics or “spirit” of sport in order to identify what performance aids should and should not be permitted. Thomas Murray argues that doping is incompatible with what we admire about sports.¹⁷¹ According to this view, sports only value certain inputs: determination, effort, natural talent, and luck. An athlete who wins because she is driven to succeed, puts in endless hours of training and practice, has innate athletic ability, and enjoys the good fortune, say, of having wealthy, supportive parents and of avoiding injury, is entitled to her medal. She is being “authentic.”¹⁷²

Yet as the earlier discussion shows, the use of performance-enhancing substances in sports has a long tradition.¹⁷³ In fact, it is only in the last fifty years or so that the notion that drug use is incompatible with sports has become fashionable.¹⁷⁴ Moreover, even now there are many sports that do not ban doping (because they do not test athletes). These include some highly

169. See INTERNATIONAL OLYMPIC COMMITTEE, *supra* note 105, at 1.

170. See *supra* note 149 and accompanying text. Under WADA’s approach, some performance-enhancing substances presumably would be consistent with the spirit of sports, but WADA gives no clue as to how identify them. Based on the current list of prohibited substances, permitted substances would seem to include food, vitamins, some dietary supplements, and certain gases. See generally WORLD ANTI-DOPING AGENCY, WORLD ANTI-DOPING CODE: THE 2005 PROHIBITED LIST: INTERNATIONAL STANDARD (2005) [hereinafter WADA 2005 PROHIBITED LIST], available at http://www.wada-ama.org/rtecontent/document/list_2005.pdf. The permissible gases category is the basis for nitrogen tents and houses, which manipulate the ratios of gases in the atmosphere to reproduce artificially the effects of sleeping at altitude. See *supra* text accompanying notes 22–23.

171. See Thomas H. Murray, *The Ethics of Drugs in Sports*, in DRUGS AND PERFORMANCE IN SPORTS 11, 15 (Richard H. Strauss, ed. 1987) (“[D]rugs and other performance aids should be banned because they do not reflect the forms of human excellence that sports are intended to honor.”).

172. See Erik Parens, *Authenticity and Ambivalence: Toward Understanding the Enhancement Debate*, 35 HASTINGS CENTER REP. 34, 35 (2005) (“[W]e are authentic when we exhibit or are in possession of what is most our own: our own way of flourishing or being fulfilled.”).

173. See discussion *supra* Part I.

174. See *supra* text accompanying notes 49–65.

organized events, such as certain “powerlifting” and “strongman” competitions,¹⁷⁵ as well as virtually all intramural and informal competitions.¹⁷⁶ These sports may not make players rich or command high advertising revenues, but they are clearly valued.

Another reason why drugs are against the spirit of sports, it can be said, is that they eliminate the need for hard work. Being unearned, the argument may go, doping victories are neither achieved nor deserved. Some argue that “[v]ictory is inextricably linked to rules. It is questionable whether the drug taking athlete has competed in the first place.”¹⁷⁷ But many of the ingredients of victory in sports, including natural talent, wealthy and indulgent parents, and good luck, are not earned. An important factor in winning Olympic and World Cup alpine skiing events, for example, is having the best equipment. Racing ski manufacturers test their skis on speed tracks and dole out the fastest to racers based on the racers’ international ranking and, it seems, favoritism.¹⁷⁸ For years, for example, the Atomic Ski Company gave first pick to the Austrian team.¹⁷⁹ Moreover, athletes may have acquired the money to buy enhancements through hard work and self-sacrifice. In addition, the user must decide what tasks to undertake, and the decision to do something praiseworthy,

175. Several powerlifting organizations do not test any athletes, or have separate test and non-test divisions. The International Powerlifting Association (IPA) has an “amateur” division that tests for steroids and a “professional” division that does not. INTERNATIONAL POWERLIFTING ASSOCIATION, BY-LAWS 9, <http://www.ipapower.com/Forms/IPABY-LawsComplete2.pdf>. The IPA bylaws state that any individual in the amateur division found to have a positive drug test will be moved into the professional division. *Id.* Similarly, the World Powerlifting Congress and the American Powerlifting Federation do not test for anabolic substances, but have offshoot organizations, the Amateur World Powerlifting Congress and the Amateur American Powerlifting Federation, with identical rules except that they conduct drug testing. World Powerlifting Congress, <http://worldpowerliftingcongress.com> (last visited Jan. 8, 2006); Amateur American Powerlifting Frequently Asked Questions, <http://www.apf-illinois.com/FAQ.html> (last visited Jan. 8, 2006). Other organizations that have both tested and non-tested divisions include the World Powerlifting Alliance/American Powerlifting Association and the United States Powerlifting Federation. Powerlifting Federation Rule Cross Reference Chart, <http://www.weighttrainerunited.com/fedreference.html> (last visited Jan. 8, 2006). The World Powerlifting Organization is strictly non-tested. *Id.*

176. The CDC estimates that as many as 150 million Americans participate in some form of physical leisure activity outside of organized sports. CDC REPORT, *supra* note 142, at 736.

177. SIMON GARDINER ET AL., SPORTS LAW 304 (2d ed. 2001).

178. See Bill McCollom, *Speed Jumps: Why Fast Skis Matter and How the U.S. Team Got ‘Em*, Sept. 29, 2003, FRANCONIA SKI CLUB, <http://www.franconiaskiclub.com/PDFs/Speed%20jumps%20and%20fast%20skis.pdf>.

179. *Id.* McCollom explains that U.S. racers began to obtain improved access to the top pairs of skis after the U.S. Ski and Snowboard Association “made the commitment to provide our servicemen more opportunity to go to the factories and establish relationships; we allotted more time and resources for testing; we hired personnel to help coordinate service from the factories.” *Id.* As a result, U.S. racer Daron Rahlves received second pick behind Austrian Stephan Eberharter. *Id.*

rather than, say, to use the drugs to commit crimes or for other forms of ill-gotten gain, confers merit. In any event, individuals are likely to have to expend considerable effort to produce results even if they take enhancement drugs. Athletes who take steroids, for example, still must work very hard to be competitive. Indeed, one effect of drugs may be to enable athletes to train harder without injuring themselves. In that sense, the drugs can make it possible to work more, not less.

3. Protecting Children

A third rationale that has been asserted lately, particularly in congressional hearings on the use of steroids in professional sports, is the need to discourage the use of performance-enhancing drugs by children. As Rep. John Sweeney (R-NY) testified, for example:

As athletes have become more creative; turning to substances such as andro and its muscle-building cousins, our children have become more susceptible to the allure of performance-enhancing substances. While the integrity of sports is significant, the use of steroids in sports would not be of such profound concern if it did not impact children so drastically.¹⁸⁰

In some cases, the objection to the use of performance-enhancing drugs by children is based on what appear to be sound safety concerns. Adolescents using anabolic steroids, for example, may experience irreversible early closure of growth plates.¹⁸¹ Clearly it would be appropriate to prevent young people, who are presumed to lack the capacity to make informed, rational choices, from engaging in especially risky behaviors. But note that this rationale could apply to many common sports that children routinely engage in, including tackle football, hockey, and skateboarding. Moreover, there may be some performance-enhancing drugs that do not pose serious health risks, even for children.¹⁸²

180. *Anabolic Steroid Control Act of 2004 Hearing*, *supra* note 134, at 6 (statement of Rep. John Sweeney).

181. Hartgens & Kuipers, *supra* note 112, at 536.

182. It is unclear whether researchers ever would be allowed to test performance-enhancing drugs in children. The “Common Rule,” which establishes the ethical and regulatory norms for human subjects research in the U.S., states that research on minors which does not pose more than minimal risk is permitted so long as the researchers obtain parental permission and the minors give their assent. 45 C.F.R. § 46.404. Research on minors that poses more than minimal risk is permitted only if it holds out the prospect of direct benefit for the individual subject, and then only if the institutional review board finds that the risk is justified by the anticipated benefit to the subjects. *Id.* § 46.405.

Parents traditionally have had broad latitude to enhance the lives of their children. From a legal standpoint, the only prohibition is against actions that would constitute child abuse or neglect. The question, then, is whether enrolling a child in a study of performance-enhancing drugs would amount to abuse or neglect. In a recent case, a Maryland court ruled that children could not be enrolled in any non-therapeutic study that presented any risk of injury or damage to

Another concern with children in particular is that the use of performance-enhancing drugs could lead to the use of illicit recreational drugs. As Senator Joseph Biden (D-Del.) stated in 1989 hearings on steroid use in football:

[A]s experts have told us, and we will hear today and in future hearings, steroids could become another “gate-way drug,” a phrase that’s now being used. “Gate-way” drug refers to marijuana, cocaine and other drugs. If young people accept the idea that using steroids to build their body is okay, they may be all the more likely to try other drugs to alter their minds, as well as their bodies.¹⁸³

There are no data to substantiate this concern, but it stands to reason that children who perceived that there were benefits from using one type of prohibited substance would be more likely to use other types. On the other hand, the problem may be with the illicit status of the performance-enhancing drugs rather than with the fact that they improve performance. Children

health. *Grimes v. Kennedy Krieger Inst., Inc.*, 782 A.2d 807, 850 (Md. 2001). Nor could parents lawfully consent to their participation. *Id.* at 858. Subsequently, the court issued a clarification stating that it had intended to ban only pediatric research that posed “any articulable risk beyond the minimal kind of risk that is inherent in any endeavor.” *Id.* at 862. However, the court went on to note that the study in question—intended to identify economically feasible ways of protecting children from lead poisoning—could not proceed because it did not have a therapeutic objective: “The context of the statement was a non-therapeutic study that promises no medical benefit to the child whatever, so that any balance between risk and benefit is necessarily negative.” *Id.* The court clearly implied that, because enhancement research promises no medical benefit to the child, it would be unethical to carry out enhancement research on children unless the study posed no risk whatsoever. The court’s position in *Grimes* seems to be in accord with the position of the American Medical Association’s Council on Ethical and Judicial Affairs in regard to genetic enhancement, which states that it would be unethical to attempt to genetically enhance children unless there was “no trade-off with other characteristics or traits.” American Medical Association, Council on Ethical and Judicial Affairs, *Ethical Issues Related to Prenatal Genetic Testing*, 3 ARCHIVES FAM. MED. 633, 633 (1994).

