Performance-Enhancing Drugs: Where Should the Line be Drawn and by Whom?

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ABSTRACT

The integrity of sport is predicated on the assumption that all athletes compete on a level playing field. Unfortunately, the use and abuse of performance-enhancing drugs has become ubiquitous, creating complex challenges for the governing bodies of individual sports. This article examines the complexity of these issues within the world of professional golf, major league baseball, and Olympic competition. Integral concepts like, "What is a therapeutic exemption?" and "When does restorative function end and performance enhancement begin?" are discussed in detail.

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INTRODUCTION

When it comes to the world of sports, we now live in the age of doping. Baseball historians will contemplate describing the current time as the "steroid era." Baseball's greatest pitchers and hitters are now portrayed as villains.[1] The sport of professional cycling has been decimated by doping scandals; Tyler Hamilton tested positive after winning the Olympic gold medal in 2004 in Athens, and Floyd Landis was stripped of his 2006 Tour de France title. Olympic track and field star Marian Jones was not only stripped of her Olympic medals, but was sentenced to six months in prison for perjury concerning her admitted use of performance-enhancing drugs.

This year in the professional sport of golf, which has always been characterized by integrity and honesty, the governing body, or PGA Tour, has implemented its own doping policy. As a sports psychiatrist

who works with PGA players while on tour and is familiar with this issue, I find it noteworthy that in early June, 2007, Dick Pound, former president of the World Anti-Doping Agency (WADA) stated in an article that the PGA Tour Commissioner, Tim Finchem, told him that there is no drug problem in golf.[2] Mr. Finchem correctly reversed his opinion several weeks later.[3] Now for the first time I am hearing the PGA Tour golfers complain, "Have things gone overboard with drug testing?" The reality is that performance-enhancement drugs can insidiously infiltrate the sport of golf and have the serious potential to threaten the integrity of almost all professional sports.

ENHANCING PERFORMANCE OR RESTORING NORMATIVE FUNCTION?

Most of the issues involving the definition of performance-enhancing drugs in the past have been relatively clear cut. However, with the continuing advancement of medicine and particularly the application of psychotropic medicines, the sports psychiatrist will need to become an integral player in this complex social, moral, and medical drama. Psychiatrists who work with professional athletes will be faced with unique challenges that must be identified, acknowledged, and acted upon in agreement within the sport to ensure the integrity of the profession.

The stated mission of the United States Association of Drug Agencies (USADA), the official antidoping agency for America's Olympic athletes, is to preserve "the wellbeing of Olympic sport, the integrity of competition, and the ensuring health of athletes."[4] A primary example that has often required the policing of USADA is use of erythropoietin (EPO), which provides performance enhancement in endurance sports like cycling.[5] This protein is produced by the kidneys and accelerates erythrocyte production, thereby increasing the oxygen-carrying capacity of an individual's blood. The use of EPO clearly violates the USADA objective of preventing an unfair advantage to fellow competitors.

The World Anti-Doping Agency (WADA) was organized under the 1999 initiative from the International Olympic Committee (IOC) and defines the term *therapeutic exemption* as the use of a drug for restoration of normal health.[6] But one of the central problems in defining a therapeutic exemption lies in understanding the evolving power of medical science. Medicine historically has focused on restoring normative health for those with pathologic conditions. As medical science advances, however, the focus of treatment transcends the long-standing goal of normalizing pathologic conditions and extends into the concept of wellness and helping individuals feel better than they have ever felt. The emerging questions are the following: (i) "What does the restoration of normal function mean?" (ii) "Who should define its characteristics?" Perhaps the most important question stated from a medical therapeutic perspective is, "Where does restoration of normative function end and the beginning of performance enhancement start?"

Further complicating these critical issues are the subtle ways in which performance-enhancement drugs are sport specific. For example, in sports like golf, archery, or pistol shooting, where a steady hand is critical, beta blockers provide a performance-enhancing function that combats the normal physiologic tremor that is exacerbated in high-pressure situations.[7] Conversely, in an endurance sport like cycling or long-distance running, beta blockers adversely affect performance[8] and would not necessarily be prohibited. An interesting recent doping violation comes from the Canadian snowboarder Ross Rebagliati, who had to return his Olympic Gold medal due to testing positive for marijuana, only to have it later returned for a variety of reasons. This situation raises the unexpected question of whether marijuana is a performance-enhancing drug. Another interesting question to consider is whether athletes with adult attention deficit hyperactivity disorder (ADHD) are better athletes when treated with stimulants? It has been reported[9] that some athletes actually perform better when their ADHD symptoms are not treated with medication. For example, a basketball point guard who has symptomatic ADHD may actually be more spontaneous or unpredictable for the opponent. In contrast, the center player with ADHD who has difficulty disciplining him- or herself to stay near the basket may find that he or she is often out of position unless his or her ADHD symptoms are treated with medication.[9]

Although no well-controlled scientific studies conclusively support claims that stimulants provide ballplayers with an unfair performance-enhancement advantage, these chemicals have long been thought to do so because of their physiologic and psychoactive properties. The question then arises, "If an individual truly has adult ADHD, is the use of stimulants actually providing a performance-enhancement edge or simply providing a restorative function?"

