

**Professional paper**

**DOPING IN SPORT:  
SOME ISSUES FOR MEDICAL PRACTITIONERS \***

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**Abstract.** *The paper examines the recent history of sports medicine. It is argued that, beginning sometime in the interwar period and accelerating rapidly in the last three or four decades, there has been a dramatic shift in the research orientation of many leading sports physicians and, associated with this, an equally dramatic change in the nature of sports medicine as a discipline. This process has involved a radical shift away from the situation in which early sports physicians saw sport primarily as a source of data for the study of human physiology and were more or less uninterested in the attempt to set new athletic records; conversely, as sports physicians have become more and more involved in a sporting world which, particularly since the 1950s, has become increasingly competitive, so have their scientific activities both increasingly unpinpointed and increasingly been given meaning by, the search for winning, and perhaps above all, for record-breaking performances. If the early pioneers of sports medicine were largely unconcerned about improving athletic performance, this has now become an important part of the raison d'être of contemporary sports medicine. The growing involvement of sports physicians in the search for record-breaking and competition-winning performances, especially since the 1950s, has increasingly involved them not merely in the search for improved diets or training methods, but also in the development of performance-enhancing drugs and techniques. In order to understand doping in modern elite sport it is therefore necessary to understand the relationships between elite level performers and sports physicians.*

**Key words:** *Drugs, doping, sports medicine, medical practitioners.*

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## 1. INTRODUCTION

Robert Armstrong, who was the Counsel to the Dubin Commission which was established in Canada following the disqualification of Ben Johnson at the Seoul Olympics, has written that: until the Dubin Inquiry ... the focus [in doping cases] was always on the athlete. When an athlete tested positive he or she received the assigned penalty and that was the end of the matter, both at the domestic level and with a few exceptions at the international level. No effort was made to ascertain if others were involved. The obvious people - coaches, doctors, trainers - were simply ignored (Armstrong, 1991,61).

The central object of this paper is to examine some aspects of what have been called 'doping networks' (Waddington, 2000), that is to say the network of relationships between those involved in supplying, administering and concealing the use of drugs in sport. More precisely, the object of this paper is to examine changes in the structure of sports medicine over the last three or four decades which have led to the increased involvement of sports physicians in the development and dissemination of performance enhancing drugs. Let us begin by examining briefly some aspects of the development of sports medicine.

**The development of sports medicine**

The development of modern sports medicine can be traced back to the end of the nineteenth century and the first decades of the twentieth century (Waddington, 1996). However, there are important differences between contemporary sports medicine and the sports medicine of the early part of the twentieth century, not simply in the greater quantity of information which is now available, but also in the fact that, in the earlier period, the orientations of the researchers and the problems they sought to resolve, were also rather different from what they are now. This aspect of the changing structure of sports medicine has, perhaps, been brought out most clearly by John Hoberman in his *Mortal Engines* (1992).

In describing the work of the early pioneers of sports medicine in the early twentieth century, Hoberman pointed out that the investigation of human athletic potential was not a primary goal of those who studied the human organism at that time. Sport was considered as just one amongst a number of activities which were of interest to physiologists and, as a source of interesting physiological data, sport occupied a relatively humble position within a much broader range of physical performances such as manual labour and military service. In commenting on this early period in the development of sports medicine, Hoberman (1992, 6) pointed out that the 'scientific marginality of sport during this period, and the general lack of interest in boosting (as opposed to investigating) athletic performance, has a quaintly premodern quality'.

Not only is it the case that these scientists had little interest in boosting athletic performance, but it is also the case that some of the leading sports physicians of the period expressed concern about what they saw as the physiological dangers of sporting overexertion - for men as well as for women - and, for this reason, actively opposed the search for new records in athletics.

The central orientation of early sports scientists was, then, concerned with scientific puzzle solving rather than with boosting athletic performance. In this regard, Hoberman has suggested that the early sports physicians saw 'sportive performances serving physi-

ology as experimental data, rather than the other way round', with the emphasis being placed on the 'discovery of physiological laws rather than the application of these discoveries to athletic achievement' (Hoberman, 1992, 78). In more recent years, however, the increased emphasis which has come to be placed on winning and on breaking records (Waddington, 2000; Dunning, 1986; Roberts and Olsen, 1989) has dramatically changed the relationship between athletic performance and sports medicine. If, in the early years of the last century, 'sport served the ends of science rather than the other way round', it is now the case that, in contrast to that earlier period, 'the modern outlook sees symbolic importance in the pursuit of the record performance, thereby putting physiology in the service of sport' (Hoberman, 1992, ix, 78).