The need to consider the research status of children in performance enhancement studies is heightened by the fact that minors already are the subjects of considerable informal enhancement experimentation. *See, e.g.*, Sean Esteban McCabe et al., *Prevalence and Correlates of Illicit Methylphenidate Use Among 8th, 10th, and 12th Grade Students in the United States, 2001*, 35 J. ADOLESCENT HEALTH 501 (2004). Parents, for example, are reported to ask physicians to prescribe HGH for their children although the children do not meet the labeling indications for the drug, and the use of amphetamine (Adderall) and methylphenidate (Ritalin) as study aids by students who do not suffer from ADHD is widely reported. *Id.*; Christian J. Teter et al., *Illicit Methylphenidate Use in an Undergraduate Student Sample: Prevalence and Risk Factors*, 23 PHARMACOTHERAPY 609, 609 (2003); Rebecca L. Weber, *A Drug Kids Take in Search of Better Grades*, CHRISTIAN SCI. MONITOR, Nov. 30, 2004, at 11.

183. *Steroids in Amateur and Professional Sports—The Medical and Social Costs of Steroid Abuse: Hearings on The Steroid Abuse Problem in America, Focusing on the Use of Steroids in College and Professional Football Today Before the S. Comm. on the Judiciary*, 101st Cong. 2 (1989) (statement of Sen. Joseph Biden).

receive all sorts of legitimate medications without, it seems, concluding that if one type of drug is good, all drugs must be good.

But even if it made sense to restrict the use of performance-enhancing drugs by children, why ban their use by adults? Adults are permitted to engage in all sorts of behaviors that are deemed bad or deleterious for children, such as drinking, smoking, or sex. The main reason to single out athletes is that they serve as role models for kids. For example, the chair of the House committee investigating steroid use in baseball in 2005 commented: "Our primary focus remains on the message being sent to . . . children who play baseball, children who idolize and emulate professional baseball players."¹⁸⁴ But even role models are entitled to personal freedoms. So long as the adults make it clear that the rules are different for adults and children, and so long as role models such as professional athletes do not actively promote enhancements, such as in television ads, it is unclear why they should be prohibited from using enhancements but permitted to engage in other adult activities. As a ski patroller, one of the Authors deals with lots of injured youngsters who "just wanted to see if they could do that flip like the guy on TV." This does not mean that we have to eliminate freestyle skiing from the Olympics.

In many cases, parents and others who bridle at the notion of children using performance-enhancing drugs to be competitive are concerned not only by the use of drugs but by the highly competitive, even cut-throat endeavor that many juvenile sports activities have become. This is truly a sad state of affairs, and it is not clear how to go about correcting it. But given that we live increasingly in a winner-take-all society, a legitimate question arises why those who do not have a great deal of natural talent or good luck should be barred from using biomedical enhancements to compete more successfully against those who do.

To summarize, a blanket prohibition against doping in sports cannot be justified on the basis of safety concerns, sports ethics, or even protecting children. It might be tempting to conclude, therefore, that those in charge of sports are just being arbitrary, that they are singling out performance-enhancing drugs for no real reason. But it is important to realize that it is perfectly acceptable for the rules of sports to be arbitrary. A sport must have rules to be a coherent activity, and must be played within the rules for it to have meaning as a sport.¹⁸⁵ As a child, you may have tried to play a game in which the individual players made up the rules to suit them as they went; no doubt you quickly abandoned it in frustration at its pointlessness. Think of the

184. *Restoring Faith in America's Pastime*, *supra* note 2, at 3 (statement of Chairman Tom Davis).

185. The same is true of games.

Queen of Heart's croquet game in *Alice in Wonderland*.¹⁸⁶ Furthermore, the rules of sport can be, and often are, completely arbitrary. Why does baseball only permit nine players in the field, for example, instead of five or eleven?

But this still leaves open the question of why sports have chosen to ban the use of drugs. Even if it is difficult to identify reasons that justify it, are there factors that may explain it?

4. The War on Drugs

As described earlier, the effort to halt the use of doping began in the mid-1960s with the formation of the Olympic Medical Commission, which established the Olympic drug testing program.¹⁸⁷ This timing reveals one impetus for the anti-doping campaign: The war against doping started out to a large extent as part of the wider "War on Drugs." It is no coincidence that the Olympic Medical Commission was created around the same time that Richard Nixon became President with a pledge to suppress the youth-oriented drug culture.¹⁸⁸ Nor is it happenstance that WADA's list of banned substances includes recreational drugs such as marijuana, as well as drugs that enhance performance.¹⁸⁹ Thus, British Olympic gold medalist Mark Lewis-Francis lost his silver medal from the 2005 European Indoor Track-and-Field Championships after he tested positive for marijuana;¹⁹⁰ a runner with a positive marijuana test was disqualified from the U.S. 400-meter relay team at the Athens Olympics,¹⁹¹ and, most notably, Canadian snowboarder Ross Rebagliati lost and then regained his gold medal in snowboarding at the 1998 Nagano Olympics (which led to the formal addition of marijuana to the list of banned substances).¹⁹²

5. The Cold War

Another key motivation for the campaign against doping was the Cold War. International competition between East and West carried over to the sports arena; recall the elation when the American hockey team beat the

186. See LEWIS CARROLL, *ALICE'S ADVENTURES IN WONDERLAND* 59–65 (Project Gutenberg ed., The Millennium Fulcrum Edition 3.0 1994) (1865).

187. See *supra* text accompanying note 73.

188. See Kate Doyle, *Operation Intercept: The Perils of Unilateralism*, NAT'L SEC. ARCHIVE, Apr. 13, 2003, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB86>.

189. See WADA 2005 PROHIBITED LIST, *supra* note 170, at §§ S1–S9.

190. David Martin, *Lewis-Francis Avoids Ban for Failed Dope Test: British Sprinter Denies Cannabis Use, But Loses Medal*, THE SCOTSMAN (Gr. Brit.), May 14, 2005, at 20.

191. Bill Ward, *Capel Admits Mistake, Moves Forward*, TBO.COM, Aug. 29, 2004, <http://olympics.tbo.com/olympics/MGBIPXKOGYD.html>.

192. Associated Press, *Olympics: Marijuana Becomes Banned Substance*, N.Y. TIMES, Apr. 28, 1998, at C5.

Soviets at Lake Placid.¹⁹³ A main factor in the success of communist bloc athletes was the use of steroids and other performance-enhancing drugs. In the mid-1970s, communist nations began aggressive, state-sponsored doping programs.¹⁹⁴ Combined with a rigorous talent screening system, doping programs in Eastern Europe were remarkably successful in producing champion athletes.¹⁹⁵ The programs were organized at the highest levels of government and included not just coaches and trainers, but the secret police and nationalized pharmaceutical companies.¹⁹⁶ At the 1976 Montreal Olympics and 1988 Seoul games “the Soviet team had a hospitality ship used as medical centre to ensure that Soviet competitors were ‘clean’ at the last moment.”¹⁹⁷ The Olympics cracked down on doping when it became apparent that victorious Warsaw Bloc athletes, especially the East Germans, were more flagrantly and successfully employing steroids than other teams.¹⁹⁸

But the Cold War is over, while the war on performance-enhancing drugs persists.

6. Nostalgia

Another incentive for banning drugs in sports is nostalgia. People yearn for a simpler time when star athletes like Babe Ruth broke records without the use of steroids.¹⁹⁹ As former pitcher Senator Jim Bunning stated:

193. See Joe Lapointe, *Impossible Dream Plus One Decade: 10 Years After U.S. Gold-Medal Effort, Victors and Losers Play Side by Side*, N.Y. TIMES, Feb. 19, 1990, at C1.

194. Alan Cowell, *In a Cold War Hangover, Germany Confronts a Legacy of Steroids*, N.Y. TIMES, Apr. 5, 1998, § 8 (Sports), at 1.

195. See WADDINGTON, *supra* note 19, at 142.

196. *Id.* at 143–44.

197. JAMES RIORDAN, *SPORT, POLITICS AND COMMUNISM* 123 (1991).

198. See WADA Anti-Doping History, *supra* note 12.

199. Of course, since there were no drug tests at the time, it is impossible to know whether Ruth or other athletes were using other substances to enhance performance. A related objection to the use of performance-enhancing drugs is that it confounds record-keeping in sports. As Senator John McCain stated in 2004: “The failure to insist on stringent drug testing policies damages the integrity of the games, calls into question records set by those suspected of using performance-enhancing drugs, and puts in peril the health of the athletes who play the games.” *Steroid Use in Professional and Amateur Sports: Hearing on S. 253 Before S. Comm. on Com., Sci., and Transp.*, 108th Cong. (2004), http://commerce.senate.gov/hearings/testimony.cfm?id=1100&wit_id=2191. Yet, the same problem arguably occurs every time a major change is made in the rules, including allowing the use of improved equipment. Pole-vaulting apparently has been able to cope with the introduction of fiberglass poles in the early 1960s, even though competitors were suddenly able to vault much greater heights and old records were rendered obsolete. See *supra* note 156 and accompanying text. Similarly, baseball fans have dealt with the results of the designated-hitter rule, although not without grumbling. See Mel Antonen, *DH at 30: Hit, Miss: Rule Has Increased Offense and Extended Careers, but Some Say Time Has Come for AL to Get Rid of It*, USA TODAY, July 14, 2003, at 1C; Bill Dawson, *DH at 30: Rule Still Enrages Purists, but Many Hitters Relish Role*, S.D. UNION-TRIB., May 12, 2003, at C2.

Mr. Chairman, maybe I'm old fashioned. I remembered players didn't get any better as they got older. We all got worse. When I played with Henry Aaron and Willie Mays and Ted Williams, they didn't put on 40 pounds and bulk up in their careers and they didn't hit more home runs in their late 30's than they did in their late 20's.²⁰⁰

Senator Byron Dorgan put it this way: "Tragically, what once was a 'field of dreams' may deteriorate into a quagmire of controlled substances"²⁰¹

Yet as the history of doping shows, drug use was the norm in the past, rather than the exception.²⁰² Evidently there was a halcyon period when many older Americans came of age in which the use of drugs was unremarked, if not absent. Even if the belief that sports in the past were drug-free is an illusion, it may be a comforting illusion at a time of rapid and unsettling technological change. Some nostalgia buffs prefer to try to hit targets with Civil War-type, black powder rifles. Continued opposition to the use of drugs in sports may be an attempt to preserve a world as lost in time as the muzzle-loading sharpshooters of the Civil War.

7. Aesthetics

Another key explanation for the opposition to the use of performance-enhancing drugs in sports, however, is aesthetics. People simply find the idea of athletes using drugs ugly. In part, this is a reaction against graphic images of drug use. The initial crackdown on steroids, for example, had a lot to do with the rumors of syringes scattered across locker room floors in the Olympic villages of the 1950s.²⁰³ The toughening of testing programs in the 1980s probably was due not only to the desire to stop Warsaw bloc teams from continuing their string of victories, but to the repulsive masculine appearance of some of their female athletes who were taking steroids.²⁰⁴

This is not to demean the importance of aesthetics. Aesthetics enables us to identify what is beautiful. It ignites powerful emotions, as evidenced by the vitriolic language used by sports writers to describe the steroid scandal in baseball, who called it "a blot on baseball"²⁰⁵ and characterized it as being worse than the Black Sox scandal of 1919, the Pittsburgh cocaine trials in

200. *Restoring Faith in America's Pastime*, *supra* note 2, at 57.