The most controversial current policy issue has occurred in baseball, where stimulant abuse has plagued the sport for decades.[10] Although no well-controlled scientific studies conclusively support claims that stimulants provide ballplayers with an unfair performance-enhancement advantage, these chemicals have long been thought to do so because of their physiologic and psychoactive

properties. The question then arises, "If an individual truly has adult ADHD, is the use of stimulants actually providing a performance-enhancement edge or simply providing a restorative function?" Furthermore, if the governing bodies deny athletes effective and standard treatment for psychiatric disorders, are they discriminating against the mentally ill? In this context it is not surprising that Major League Baseball (MLB) in 2007 gave out 103 therapeutic exemptions for the use of stimulants for ballplayers with ADHD. This figure is disconcerting when juxtaposed with the 26 therapeutic exemptions given just one year earlier in 2006. It is also no surprise that this dramatic increase temporally coincided with the Mitchell investigation. George Mitchell was a former United States senator, who was appointed by the commissioner of Major Leagues Baseball to conduct a 20-month inquiry of performance-enhancing drugs. This high-profile investigation resulted in a 409-page report[11] that not only made recommendations but also identified a number of high-profile baseball players who admitted illegal drug use. The subsequent media attention has certainly made athletes more careful when using performance-enhancing drugs and seeking therapeutic exceptions. The dramatic increase in asking for a therapeutic exemption suggests that some baseball players may be looking for a loop hole to continue stimulant abuse by seeking them through fictitious therapeutic exemptions, whereas in the past they would take the drugs covertly. If so, are these violations being addressed by physicians with expertise in diagnosing ADHD and whose allegiance is to maintain baseball's integrity? Although sport psychiatrists are now finally being consulted, it is disconcerting that they do not sit on any major sports medical advisory boards. For example, the drug policy of the MLB is administered by a pediatrician. The USADA has a 12-member board that consists of three physicians, a gynecologist, orthopedist, and urologist. The time has come for these agencies to develop a published, standardized policy that clearly and fairly defines which athletes meet criteria for psychiatric disorders and what drugs provide psychoactive properties that enhance performance.

Another reason to involve psychiatric consultation in professional sports stems from recent reports that antidepressant drugs have been implicated as performance-enhancement agents. It is now well known that the selective serotonin reuptake inhibitors (SSRIs) are recognized as first-line treatment for anxiety disorders and their various subtypes.[12] Additionally, a selective serotonin-norepinephrine re-uptake inhibitor (SNRI), such as venflaxine, also has received approval for generalized anxiety disorders. Although this situation may sound counterintuitive or even absurd, consider the hypothetical example of a professional athlete who is anxious by nature but does not meet DSM criteria for an anxiety disorder. If this athlete is regularly competing on a public stage, he is likely to experience more anxiety than if working daily at a desk job. The more patients are symptomatic, the more aggressively physicians treat them. Are these athletes being given an unfair advantage if they can biologically increase their capacity to calmly compete in high-stress competition, even if the medication used is permitted? If so, who is ethically responsible to define this subtle issue and enforce fair policy? It seems that the burden falls less on the athlete, who is likely to be naïve to these implications, and more on the clinical experts who create policy with each sport's governing body.

Another developing concern is the use of antidepressants for treating what is commonly termed *over-training syndrome*. Overtraining refers to a negative response to training stress and is often due to chronically high training levels without periods of lower training loads.[12] Overtraining also can lead to fatigue and depression.[13] It has been hypothesized that overtraining syndrome may involve disregulation of brain serotonin and neuroendocrine function.[15,16] Treatment logically dictates that SSRIs and SNRIs should be effective, and these have anecdotally been reported to help athletes with this common problem.[17] Moreover, the use of SNRIs for various pain conditions makes one consider if this class of drug can benefit endurance athletes who inherently cope with tremendous pain during training and competition. The question should be asked if the use of an antidepressant in these situations is fair.

CONCLUSION

Physicians involved in professional sport need to fully understand the complexity of performance-enhancing drugs and where we draw the line. To do so, not only must the physiologic and psychotropic properties of each drug be considered, but also the individual characteristics of each sport and, more important, the individual biology of each athlete. A medical system for athletes that ensures a fair and accepted standard for all individuals in a given sport needs to be established. In a world of advancing neuroscience and concomitant psychotropic drug development, the psychiatrist must become an advocate for the appropriate uses of psychoactive medicines. The issues involved are complex and potentially have far reaching cultural effects in how psychotropic medicines are perceived by the public. Unfortunately, the majority of prescriptions given for psychotropic drugs are not given by psychiatrists and probably the world of sport is no exception.[18,19] If the integrity of the practice of medicine and professional sport are to be maintained, all involved must be more informed and directly involved in the decision making about medication efficacy and appropriateness. To address the issue of where the line is drawn and who draws it, the world of sports is

unknowingly calling for physicians who possess expertise in psychopharmacology, psychiatry, and athletics. It is time that the burgeoning field of sport psychiatry answers the call.[20]

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