Chapter V
The Ethics of Human Enhancement in Sport

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ABSTRACT
This chapter outlines a technoethics for sport by addressing the relationship between sport ethics and bioethics. The purpose of this chapter is to establish the conditions in which a technoethics of sport should be approached, taking into account the varieties and forms of technology in sport. It also provides an historical overview to ethics and policy making on sport technologies and contextualises the development of this work within the broader medical ethical sphere. It undertakes a conceptualisation of sport technology by drawing from the World Anti-Doping Code, which specifies three conditions that determine whether any given technology is considered to be a form of doping. In so doing, it scrutinizes the 'spirit of sport', the central mechanism within sport policy that articulates a technoethics of sport. The chapter discusses a range of sport technology examples, focusing on recent cases of hypoxic training and gene doping.

INTRODUCTION
If one examines the history of modern sport, the importance attributed to discussions about the ethics of technological development is unclear. This is surprising since, via the technology of performance enhancement, ethical discussions about sport technologies are among the most visible of topics politically and culturally. Instead, there is evidence of a struggle to implement a specific ethical view on doping, which functions as an assumed, rather than contested ethical terrain. This struggle is exhibited through the rhetoric of anti-doping policy and the governmental processes that underpin anti-doping. For instance, in 1998 the World Anti-Doping Agency was conceived as a result of growing criticisms that anti-doping work should be separate from the International Olympic Committee. Between 1999 and 2002, one of the major struggles of WADA
The Ethics of Human Enhancement in Sport was to achieve the signatures and commitments of participatory governments and sports federations. In this instance, the ethical struggles were never about the soundness of anti-doping arguments, but the ethics of implementation and policy-making. The alleged ethical consensus that surrounds this anti-doping work shapes the conditions within which ethical debates about technology in sport have taken place and prescribes the limits of ethical inquiry that surround the governance of elite sports.

As further illustration of this disinterest in the technoethics of sport, one can observe that nearly no research has been funded from sports organizations to investigate the ethics of technology in sport. Some exceptions include research conducted at the Hastings Center (New York) since the 1980s under the direction of its current President, Thomas H. Murray. Murray’s contribution as a long-standing contributor to various sports-related doping authorities is notable, though it is also exceptional. Despite the projects funded through the Hastings Center, ethical reasoning on this issue appears to be of limited interest to sports policy makers. The evidence suggests that there is nearly no political weight behind the interests to question fundamental ethical issues about performance enhancement. Rather, this kind of ethics functions as a form of rhetoric that seeks to endorse an already assumed ethical stance: that doping is wrong.

These circumstances can be contrasted with the academic study of sport ethics and philosophy, which has developed steadily since the 1970s. The Journal of the Philosophy of Sport (Human Kinetics) and the recent addition of the journal Sport, Ethics & Philosophy (Routledge) is evidence of a burgeoning community of ethicists who are interested in sport issues. Some of these authors have written about the ethics of technology (see Miah & Eassom 2002), though the majority of contributions have been focused on doping specifically. In recent years, this community has expanded into two notable areas of applied philosophy—the philosophy of technology and the philosophy of health care, or technoethics and bioethics. In particular, the latter has developed an interest in sport via the doping issue, particularly to inform ethical debates about the ethics of human enhancement. Recent contributions from such prominent bioethicists as Nick Bostrom, Ruth Chadwick, John Harris and Julian Savulescu are some indication of how sport enhancement issues have reached the mainstream readership within bioethics.

Accompanying these developments is a range of new technologies that promise to raise difficult questions about the ethics of performance in elite sports. For instance, over the last five years, there has been considerable attention given to the prospect of ‘gene doping’ (World Anti-Doping Code, 2004), the application of gene transfer technology to the athlete. Gene doping raises a number of new questions about the morality of (anti)doping and the parameters of the ‘drug war’ in sports (Miah, 2004; Tamburrini & Tansjo 2005). Such technology places demands on sporting authorities that have, hitherto, not been encountered, calling into question the limits of the anti-doping movement. For instance, gene doping presents the possibility of enhancing athletes in a manner that is minimally invasive and sufficiently safe. If such conditions are met, then the rationale for anti-doping diminishes. Alternatively, in 2006, WADA investigated the use of hypoxic chambers that have the capacity to enhance an athlete’s performance in a similar manner to altitude training, by simulating different levels of altitude. The inquiry provoked a vast amount of criticism from within the science community, which disputed the inclusion of the technology within the World Anti-Doping Code. Arguably, as technology improves and as body and cognitive enhancements play an increasing role within society, the pursuit of anti-doping raises more ethical issues than it resolves. Consider, for instance, the testing of high-school students in the United States for doping substances. One might legitimately ask where such testing should
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