201. Press Release, Sen. Byron L. Dorgan, Opening Statement at Senate Hearing Looking Into Reports of Steroid Use in Baseball (June 18, 2002), *available at* <http://commerce.senate.gov/hearings/061802dorgan.pdf>.

202. *See* discussion *supra* Part I.

203. *See* James B. Jacobs & Bruce Samuels, *The Drug Testing Project in International Sports: Dilemmas in an Expanding Regulatory Regime*, 18 HASTINGS INT'L & COMP. L. REV. 557, 562 (1995).

204. *See* ALLEN GUTTMANN, *THE OLYMPICS: A HISTORY OF THE MODERN GAMES* 146 (2002).

205. Editorial, *Steroids a Blot on Baseball*, MILWAUKEE J. SENTINEL, Dec. 7, 2004, at 18A.

1985, and Pete Rose gambling on games while managing the Cincinnati Reds.²⁰⁶ Distastefulness certainly can kill a sport; witness what happened to XFL football.²⁰⁷ Aesthetic opposition by fans also blocked a plan to place *Spiderman 2* logos on baseball bases.²⁰⁸

But it is important to realize the difference between aesthetic objections and moral objections. It would be wrong to smuggle a modern weapon into a Civil War-type, black powder rifle shooting competition. Yet there is nothing wrong with conducting shooting matches using modern guns. Similarly, there is nothing inherently wrong with allowing the use of performance-enhancing drugs in sports.

III. THE ROLE OF GOVERNMENT

If the use of drugs in sports ultimately cannot be deemed immoral, what is the proper role of the government in enforcing the ban on doping?²⁰⁹

206. Tim Cowlshaw, *Going, Going . . . Gone: Baseball's Integrity is Vanishing, But Steroids Scandal Won't Go Away*, DALLAS MORNING NEWS, Mar. 9, 2004, at 1C.

207. On February 3, 2000, the World Wrestling Federation announced its concept for a new kind of football league: one with fewer rules, trash-talking announcers, and barely dressed cheerleaders. See Jim Baker, *Grapes Sour on Burns' Treatment*, BOSTON HERALD, Feb. 4, 2000, at 90. Featuring gimmicky camera techniques, behind the scenes looks at the cheerleader locker rooms, and player jerseys with nicknames like "He Hate Me," the XFL debuted the following year. Jay Mariotti, *Trashing the Garbage of the XFL*, SPORTING NEWS, May 21, 2001, at 7. Although its opening games drew large audiences, attendance at games and television ratings quickly plummeted. *Id.* The end of the season games drew the smallest audiences ever for prime time television and the XFL folded shortly thereafter. Don Walker, *He Fold Me: McMahon Smacks Down XFL Due to Tiny Ratings, Huge Losses*, MILWAUKEE J. SENTINEL, May 11, 2001, at 1C. As soon as the XFL debuted, commentators were intensely critical of its gimmicks, theatrics, and attitudes toward women. See, e.g., Harvey Araton, *Football and Taste, Out of Season*, N.Y. TIMES, Feb. 6, 2001. Although the format changed during the season, adding real commentators and toning down the trash talking, the XFL could not attract an audience. See Walker, *supra*, at 1C. Following its cancellation, critics were quick to judge the XFL's precipitous decline. ESPN commentator Jay Mariotti offered his gratitude "to the masses for smacking down this farcical disgrace to civilized culture." Mariotti, *supra*, at 7. Other writers called the league's folding "the year's most hopeful sign that we have a future as a society." Randy Brown, *XFL's Failure a Success for U.S.*, TIMES UNION (Albany), May 22, 2001, at A9. A headline in the *Seattle Times* proclaimed: "XFL Benched, Taste Wins." Editorial, *XFL Benched, Taste Wins*, SEATTLE TIMES, May 15, 2001, at B4.

208. See Michael McCarthy, *Sports and Entertainment are Double-Teaming Fans*, USA TODAY, June 16, 2005, at 1C.

209. The United States government has long been involved in efforts to restrict access to drugs of abuse. Following the Civil War, Congress turned its attention to opium, which had become popular among soldiers as a painkiller during the war and remained popular after. See Barbara Heise, *The Historical Context of Addiction in the Nursing Profession: 1850–1982*, 14 J. ADDICTIONS NURSING 117, 118 (2003). Heroin was first synthesized from morphine in 1874, although it did not become commercially available until 1898. DAVID F. MUSTO, *THE AMERICAN DISEASE: ORIGINS OF NARCOTICS CONTROL* 3 (Oxford Univ. Press 1987).

While the importation of opium peaked in 1896, it was another eighteen years before Congress enacted federal narcotics control: the Harrison Narcotics Act. Pub. L. No. 63-223, 38 Stat. 785 (1914). The Harrison Act established prescription requirements for narcotics and required those dispensing drugs to be registered and taxed. *Id.* However, it failed to address whether pharmacists and physicians could dispense narcotics for the sole purpose of supporting an addict's habit. David T. Courtwright, *The Hidden Epidemic: Opiate Addiction and Cocaine Use in the South, 1860-1920*, 49 J. S. HIST. 57, 58 (1983). The issue was resolved by the Supreme Court in 1919, ruling against maintenance prescriptions. *Id.* Public objection to intoxicating substances was strong, and in 1920, Congress banned consumption of alcohol by passing the Volstead Act, Pub. L. No. 66-66, 41 Stat. 305 (1919), in conjunction with Prohibition. See U.S. CONST. amend. XVIII (repealed 1933 by U.S. CONST. amend. XXI). Other substance control laws followed: the Narcotic Drugs Import and Export Act was passed in 1922 (also known as the Jones-Miller Act), Pub. L. No. 67-227, 42 Stat. 596 (1922), which increased penalties for drug violations and further restricted the importation of opium and coca, and the proscription of domestic manufacture and possession of heroin became illegal in 1924. Andrew G. Bucaro & Mary Williams Cazalas, *Methadone: Treatment and Control of Narcotic Addiction*, 44 TUL. L. REV. 14, 18 (1969). At the same time, changes in bureaucracy affected how drugs were regulated. In 1927, the Bureau of Chemistry was divided into two separate agencies: Food, Drug, and Insecticide Administration (regulatory functions) and the Bureau of Soils and Chemistry (non-regulatory functions). *Milestones in U.S. Food and Drug Law History*, U.S. FOOD AND DRUG ADMINISTRATION, <http://www.fda.gov/opacom/backgrounders/miles.html>. Three years later, FDIA became the Food and Drug Administration under an agricultural appropriations act. *Id.* Congress also saw fit to establish the Federal Bureau of Narcotics with Henry Anslinger as commissioner. *Federal Bureau of Narcotics*, WIKIPEDIA.ORG, http://en.wikipedia.org/wiki/Federal_Bureau_of_Narcotics. Beginning in 1930, the enforcement of drug laws became the province of the Justice Department. María Celia Toro, *The Internationalization of Police: The DEA in Mexico*, 86 J. AM. HIST. ¶ 5 (1999), <http://www.historycooperative.org/journals/jah/86.2/toro.html>. The push for the control of drugs continued with the passage of the Uniform State Narcotic Act in 1932. Annotation, *Constitutionality, Construction, and Application of Uniform Narcotic Drug Act*, 119 A.L.R. 1399 (2004). Eventually adopted by thirty-nine states and the District of Columbia, the Act sought to standardize state narcotics control laws. *Id.*

While states and the federal government routinely criminalized drug offenses related to narcotics, they were far more lax about other drugs. In 1937, the federal government elected only to tax marijuana and not criminalize it. Marihuana Tax Act, Pub. L. No. 75-238, 50 Stat. 551 (1937). Following World War II, the federal government passed increasing amounts of drug control legislation. In 1951, the Humphrey-Durham Drug Prescriptions Act defined the kinds of drugs that could not be safely used without medical supervision and restricted their sale to prescription by a licensed practitioner. Pub. L. 82-215, 65 Stat. 648 (1951). That same year, the Boggs Amendment increased the penalties for drug violations. Pub. L. 82-255, 65 Stat. 767 (1951). Five years later, the Daniels Amendment further revised penalties. Pub. L. No. 84-728, 70 Stat. 567 (1956).

The United States also began working in earnest with the international community to address the perceived ills of drug abuse. In 1961, the United Nations promulgated the Single Convention on Narcotic Drugs, an international treaty which criminalized the manufacture and trafficking of drugs. Single Convention on Narcotic Drugs, http://www.unodc.org/pdf/convention_1961_en.pdf (last visited Jan. 8, 2006). Whereas previous treaties only controlled specific substances (like opium), the Single Convention consolidated those treaties and added cannabis to its list of banned substances. *Id.* at Preamble, Art. 28. The United States' compliance

A. Rationales

What justifies the government's intervention in the war against doping? More specifically, is there a need for government involvement when there are sports organizations to establish and police anti-doping programs?

1. Safety

The government would be justified in getting involved in the war against doping if sports organizations were not adequately protecting athletes' safety. When Juan Samaranch was president of the IOC, for example, there were numerous complaints that he was not serious enough about enforcing the Olympic ban on doping.²¹⁰ Lax rules and enforcement were major themes during the Congressional hearings about steroids in professional sports.²¹¹

with the treaty eventually took the form of the Controlled Substances Act of 1970 (CSA). Pub. L. No. 91-513, 84 Stat. 1242 (codified as amended at 21 U.S.C. § 801-971 (2000)).

Prior to the enactment of the CSA, Congress recognized the growing need to address non-narcotic substances. The Drug Abuse Control Amendments were enacted to deal with problems caused by abuse of stimulants, depressants, and hallucinogens. Pub. L. No. 89-74, 79 Stat. 226 (1965). Enforcement was also being stepped up, with new powers given to the Justice Department. The FDA Bureau of Drug Abuse Control and the Treasury Department Bureau of Narcotics were transferred to the Department of Justice to form the Bureau of Narcotics and Dangerous Drugs, effectively consolidating drug policing. *Milestones in U.S. Food and Drug Law History, supra*. The CSA served to give these new agencies something to consistently enforce. It specifically designated drugs (including opiates, coca, cannabis, stimulants, depressants, and hallucinogens) into five different schedules, regulating access and establishing penalties for misuse. 21 U.S.C. § 812 (2000). The CSA, which is still in force, brought the United States into compliance with the UN treaty and has been widely copied by the states. Amendments have been added to specifically control certain classes of drugs, particularly psychotropics. Pub. L. No. 95-633, 92 Stat. 37-68 (1978) (codified as amended at 21 U.S.C. § 801a (2000)). Since the enactment of the CSA, Congress has acted to increase penalties and deal with designer drugs. Pub. L. 99-570, 100 Stat. 3207 (1986). Congress has also created various offices to address the problems associated with drug abuse, including the Drug Enforcement Administration in 1973, and the Office of National Drug Control Policy in 1988. Drug Enforcement Administration, <http://www.usdoj.gov/jmd/mps/manual/dea.htm> (last visited Jan. 8, 2006) (establishment of DEA); Pub. L. No. 100-690, 102 Stat. 4181 (1988) (establishment of Office of National Drug Control Policy). It has also taken a hard line towards anabolic steroids. Although not originally included in the Controlled Substances Act, anabolic steroids have been subject to increasing regulation with both the Anabolic Steroid Control Act of 1990, Pub. L. No. 101-647, 104 Stat. 4851, and the Anabolic Steroid Control Act of 2004, Pub. L. No. 108-358, 118 Stat. 1661.

210. See, e.g., *Effects of Performance Enhancing Drugs, supra* note 137, at 1 (statement of Sen. John McCain) ("Revelations about the use of performance enhancing drugs have served to both expose the complexity of the challenge of detection and enforcement of drug policies, and the gross shortcomings of the existing United States Olympic Committee and the International Olympic Committee efforts to address the challenge."); *Id.* at 4 (statement of Sen. Ron Wyden) ("[T]he International Olympic Committee has announced and then failed to actually follow through on concrete plans to curb doping. They have talked, yet again, about initiating changes

An interesting question is why sports might not do enough to protect athletes' health. If steroids are in fact dangerous, then it should be an important function of governing bodies to protect athletes from such hazards. Unfortunately, politics has largely prevented the regulation of doping, particularly by the IOC. Juan Samaranch was accused of ignoring doping among Chinese athletes in exchange for a Nobel Peace Prize nomination.²¹² Also, an important factor in professional sports is the collective bargaining power of the athletes themselves. Yet it is curious that players would resist strong doping controls if steroids and other performance-enhancing substances were as dangerous as some make them out to be. One explanation is that the players are concerned primarily with the procedural fairness of the anti-doping system. Despite the introduction of a new anti-doping hierarchy (led by WADA) in 1999,²¹³ athletes are still critical of the testing process, as it

for the 2000 games, but my sense is that nobody should stay up waiting to see these reforms actually put in place.”).

211. See, e.g., *NBA Hearing*, *supra* note 8, at 2.

But we are still left with some questions, given the fact that the NBA's testing program has some “Shaq-sized” holes in it: How do we know for sure there is no steroid problem if testing policies aren't that strong? If there is little or no upside to using steroids in basketball, shouldn't the NBA then have the strongest of all the sports? . . .

. . . What we are trying to understand is a policy that tests all non-rookies just once a year, and not at all during the regular season; trying to understand the policy under which a first steroids offense results in a mere five-game suspension, the equivalent of 6% of the regular NBA season. Compare that to the NFL, where the first offense is punished by a suspension of four games, or 25% of the regular season. This is a difference in the impact on a player's pocketbook, where it probably hurts the most and has the most enforcement.

Id. (statement of Chairman Tom Davis).

We need to know if the policy is adequate in terms of how the tests are done and the punishments and the scope. As Mr. Waxman and I wrote to Major League Baseball and the Players Association yesterday, there are real doubts about this new policy and all that it's cracked up to be. . . .

Over the years, there have been a consistent drip, drip, drip of information about steroids in baseball with not much of a response from Major League Baseball. After all, it was in large part due to congressional pressure that the current policy took shape.

Restoring Faith in America's Pastime, *supra* note 2, at 3 (statement of Chairman Tom Davis).

Like I said before, I think the new policy that suspends players for steroid use is a baby step forward. Personally, I think the penalties are really puny. I would like to see much stronger ones. One-month suspension for a first offense and from what I have read today, that isn't really what happens. A year for a second. And then 1-month suspension for a first offense is what it should be, a year for a second and then the third strike and you are out, out of the game. Football has a much stronger penalty and everyone agrees its program has worked.

Id. at 55 (statement of Sen. Jim Bunning).

212. See Galluzzi, *supra* note 85, at 97–98.

213. World Anti-Doping Agency History, <http://www.wada-ama.org/en/dynamic.ch2?pageCategory.id=253> (last visited Jan. 8, 2006).

frequently does not give them the opportunity to refute doping allegations.²¹⁴ Some have sued to challenge their tests and suspensions, arguing that they were unfairly forced to bear the burden of proof and suspended without hearings.²¹⁵ Another explanation is that players are not convinced that doping is dangerous, or that they are willing to take the risks in return for the rewards of playing better.

The benefits of doping also undoubtedly motivate professional team owners and leagues to resist stringent anti-doping programs. These benefits include greater fan appeal from better playing, especially from more spectacular performance such as hitting more home runs.

Government concern for the safety of players is especially appropriate when the players are not in a position to balance risks and benefits for themselves. One group to which this applies is juveniles. Therefore, it is certainly appropriate for government-run sports organizations—that is, public school and state university sports programs—to ban dangerous doping by minors.²¹⁶

On the other hand, the government is not justified in using the concern about doping in sports as a pretext for extending the war on drugs beyond constitutionally permissible boundaries. In 1991, when James Acton entered the seventh grade at the Washington Grade School in the tiny logging town of Vernonia, Oregon, he decided he wanted to play football.²¹⁷ To his and his parents' surprise, he was told that he had to agree to undergo drug testing.²¹⁸ He would be tested at the beginning of the season, and randomly thereafter, not for steroids and other performance-enhancing drugs, but for marijuana, cocaine, and amphetamines (which, although used for performance enhancement, were targeted by the school primarily because of recreational abuse).²¹⁹ Upon being notified of a test, James would have to produce a specimen at a urinal in the presence of an adult monitor, who would watch and listen for the normal sounds of urination (Girls were allowed to use a closed stall while the monitor listened outside and then checked to see that the sample was at body temperature).²²⁰

214. See, e.g., Longman, *supra* note 104, at D1; *Sprinter Wants Public Dope Hearing*, CBS NEWS, June 16, 2004, www.cbsnews.com/stories/2004/07/31/national/main633257.shtml.

215. See Michael S. Straubel, *Doping Due Process: A Critique of the Doping Control Process in International Sport*, 106 DICK. L. REV. 523 (2002) (discussing the changes implemented in the Sydney Olympics and comparing the new system to the pre-Sydney system). Straubel concludes that while the new system offers better due process protections for athletes, it still fails to offer athletes wide-ranging protection. *Id.* at 570–72.

216. See discussion *supra* Part II.B.3 (detailing child protection rationale for ban on doping).

217. *Vernonia Sch. Dist. v. Acton*, 515 U.S. 646, 651 (1995).

218. *Id.*

219. *Id.* at 649, 650.

220. *Id.* at 650.

James and his parents sued the school district to block the testing program.²²¹ They argued that in previous cases, the United States Supreme Court had made it clear that government entities, including public schools, could not conduct random drug testing.²²² The Ninth Circuit agreed with the parents, but the Supreme Court reversed its decision and held that public schools could randomly test student-athletes.²²³

In its decision, the Supreme Court described the link between illicit drug use and athletes' psychological and physical safety.²²⁴ In the Court's opinion, safety risks were especially great in sports:

Finally, it must not be lost sight of that this program is directed more narrowly to drug use by school athletes, where the risk of immediate physical harm to the drug user or those with whom he is playing his sport is particularly high. Apart from psychological effects, which include impairment of judgment, slow reaction time, and a lessening of the perception of pain, the particular drugs screened by the District's Policy have been demonstrated to pose substantial physical risks to athletes. Amphetamines produce an "artificially induced heart rate increase, [p]eripheral vasoconstriction, [b]lood pressure increase, and [m]asking of the normal fatigue response," making them a "very dangerous drug when used during exercise of any type. . . ." Marijuana causes "[i]rregular blood pressure responses during changes in body position," "[r]eduction in the oxygen-carrying capacity of the blood," and "[i]nhibition of the normal sweating responses resulting in increased body temperature. . . ." Cocaine produces "[v]asoconstriction[,] [e]levated blood pressure," and "possible coronary artery spasms and myocardial infarction."²²⁵

The Court also pointed out that drug use by student athletes could impel other students to use illegal drugs: "It seems to us self-evident that a drug problem largely fueled by the 'role model' effect of athletes' drug use, and of particular danger to athletes, is effectively addressed by making sure that athletes do not use drugs."²²⁶

Justice O'Connor, in a dissent joined by Justices Stevens and Souter, however, was not convinced that the connection between illicit drug use and school athletics was strong enough to pass constitutional muster:

I find unreasonable the school's choice of student athletes as the class to subject to suspicionless testing—a choice that appears to have been driven

221. *Id.* at 651–52.

222. *Vernonia Sch. Dist.*, 515 U.S. at 652; *See Nat'l Treasury Employees Union v. Von Raab*, 489 U.S. 656, 678–79 (1989); *Skinner v. Ry. Labor Executives Ass'n*, 489 U.S. 602 (1989).

223. *Vernonia Sch. Dist.*, 515 U.S. at 651, 664–66.

224. *Id.* at 661.

225. *Id.* at 662 (quoting Jerald Hawkins, *Drugs and Other Ingesta: Effects on Athletic Performance*, in *MANAGING SPORTS AND RISK MANAGEMENT STRATEGIES* 90, 90–94 (Herb Appenzeller ed., 1993)).

226. *Id.* at 663.

more by a belief in what would pass constitutional muster . . . than by a belief in what was required to meet the District's principal disciplinary concern. Reading the full record in this case, as well as the District Court's authoritative summary of it, . . . it seems quite obvious that the true driving force behind the District's adoption of its drug testing program was the need to combat the rise in drug-related disorder and disruption in its classrooms and around campus. I mean no criticism of the strength of that interest. On the contrary, where the record demonstrates the existence of such a problem, that interest seems self-evidently compelling. "Without first establishing discipline and maintaining order, teachers cannot begin to educate their students. . . ." And the record in this case surely demonstrates there was a drug-related discipline problem in Vernonia of "epidemic proportions. . . ." The evidence of a drug-related sports injury problem at Vernonia, by contrast, was considerably weaker.²²⁷

Sure enough, in 2002, the Court abandoned all pretense of linking drug tests to school sports when it upheld suspicionless drug tests for children involved in all extracurricular activities.²²⁸

If it is nevertheless legitimate for the government to seek to protect the health of student athletes on the basis that they are not mature enough to make risk/benefit decisions for themselves, then what about adult athletes? Certainly the government is entitled to maintain a regulatory system for assuring drug safety and efficacy. It is illegal, for example, for someone to manufacture and distribute a drug that has not been shown, to the satisfaction of the Food and Drug Administration, to be safe and efficacious for its intended purpose.²²⁹ Once a drug is approved for one purpose, however, it is lawful to use it for any other purpose.²³⁰ Thus, physicians are allowed to prescribe approved drugs for so-called "off-label" (i.e., unapproved) purposes,²³¹ and non-physicians can use non-prescription drugs as they see fit. The only exception is in the case of substances regulated by the Controlled Substances Act, which limits lawful uses to legitimate medical purposes.²³² As noted earlier, in 1990, Congress placed anabolic steroids on the list of substances controlled under that Act.²³³ At the same time, it enacted the following curious provision in the Federal Food, Drug, and Cosmetic Act:

[W]hoever knowingly distributes, or possesses with intent to distribute, human growth hormone for any use in humans other than the treatment of a disease or

227. *Id.* at 685 (citations omitted).

228. *See* Bd. of Educ. v. Earls, 536 U.S. 822, 825 (2002).

229. *See* 21 U.S.C. § 355(d) (2000).

230. David A. Kessler, *Regulating the Prescribing of Human Drugs for Nonapproved Uses Under the Food, Drug, and Cosmetic Act*, 15 HARV. J. ON LEGIS. 693, 695 (1978).

231. *Id.*

232. 21 C.F.R. § 1306.04(a) (2005) ("A prescription for a controlled substance to be effective must be issued for a legitimate medical purpose by an individual practitioner acting in the usual course of his professional practice.").

233. *See supra* note 209.

other recognized medical condition, *where such use has been authorized by the Secretary of Health and Human Services under section 355 of this title* and pursuant to the order of a physician, is guilty of an offense punishable by not more than 5 years in prison, such fines as are authorized by title 18, or both.²³⁴

This language implies that physicians cannot prescribe HGH for an unapproved purpose, since such a purpose is not “authorized by the Secretary of Health and Human Services under section 355” (i.e., an indication approved in labeling for a new drug). If this interpretation is correct, this provision would constitute an unprecedented intrusion into physicians’ prescribing authority. Unfortunately, this language was added at the end of congressional deliberations over the Crime Control Act of 1990 and there is absolutely no legislative history to explain what Congress intended.²³⁵

As noted earlier, a primary concern raised by doping in sports is the lack of safety data.²³⁶ A major justification for government regulation of drug safety in general is that it is far more efficient for the government to collect, analyze, and disseminate information about drug safety than to expect individuals to do this for themselves.²³⁷ Therefore, the government clearly has an interest in promoting the use of safe and effective performance-enhancing drugs. But as mentioned, many commentators currently consider it unethical to experiment on humans to determine the safety and efficacy of such substances.²³⁸ This view hampers the ability of the government to regulate these substances, and robs athletes of the ability to make informed decisions.

One reason why the government may be concerned about the ability of adult athletes to make risk/benefit decisions for themselves is the pressure they face to excel. This concern is reinforced by a survey that one writer conducted of world-class athletes in which more than half of the nearly 200 competitors interviewed responded that they would take a drug that would enable them to win every competition for five years and then kill them.²³⁹ On top of self-motivation, athletes may face overwhelming pressure from trainers, coaches, teammates, and competitors. For example, Ben Johnson’s coach at the time he

234. 21 U.S.C. § 333(e)(1) (emphasis added).

235. See discussion *supra* note 3 identifying the unexplained change from the proposed language of § 333(e)(1) to its final enacted version. The FDA has issued regulatory warnings to manufacturers and distributors of HGH and HGH-related dietary supplements under § 303(h), but has not taken any action against physicians who prescribe HGH for unapproved uses. See, e.g., Letter from Michael A. Chappell, Department of Human and Health Services, to Tony Sires, Global Internet Alliance (Feb. 18, 2004), http://www.fda.gov/foi/warning_letters/g4543d.htm.

236. See *supra* notes 127–29 and accompanying text.

237. Robert T. O’Neill, *Regulatory Perspectives on Data Monitoring*, 21 STATISTICS MED. 2831, 2831 (2002).

238. See *supra* note 168 and accompanying text.

239. *Do Athletes Really Want Killer Drugs*, SPORTSLETTER (Amateur Athletic Found., L.A., Cal.), Dec. 2003, <http://www.aaflo.org/10ap/SportsLetter14-4/SLhome.html>. Though as the newsletter explains, some critics deride the survey as unscientific. *Id.*

was stripped of his 1988 Olympic gold medal for testing positive for steroids repeatedly stressed that athletes cannot succeed in highly competitive environments without the use of drugs,²⁴⁰ and no doubt he impressed this view on Johnson. Success on the playing field also may be a ticket to higher education and the rewards of professional sports. Athletes from poorer backgrounds may be especially vulnerable.²⁴¹

Yet as discussed earlier, the real risks from performance-enhancing drugs do not seem to be substantially greater than other risks from sports.²⁴² Moreover, there are many costly things that athletes must do as part of their training regimen in order to succeed. They must give up sleep, certain foods, relaxation, recreation, and certain relationships. They must risk their bodily integrity. They must relinquish a considerable amount of their privacy. They must undergo drug testing.

In any event, adults presumably have a choice about whether or not to be athletes. If people do not want to put up with the risks of enhancement drugs, they can refrain from playing sports, just like someone who does not want to risk injury from football simply can avoid going out for the team.

2. Aesthetics

If a major objection to performance-enhancing drugs in sports is based on aesthetics rather than on protecting health or morals, then a serious question arises about the legitimacy of government intervention. While Congress undoubtedly has the constitutional authority under the Commerce Clause to regulate biomedical enhancements that travel in interstate commerce,²⁴³ and while states can exert their police power to control individual behavior, purely aesthetic regulation raises serious questions about the limits of state power.

During the early 20th century, courts generally had a hostile view toward aesthetic regulation. Courts felt that regulations based on aesthetics were too subjective to justify a state's use of the police power and had difficulty accepting the view that aesthetic considerations, as a reflection of beauty,

240. See Randy Starkman, *Can Johnson Come Back?* TORONTO STAR, Jan. 5, 1991, at B1.

241. Athletics scholarships presently are offered for baseball, basketball, crew (rowing), cross-country, fencing, football (American), golf, gymnastics, ice hockey, indoor track, lacrosse, skiing, soccer, softball, swimming and diving, tennis, track and field, volleyball, water polo, women's field hockey, and wrestling. First Point Frequently Asked Questions, <http://www.firstpointusa.com/faqs.php> (last visited Jan. 8, 2006). Scholarships in archery, badminton, bowling, equestrian sports, and squash are available to women only. *Id.* The Supreme Court has made it clear that even the most desperate individuals can be prohibited from using unapproved drugs. See *U.S. v. Rutherford*, 442 U.S. 544, 555–56 (1979) (“For the terminally ill, as for anyone else, a drug is unsafe if its potential for inflicting death or physical injury is not offset by the possibility of therapeutic benefit.”).

242. See text accompanying *supra* note 142–43.

243. The Supreme Court recently confirmed this broad authority in upholding federal controls on medical marijuana. See *Gonzales v. Raich*, 125 S.Ct. 2195, 2209 (2005).

could overcome the difficulty of basing regulations on such a vague and subjective standard.²⁴⁴ An Ohio Supreme Court case contains a frequently cited example of the rationale behind the judicial reluctance to recognize aesthetic regulation as valid:

Certain Legislatures might consider that it was more important to cultivate a taste for jazz than for Beethoven, for posters than for Rembrandt, and for limericks than for Keats. Successive city councils might never agree as to what the public needs from an aesthetic standpoint, and this fact makes the aesthetic standard entirely impractical as a standard for use restriction upon property. The world would be at continual seesaw if aesthetic considerations were permitted to govern the use of the police power.²⁴⁵

Some courts began to uphold regulations with an aesthetic component if they found that the law was plausibly related to the traditional health, safety, or welfare motivations for government intervention. These dual purpose laws were upheld if the non-aesthetic purpose fit within the traditional definition of the police power.²⁴⁶ Courts would often engage in a legal fiction in finding a traditional police power justification for laws that seemed obviously designed to achieve a primarily aesthetic objective. One early case upheld an ordinance banning billboards in certain areas, not on the basis that they were unsightly, but rather on the basis that they provided a hiding place for criminals and a shelter for illegal activities.²⁴⁷

During this period, similar decisions gave the traditional anti-aesthetic rule an increasingly narrow interpretation.²⁴⁸ Judges upheld regulations with a significant aesthetic component as long as the regulation was found to promote the health, safety, or general welfare.²⁴⁹ Judicial opposition to aesthetic regulation focused on laws that were enacted entirely on the basis of aesthetics.²⁵⁰

A major shift in aesthetic jurisprudence came in 1954 with the Supreme Court decision of *Berman v. Parker*.²⁵¹ Although the case involved the government's eminent domain power regarding an urban renewal project in Washington, D.C., the opinion contained in dictum a famous passage

244. Mark Bobrowski, *Scenic Landscape Protection Under the Police Power*, 22 B.C. ENVTL. AFF. L. REV. 697, 703-04 (1995).

245. *City of Youngstown v. Kahn Bros. Bldg. Co.*, 148 N.E. 842, 844 (Ohio 1925).

246. James Charles Smith, *Law, Beauty, and Human Stability: A Rose is a Rose is a Rose*, 78 CAL. L. REV. 787, 789 (1990) (book review).

247. *St. Louis Gunning Advertisement Co. v. City of St. Louis*, 137 S.W. 929, 942 (Mo. 1911).

248. Smith, *supra* note 246, at 789.

249. *Id.*

250. *Id.*

251. 348 U.S. 26 (1954).

indicating that aesthetic considerations are within the purview of the police power:

The concept of the public welfare is broad and inclusive. . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled.²⁵²

This passage is credited with ushering in the modern era of judicial acceptance of regulations based solely on aesthetic considerations.²⁵³ Beginning in the 1960s a number of state courts began to uphold the view that regulations could be based primarily on aesthetic considerations.²⁵⁴ One commentator has noted that “*Berman’s* expansive statements continue as a beacon to every court considering the propriety of aesthetic zoning.”²⁵⁵

One of the earliest and most often cited state court cases to adopt the modern view of aesthetic regulation was *People v. Stover*.²⁵⁶ The case involved a property owner who had erected an unsightly clothesline filled with old rags in his front yard to express his dissatisfaction with increased city taxes.²⁵⁷ The city subsequently enacted an ordinance prohibiting clotheslines in front and side yards.²⁵⁸ The court held that the ordinance was constitutional despite doubts about the city’s proffered motives of traffic and fire safety, stating that

it is our opinion that the ordinance may be sustained as an attempt to preserve the residential appearance of the city and its property values by banning, insofar as practicable, unsightly clotheslines from yards abutting a public street. In other words, the statute, though based on what may be termed aesthetic considerations, proscribes conduct which offends sensibilities and tends to debase the community and reduce real estate values.²⁵⁹

The rule announced in *Stover* began to spread to other jurisdictions, and aesthetic regulations have been most frequently enacted in the context of junkyards, signs or billboards, and architectural review regulations.²⁶⁰

252. *Id.* at 33 (internal citations omitted).

253. Michael Pace, *Aesthetic Regulation: A New General Rule*, 90 W. VA. L. REV. 581, 584 (1987/1988).

254. *Id.*

255. Georgette C. Poindexter, *Light, Air, or Manhattanization?: Communal Aesthetics in Zoning Central City Real Estate Development*, 78 B.U. L. REV. 445, 484 (1998).

256. 191 N.E.2d 272 (N.Y. 1963).

257. *Id.* at 273.

258. *Id.*

259. *Id.* at 274.

260. Pace, *supra* note 253, at 585; Kenneth Regan, *You Can’t Build That Here: The Constitutionality of Aesthetic Zoning and Architectural Review*, 58 FORDHAM L. REV. 1013, 1018 (1990).

Often when a court upholds a regulation based “purely” on aesthetic considerations, another rationale is cited to back up the position. In *Stover*, the court mentioned maintaining property values as a supporting reason for upholding the “purely aesthetic” ordinance prohibiting clotheslines.²⁶¹ A later New York decision upholding a local zoning ordinance prohibiting certain types of billboards declared that its decision did not mean that any aesthetic consideration suffices to justify prohibition and that “[t]he exercise of the police power should not extend to every artistic conformity or non-conformity.”²⁶² Rather, the court felt that state power should be limited to those aesthetic considerations that have a substantial bearing on the “economic, social, and cultural patterns of a community or district.”²⁶³ Several commentators have also noted the frequency with which other justifications are cited in upholding regulations on a “purely aesthetic basis.”²⁶⁴ However, this is not always the case, as some courts have explicitly rejected the idea that aesthetic regulations must be linked to some other purpose in order to be sustained as valid.²⁶⁵

Modern courts are undoubtedly much more inclined to uphold regulations based primarily on aesthetics. Another often-cited opinion describes the trend as follows:

However, there is a growing judicial recognition of the power of a city to impose zoning restrictions which can be justified solely upon the ground that they will tend to prevent or minimize discordant and unsightly surroundings. This change in attitude is a reflection of the refinement of our tastes and the growing appreciation of cultural values in a maturing society. The change may be ascribed more directly to the judicial expansion of the police power to

261. *Stover*, 191 N.E.2d at 274.

262. *Cromwell v. Ferrier*, 225 N.E.2d 749, 755 (N.Y. 1967).

263. *Id.*

264. *See Pace*, *supra* note 253, at 587 (noting that courts frequently take notice of the economic relationship between aesthetics and tourism in upholding regulations based mainly on aesthetics); Katherine Dunn Parsons, *Billboard Regulation After Metromedia and Lucas*, 31 HOUS. L. REV. 1555, 1562 (1995) (noting that many contemporary courts continue to link a regulation’s aesthetic purpose with traditional subjects for exercising police power such as economics); Poindexter, *supra* note 255, at 485 (noting that in *Berman* and the cases following it allowing purely aesthetic regulation, aesthetics do not stand alone in justifying the regulation).

265. *See Taylor v. Town of Plaistow*, 872 A.2d 769, 772 (N.H. 2005) (holding that a municipality may use zoning power solely to advance aesthetic values because preservation or enhancement of visual environment promotes the general welfare); *Westfield Motor Sales Co. v. Town of Westfield*, 324 A.2d 113, 119 (N.J. Super. Ct. Law Div. 1974) (explicitly rejecting plaintiff’s contention that ordinances may not be enacted solely for aesthetic reasons but must be linked to property values in order to be upheld and holding that aesthetics alone are a valid basis for the police power).

include within the concept of “general welfare” the enhancement of the citizen’s cultural life.²⁶⁶

In the 1980s, the Supreme Court had an occasion to revisit the issue of aesthetic regulation in the context of a California ordinance placing restrictions on billboards.²⁶⁷ The Court found the ordinance unconstitutional on First Amendment grounds, but reaffirmed that enhancement of the aesthetic appearance of the city was a legitimate government interest.²⁶⁸ It should be noted, however, that the city also asserted an alternative rationale—the enhancement of traffic safety—in support of the ordinance.²⁶⁹

The modern trend has not enjoyed universal support. A number of jurisdictions continue to hold the view that regulations based on aesthetics alone are invalid.²⁷⁰ Several commentators have offered critiques of regulating based on aesthetics.²⁷¹ Courts also recognize the dangers of subjectivity and imprecision that can occur with regulations motivated by aesthetics. Even the

266. *Oregon City v. Hartke*, 400 P.2d 255, 261 (Or. 1965) (en banc).

267. *Metromedia, Inc. v. City of S.D.*, 453 U.S. 490, 493 (1981).

268. *Id.* at 510, 521.

269. *Id.* at 508–09.

270. See J. F. Ghent, Annotation, *Aesthetic Objections or Considerations as Affecting Validity of Zoning Ordinance*, 21 A.L.R. 3d 1222, 1226–35 (1968) (collecting and discussing cases from jurisdictions holding that ordinances based solely or predominantly on aesthetic considerations are necessarily invalid in the context of zoning).

271. Professor Georgette Poindexter describes aesthetics as a “broad and somewhat indefinable concept to begin with,” complicated by a lack of clear limits to its applicability. Poindexter, *supra* note 255, at 485. She describes how courts have difficulty in finding a clearly stated legitimate purpose to support purely aesthetic zoning because aesthetics are based on the subjective notion of beauty, which in itself is impossible to precisely define. *Id.* She also argues that the notion that furthering aesthetic values alone constitutes a public good has received little support because “any argument for public good based solely on beauty evaporates into a subjective quagmire incapable of definition.” *Id.* at 486. Professor John Costonis also criticizes what he perceives as an unjustified beauty-based rationale for legal aesthetics and argues for substitution of a stability-based rationale centered on promoting individual and social needs for stability in the face of environmental changes. JOHN J. COSTONIS, *ICONS AND ALIENS: LAW, AESTHETICS, AND ENVIRONMENTAL CHANGE* xv (1989). He critiques both the reasoning used by courts when asserting that government may regulate solely for aesthetics and judges’ “clumsy attempts to found legal aesthetics’ public purpose in beauty.” *Id.* at 78. He is dismayed by the conclusory statements of many courts that the promotion of community aesthetics is in the public’s best interest and thus appropriate for regulation. *Id.* Costonis also subscribes to the view that it is impossible to achieve coherent standards in a beauty-based legal aesthetics system because beauty cannot be “confined by standards.” *Id.* at 80. Because modern courts have failed both to provide a legitimate underlying rationale for the legitimacy of aesthetic regulation and to coherently articulate the limits of state power in promoting aesthetic values, Costonis believes that the current state of such regulation cannot stand. Smith, *supra* note 246, at 792. Costonis advocates a stability based rationale because in his opinion, such a system would provide more workable standards on which to base decisions as well as more clearly defined limits to the state’s power. *Id.* at 793.

Supreme Court, while upholding aesthetic considerations as a valid basis for regulation, recognized that aesthetic judgments “are necessarily subjective, defying objective evaluation, and for that reason must be carefully scrutinized to determine if they are only a public rationalization of an impermissible purpose.”²⁷² Another opinion recognized the inherently subjective nature of aesthetics and declared that “courts cannot act as arbiters of proper aesthetics and good taste, and should not enjoin an activity solely because it causes some aesthetic discomfort or annoyance.”²⁷³ Language found in other opinions generally echoes these concerns about imprecision and subjectivity.²⁷⁴ Critics of aesthetic regulation also view it as an unnecessary extension of the police power that has the potential to set a dangerous precedent for government encroachment on individual liberties and property rights and a symbol of over-intrusive government.²⁷⁵

Even if the government has the power to legislate aesthetic values, it is important to consider how appropriate it is to exercise that power to criminalize the use of performance-enhancing drugs in sports. On the one hand, there are those who say that the government has a legitimate role in furthering community values.²⁷⁶ Communitarians espouse the idea that “it is entirely proper for the state to promote particular conceptions of the good.”²⁷⁷ On the other hand, others maintain that the government should interfere as little as possible with individual freedom.²⁷⁸ Consistent with this latter view, the government should be reluctant to attempt to control personal aesthetics—that is, the aesthetic component of personal behavior or appearance.²⁷⁹

272. *Metromedia*, 453 U.S. at 510.

273. *Saurer v. Bd. of Zoning Appeals*, 629 N.E.2d 893, 898 (Ind. Ct. App. 1994).

274. *See Damurjian v. Bd. of Adjustment*, 690 A.2d 655, 660 (N.J. Super. Ct. App. Div. 1997) (recognizing that while aesthetics are a legitimate aim of zoning, accomplishing it through clearly defined limits is difficult because the concept of aesthetics is abstract and subjective, leading to difficulty with legislative attempts to quantify it and establish standards); *Globe Newspaper Co. v. Beacon Hill Architectural Comm’n*, 100 F.3d 175, 196 (1st Cir. 1996) (distinguishing aesthetic-based regulations from public safety regulations on ground that aesthetic regulations often stem from subjective assessments not easily amenable to objective measurement or empirical refutation).

275. Regan, *supra* note 260, at 1027–28.

276. MICHAEL J. SANDEL, *LIBERALISM AND ITS CRITICS* 6–7 (1984).

277. Carlos A. Ball, *Communitarianism and Gay Rights*, 85 CORNELL L. REV. 443, 445 (2000).

278. *See* SANDEL, *supra* note 276, at 1, 6–7.

279. Obviously the First Amendment severely limits the government’s ability to control the aesthetics of speech or artistic expression. However, it would be difficult to regard the use of performance-enhancing drugs in sports as protected by the First Amendment. For example, witness the debate over the ritual use of peyote (a hallucinogenic drug) in Native American religious ceremonies. If the Supreme Court is unwilling to allow the use of illegal drugs in conjunction with the exercise of religion, it seems particularly unlikely that they would sanction

Reconciling liberalism and communitarianism is beyond the scope of this Article. However, it seems reasonable that, given the importance of the nation's liberal tradition and the danger of excessive state power, the government should not regulate the aesthetics of sports except under the most egregious circumstances. An example might be creating a visibly chimerical human athlete—that is, an athlete who had been genetically engineered to combine the physical features of human and animal.²⁸⁰ Short of such extreme cases, the government would be wise to leave the regulation of adult doping to sports organizations themselves.

IV. CONCLUSION

Whatever one may think of the use of performance-enhancing drugs in sports and of the proper role of government in effectuating anti-doping policy, it is important to distinguish between performance-enhancement in sports and in non-sports endeavors. Outside of sports (as well as games, and perhaps some arts), human accomplishments are valued primarily for the social benefits they confer, rather than for the way in which they are achieved. A composer who completes a masterpiece in a few minutes or with little formal training produces music that is just as beautiful as if it took years of training and labor. A researcher who discovers a cure for cancer by accident is just as likely to win a Nobel Prize as one who engages in meticulous experimentation. The only qualification is that the result must not be stolen from someone else's work.

It therefore is important that the antipathy toward performance-enhancement in sports, if it persists, does not carry over into other realms of human activity. Performance-enhancement could yield significant benefits to society. For instance, drugs being developed to treat Alzheimer's disease have been shown to improve cognitive performance in healthy volunteers.²⁸¹ Better cognition could improve workplace and scholarly productivity, increase transportation safety, and accelerate scientific progress. If the notion that performance-enhancement is evil propels the government to ban enhancement-uses of these drugs, this societal benefit would be lost.

A glimpse of this attitude can be seen in Congress's recent hostility toward funding access to Viagra under Medicare and Medicaid.²⁸² True, it may be

violations of controlled substance regulations in the name of improved athletic performance. *See* *Employment Div. v. Smith*, 494 U.S. 872, 890 (1990).

280. An example is provided by the cover illustration of ANDY MIAH, *GENETICALLY MODIFIED ATHLETES: BIOMEDICAL ETHICS, GENE DOPING AND SPORT* (2004) ("Cheetah-man," by Daniel Lee, 1999).

281. *See* J. A. Yesavage et al., *Donepezil and Flight Simulator Performance: Effects on Retention of Complex Skills*, 59 *NEUROLOGY* 123, 123–24 (2002).

282. Sheryl Gay Stolberg, *House Rejects Coverage of Impotence Pills*, *N.Y. TIMES*, June 25, 2005, at A10.

harder to argue that enhancing sexual performance confers societal benefit, in contrast, say, to enhancing cognition. But if Congress's attitude toward Viagra is the shape of things to come, then society will lose countless benefits merely to satisfy the tastes, and cater to the fears, of some of its members.

APPENDIX A:
STATE STEROID REGULATION AND SCHEDULING

STATE	SCHEDULE	CITATION	OTHER SPECIAL LAWS AND INFORMATION
Alabama	III	ALA. STATE BD. OF HEALTH RULES CH. 420-7-2	Alabama State Board of Health may add, delete, or reschedule all controlled substances. ALA. CODE § 20-2-20 (2004). The State Board of Health's scheduling of controlled substances may be found at Ch. 420-7-2 of its Rules, available at http://www.adph.org/administration/controlled.pdf .
Alaska	N/A		
Arizona	III	ARIZ. REV. STAT. § 36-2514 (2004)	Medical professionals can lose their licenses for misdispensing steroids. ARIZ. REV. STAT. ANN. § 32-1451 (2004).
Arkansas	III	Arkansas Controlled Substance List	The Arkansas Controlled Substance List is available at http://www.sosweb.state.ar.us/elections/elections_pdfs/register/sept-03-reg/007.07.03-001.pdf .
California	III	CAL. HEALTH & SAFETY CODE § 11056 (2003)	Illegal to advertise steroids (BUS. & PROF. CODE § 17533.10); warnings must be posted in athletic facilities (CIVIL CODE § 1812.97); education for students (EDUC. CODE § 51261); teacher training (EDUC. CODE § 51262); supplements with precursors must have warning labels (HEALTH & SAFETY CODE § 110423); misdemeanor to sell precursors to minors (HEALTH & SAFETY CODE § 11100).
Colorado	III	COLO. REV. STAT. §	Medical professionals can lose their

		18-18-205 (2005)	licenses for misdispensing steroids. COLO. REV. STAT. § 12-36-116 (2005). Prescriptions for steroids must include the reason for the prescription. <i>Id.</i> § 12-22-123.
Connecticut	III	CONN. GEN. STAT. § 21a-243 (2004)	
District of Columbia	III	D.C. CODE § 48-902.08 (2001)	
Delaware	III	DEL. CODE ANN. tit. 16, § 4718 (2005)	
Florida	III	FLA. STAT. § 893.03 (2003)	
Georgia	III	GA. CODE ANN. § 16-13-27 (2003)	
Hawaii	III	HAW. REV. STAT. § 329-18 (2004)	
Idaho	III	IDAHO CODE ANN. § 37-2709 (2000)	
Illinois	III	720 ILL. COMP. STAT. 570/208 (2000)	Education programs (20 ILL. COMP. STAT. 301/20-15 (2004)); steroid offenses deserve harshest penalties (720 ILL. COMP. STAT. 570/411 (2002)); prescription controls (720 ILL. COMP. STAT. 570/308-12).
Indiana	III	IND. CODE § 35-48-2-8 (2001)	
Iowa	III	IOWA CODE § 124.208 (2003)	
Kansas	III	KAN. STAT. ANN. § 65-4109 (2002)	Medical professionals can lose their licenses for misdispensing steroids. KAN. STAT. ANN. § 65-2836 (2002).
Kentucky	III	KY. REV. STAT. ANN. § 218A.090 (2005)	
Louisiana	III	LA. REV. STAT. ANN. § 40:964 (2004)	Specifically criminalizes anabolic steroids. LA. REV. STAT. ANN. § 40:968 (2001).
Maine	N/A		
Maryland	III	MD. CODE ANN., CRIM. LAW § 5-404 (2002)	Notices must be posted in athletic facilities. MD. CODE ANN., CRIM. LAW § 5-710 (2002).

Massachusetts	III	MASS. GEN. LAWS ch. 94C, § 2 (1997)	
Michigan	N/A		Notices detailing penalties must be posted in athletic facilities. MICH. COMP. LAWS § 333.26302 (2001). Trafficking in anabolic steroids can be prosecuted under racketeering statutes. <i>Id.</i> § 750.159g.
Minnesota	III	MINN. STAT. § 152.02 (2005)	
Mississippi	III	MISS. CODE ANN. § 41-29-117 (2001)	
Missouri	III	MO. REV. STAT. § 195.017 (2005)	
Montana	III	MONT. CODE ANN. § 50-32-226 (1997)	
Nebraska	III	NEB. REV. STAT. § 28-405 (2005)	Students at state schools can be barred from extra-curriculars for steroid use. NEB. REV. STAT. § 79-296 (2003). State employees can be fired for steroid convictions and not rehired for a year thereafter. <i>Id.</i> § 48-233.
Nevada	III	NEV. REV. STAT. § 453.011 (1999)	
New Hampshire	III	N.H. REV. STAT. ANN. § 318-B:1 (2001)	
New Jersey	N/A		Education programs for K-12 (N.J. STAT. ANN. § 18A:40A-3 (1999)); students can get in trouble for steroid use (<i>Id.</i> § 18A:40A-23); teachers can receive training about steroids (<i>Id.</i> § 18A:40A-3).
New Mexico	III	N.M. STAT. § 30-31- 5 (2005)	A full table of controlled substances is available at http://www.state.nm.us/pharmacy/controlledsubstances.html .
New York	II	N.Y. PUB. HEALTH LAW § 3306 (2003)	
North Carolina	III	N.C. GEN. STAT. § 90-91 (2001)	

North Dakota	III	N.D. CENT. CODE § 19-03.1-09 (2003)	
Ohio	III	OHIO REV. CODE ANN. § 3719.41 (2005)	Public grade schools (6-12), public universities, and private athletic facilities must post notices. OHIO REV. CODE ANN. §§ 3313.752, 3345.41, 3705.50 (2005). Professionals can lose their licenses for drug (including steroid) offenses. <i>Id.</i> § 2925.38. Prescriptions can only be written in accordance with Federal Food, Drug, & Cosmetic Act. <i>Id.</i> § 3719.06
Oklahoma	III	OKLA. STAT. tit. 63, § 2-208 (2004)	Prescriptions can only be written for valid medical purposes. OKLA. STAT. tit. 63, § 2-312.1 (2004).
Oregon	N/A		
Pennsylvania	III	35 PA. CONS. STAT. § 780-104 (2005)	Students must be educated about steroids and can get in trouble at schools for using; schools must ban steroids. 35 PA. STAT. ANN. §§ 807.1-3 (2003). Prescriptions must include a valid reason and professionals can lose their license for writing a prescription for enhancement. <i>Id.</i> §§ 807.4-5.
Rhode Island	III	R.I. GEN. LAWS § 21-28-2.08 (2002)	Coaches must warn students about steroids. R.I. GEN. LAWS § 16-11.1-2 (2001).
South Carolina	N/A		Non-medical personnel cannot distribute steroids. S.C. CODE ANN. § 44-53-1530 (2000). Professionals can lose their license for misprescribing. <i>Id.</i> § 44-53-1520.
South Dakota	III	S.D. CODIFIED LAWS § 34-20B-22 (2000)	
Tennessee	III	TENN. CODE ANN. § 39-17-410 (2000)	Physicians cannot prescribe for enhancement. TENN. CODE ANN. § 39-17-430 (2003).
Texas	III	TEX. HEALTH & SAFETY CODE ANN. § 481.104 (2003)	No prescriptions for enhancement. TEX. HEALTH & SAFETY CODE ANN. § 481.071 (2003). Grade schools

			and universities must post warnings. TEX. EDUC. CODE ANN. §§ 38.008, 51.921 (1996).
Utah	III	UTAH CODE ANN. § 58-37-4 (2003)	Physicians can lose their licenses for enhancement prescriptions. UTAH CODE ANN. § 58-37-6 (2003).
Vermont	N/A		
Virginia	III	VA. CODE ANN. § 54.1-3450 (2005)	Students are ineligible for interscholastic sports if they use steroids. VA. CODE ANN. § 22.1-276.3 (2003). School employees can be fired for dispensing steroids. <i>Id.</i> § 22.1-292.2. Reporting requirements exist for students suspected of using steroids. <i>Id.</i> § 22.1-279.3:1. Bans exist on caffeine pills and ephedra. <i>Id.</i> § 18.2-248.5.
Washington	III	WASH. REV. CODE § 69.50.208 (2005)	
West Virginia	III	W. VA. CODE § 60A-2-208 (2002)	
Wisconsin	III	WIS. STAT. § 961.18 (2005)	
Wyoming	III	WYO. STAT. ANN. § 35-7-1017 (2005)	

APPENDIX B:
STATE STEROID LAW CITATIONS

STATE	CITATION	SUBJECT MATTER
Alabama	ALA. CODE §§ 13A-12-210–219 (2005)	Drug Possession and Sale Offenses
	ALA. CODE §§ 20-2-20–32 (2005)	Standards and Schedules
Alaska	<i>Nothing found</i>	<i>Controlled by federal law</i>
Arizona	ARIZ. REV. STAT. §§ 13-3401–3422 (2004)	Drug Offenses
	ARIZ. REV. STAT. § 32-1422 (2004)	Licensing Doctors
	ARIZ. REV. STAT. § 32-1522 (2004)	Licensing Naturopathic Physicians
	ARIZ. REV. STAT. § 32-1822 (2004)	Licensing Osteopathic Physicians
	ARIZ. REV. STAT. § 32-2521 (2004)	Licensing Physician Assistants
	ARIZ. REV. STAT. § 32-2912 (2004)	Licensing Homeopathic Physicians

	ARIZ. REV. STAT. §§ 36-2511–2516 (2004)	Schedules
	ARIZ. REV. STAT. § 36-2531 (2004)	Offenses and Penalties
	ARIZ. REV. STAT. §§ 36-2541–2544 (2004)	Enforcement and Administration
Arkansas	ARK. CODE ANN. §§ 5-64-101–1303 (2005)	Uniform Controlled Substances Act
California	CAL. BUS. & PROF. CODE § 17533.10 (2005)	Unlawful To Advertise Anabolic Steroids
	CAL. CIV. CODE § 1812.97 (2005)	Warnings Must Be Posted in Athletic Facilities
	CAL. EDUC. CODE § 44645 (2005)	Teachers To Receive Training About Anabolics
	CAL. EDUC. CODE § 51262 (2005)	Education About Steroids: Grades 7–12
	CAL. HEALTH & SAFETY CODE §§ 11053–11058 (2005)	Controlled Substances Act, Schedules
	CAL. HEALTH & SAFETY CODE § 11377 (2005)	Simple Possession Is a Misdemeanor
	CAL. HEALTH & SAFETY CODE § 11999.2 (2005)	Teaching Materials Cannot Promote Use of Anabolics
	CAL. HEALTH & SAFETY CODE §§ 110423–110423.6 (2005)	Supplements with Precursors Must Have Warning Labels
Colorado	COLO. REV. STAT. §§ 18-18-101–605 (2004)	Uniform Controlled Substances Act
	COLO. REV. STAT. § 12-22-123 (2005)	Prescriptions for Anabolic Steroids Must Include Reason for Prescription
	COLO. REV. STAT. § 12-36-117 (2004)	Licensing Doctors
	COLO. REV. STAT. § 12-38-117 (2004)	Licensing Nurses
Connecticut	CONN. GEN. STAT. §§ 21a-240–315 (2005)	Dependency Producing Drugs
Delaware	DEL. CODE ANN. tit. 16, §§ 4701–4796 (2005)	Uniform Controlled Substances Act
D.C.	D.C. CODE §§ 48-901.01–907.03 (2005)	Controlled Substances Act
Florida	FLA. STAT. §§ 893.01–.20 (2005)	Drug Abuse Prevention and Control
Georgia	GA. CODE ANN. §§ 16-13-20–56 (2004)	Regulation of Controlled Substances

Hawaii	HAW. REV. STAT. §§ 329-1-128 (2004)	Uniform Controlled Substances Act
Idaho	IDAHO CODE ANN. §§ 37-2701-2751 (2005)	Uniform Controlled Substances Act
Illinois	20 ILL. COMP. STAT. 301/20-15 (2005) 105 ILL. COMP. STAT. 5/27-23.3 (2006) 410 ILL. COMP. STAT. 620/3.22 (2005) 720 ILL. COMP. STAT. 570/100-603 (2005)	Department of Human Services Can Create Education Programs About Steroids Education About Steroids: Grades 7-12 Criminalizes Non-medical Distribution of HGH Illinois Controlled Substances Act
Indiana	IND. CODE § 16-18-2-15 (2004) IND. CODE §§ 16-42-19-1-28 (2004) IND. CODE §§ 35-48-2-1-7-15 (2004)	Defines steroids Indiana Legend Drug Act Controlled Substances
Iowa	IOWA CODE §§ 124.101-.602 (2004) IOWA CODE §§ 126.1-.26 (2004)	Controlled Substances Drugs, Devices, and Cosmetics
Kansas	KAN. STAT. ANN. § 65-2837 (2005) KAN. STAT. ANN. §§ 65-4101-4143 (2005)	Steroids Without a Prescription Constitutes Unprofessional Conduct Controlled Substances Act
Kentucky	KY. REV. STAT. ANN. §§ 218A.010-994 (2004)	Controlled Substances
Louisiana	LA. REV. STAT. ANN. §§ 40:961-1003 (2005) LA. REV. STAT. ANN. § 40:1239 (2005)	Uniform Controlled Dangerous Substances Law Anabolic Steroids
Maine	ME. REV. STAT. ANN. tit. 17-A, §§ 1101-1118 (2005)	Drugs
Maryland	MD. CODE ANN. CRIM. LAW §§ 5-101-1101 (2004)	Controlled Dangerous Substances, Prescriptions, and Other Substances
Massachusetts	MASS. GEN. LAWS ch. 94C, §§ 1-48 (2005)	Controlled Substances Act
Michigan	MICH. COMP. LAWS §§ 333.7101-.7545 (2005) MICH. COMP. LAWS §§ 333.26301-26306 (2005)	Controlled Substances Steroid Warnings at Athletic Facilities

	MICH. COMP. LAWS § 750.159g (2004) MICH. COMP. LAWS § 750.411j (2004)	Trafficking in Steroids Can Be Charged Under Racketeering Statutes In Terms of Penalties, Steroid Offenses are Grouped with Controlled Substances
Minnesota	MINN. STAT. §§ 152.01–21 (2004)	Drugs, Controlled Substances
Mississippi	MISS. CODE ANN. §§ 41-29-101–187 (2005)	Uniform Controlled Substances Law
Missouri	MO. REV. STAT. §§ 195.003–.515 (2005)	Drug Regulation
Montana	MONT. CODE ANN. § 45-9-102 (2005) MONT. CODE ANN. §§ 50-32-101–502 (2005)	Criminal Possession of Dangerous Drugs Controlled Substances
Nebraska	NEB. REV. STAT. §§ 28-401–457 (2004) NEB. REV. STAT. § 48-233 (2005) NEB. REV. STAT. § 79-296 (2005)	Crimes and Punishments: Drugs and Narcotics State Employees Who Take Steroids Students Taking Steroids Can Be Barred from Extracurriculars
Nevada	NEV. REV. STAT. §§ 453.011–348 (2004)	Uniform Controlled Substances Act
New Hampshire	N.H. REV. STAT. ANN. §§ 318-B:1–30 (2004)	Controlled Drug Act
New Jersey	N.J. STAT. ANN. §§ 18A:40A-1–7.2 (2005) N.J. ADMIN. CODE §§ 8:65-10.1–.5 (2005)	Education and Substance Abuse Scheduling
New Mexico	N.M. STAT. §§ 30-31-1–41 (2005)	Controlled Substances
New York	N.Y. PUB. HEALTH LAW § 3306 (2005)	Controlled Substances Act, Scheduling
North Carolina	N.C. GEN. STAT. §§ 90-87–113.8 (2005)	North Carolina Controlled Substances Act
North Dakota	N.D. CENT. CODE §§ 19-03.1-01–46 (2005)	Uniform Controlled Substances Act
Ohio	OHIO REV. CODE ANN. §§ 2925.01–.52 (2005) OHIO REV. CODE ANN. § 3313.752 (2005) OHIO REV. CODE ANN. § 3345.41 (2005)	Drug Offenses Public Schools Must Post Warnings in Locker Rooms for Grades 6–12 State Universities Must Post Warnings in Locker Rooms

	OHIO REV. CODE ANN. § 3707.50 (2005) OHIO REV. CODE ANN. §§ 3719.01-.99 (2005)	Public and Private Athletic Facilities Must Post Warnings Controlled Substances
Oklahoma	OKLA. STAT. tit. 63, §§ 2-101-610 (2004)	Uniform Controlled Dangerous Substances Act
Oregon	OR. REV. STAT §§ 475.005-.295 (2003)	Uniform Controlled Substances Act
Pennsylvania	35 PA. STAT. ANN. §§ 780-101-144 (2005) 35 PA. STAT. ANN. §§ 807.1-.2 (2005)	The Controlled Substance, Drug, Device and Cosmetic Act Steroids in Schools
Rhode Island	R.I. GEN. LAWS § 16-11.1-2 (2004) R.I. GEN. LAWS §§ 21-28-1.01-6.01 (2004)	Coaches Must Deliver Preseason Lectures About Steroids Uniform Controlled Substances Act
South Carolina	S.C. CODE ANN. § 16-1-90 (2005) S.C. CODE ANN. §§ 44-53-1510-1550 (2004)	Crimes Classified as Felonies Poisons, Drugs, and Other Controlled Substances: Anabolic Steroids
South Dakota	S.D. CODIFIED LAWS §§ 34-20B-1-114 (2004)	Drugs and Substances Control
Tennessee	TENN. CODE ANN. §§ 39-17-401-451 (2004)	Drugs
Texas	TEX. EDUC. CODE ANN. § 38.008 (2005) TEX. EDUC. CODE ANN. § 51.921 (2005) TEX. HEALTH & SAFETY CODE ANN. §§ 481.001-.205 (2005)	Schools Must Post Warnings About Steroids Public Colleges and Universities Must Post Warnings Texas Controlled Substances Act
Utah	UTAH CODE ANN. §§ 58-37-1-21 (2005)	Utah Controlled Substances Act
Vermont	<i>Nothing found</i>	<i>Controlled by federal law</i>
Virginia	VA. CODE ANN. §§ 18.2-247-265 (2005) VA. CODE ANN. § 22.1-277.08 (2005) VA. CODE ANN. §§ 54.1-3400-3472 (2005)	Crimes Involving Health and Safety: Drugs Drugs in Schools Drug Control Act
Washington	WASH. REV. CODE §§ 69.41.300-.900 (2005)	Use of Steroids

	WASH. REV. CODE §§ 69.41.010–.900 (2005) WASH. REV. CODE §§ 69.50.101–.609 (2005)	Legend Drugs: Prescription Drugs Uniform Controlled Substances Act
West Virginia	W.VA. CODE §§ 60A-1-101–10-15 (2005)	Uniform Controlled Substances Act
Wisconsin	WIS. STAT. §§ 961.001–.67 (2004)	Uniform Controlled Substances Act
Wyoming	WYO. STAT. ANN. §§ 35-7-1001–1060 (2005)	Controlled Substances