Hoberman thus highlights a process which, beginning sometime in the interwar period and accelerating rapidly in the last three or four decades, has involved a dramatic shift in the research orientation of many leading sports physicians and, associated with this, an equally dramatic change in the nature of sports medicine as a discipline. This process has involved a radical shift away from the situation in which early sports physicians saw sport primarily as a source of data for the study of human physiology and were more or less uninterested in, and in some cases even hostile to, the attempt to set new athletic records; conversely, as sports physicians have become more and more involved in a sporting world which, particularly since the 1950s, has become increasingly competitive, so have their scientific activities both increasingly underpinned and increasingly been given meaning by, the search for winning, and perhaps above all, for record-breaking performances (Waddington & Murphy, 1992; Waddington, 1996). If the early pioneers of sports medicine were largely unconcerned about improving athletic performance, this has now become an important part of the *raison d'être* of contemporary sports medicine.

However, the growing involvement of practitioners of sports medicine in the search for improved athletic performance has given rise to a number of serious ethical problems.

## 2. THEORETICAL ASPECTS OF THE PROBLEM

### **Sports Medicine and the Development of Performance-Enhancing Drugs**

A more-or-less standard feature of all modern textbooks on sports medicine is the inclusion of a chapter on the use of performance-enhancing drugs. Such chapters usually include information on the performance-enhancing effects of different drugs, on their side-effects, and advice to physicians on how to recognise the illicit use of drugs by athletes under their care. Associated with the inclusion of information of this kind in textbooks of sports medicine is the public perception of the practitioner of sports medicine as an expert who plays a vital role in the fight against the abuse of drugs in sport. However the relationship between the development of sports medicine and the development and use of performance-enhancing drugs is a good deal more complex than this. In particular, it is clear that the growing involvement of practitioners of sports medicine in high performance sport in recent decades has increasingly involved them in the search for championship-winning or record-breaking performances, and that this has led them not only to develop improved diet or mechanical and psychological techniques but that, on occasions, it has also led them to play an active part in the development and use of performance enhancing drugs. It may thus be suggested that, far from being one of the key bastions in the fight against the use of drugs in sport, sports medicine has actually been one

of the major contexts within which performance-enhancing drugs have been developed and used. In this sense, it may be said that *the development of performance-enhancing drugs and techniques is not something which is alien to, but something which has been an integral part of, the recent history of sports medicine*. This aspect of the development of sports medicine requires more detailed examination.

There are many well documented examples of medical involvement in doping. For example, we know that sports physicians were heavily involved in the state-sponsored systematic doping of athletes in the former East Germany (Spitzer, 2000). Such medical involvement was not however confined to the old communist bloc. Almost equally infamous is the involvement of Dr John Ziegler, the team physician to the US weightlifting team in the 1950s, who played a central role in the early development of anabolic steroids and in their diffusion among American weightlifters and, subsequently, other athletes. The central role of Ziegler in this process was recognised, with wonderful irony, in the name of a California-based business which supplied athletes with steroids by mail order; the company was called the John Ziegler Fan Club (Todd, 1987). It should also be remembered that the all the research involved in developing the technique known as 'blood doping', which involves the removal and the reinfusion of blood into an athlete, was done by reputable sports physicians (Waddington, 1996).

In addition to these cases, there is a great deal of other direct evidence relating to the day-to-day involvement of doctors in the use of drugs in sport. In this regard, the Dubin Commission of Inquiry proved something of a watershed, for it provided detailed evidence of the networks of relationships of those, including medical practitioners, involved in doping in Canada and the United States. Even before the Dubin Commission, however, there was already growing evidence of the involvement of physicians in doping. For example, there is evidence that at the 1984 Olympics, at least some team doctors were involved in blatantly exploiting a loophole in the doping regulations (Donohoe & Johnson, 1986). Although beta-blockers were not at that time banned by the IOC, team doctors had to fill in declarations for all athletes using betablockers and state the doses used. If competitors produced a doctor's certificate stating that they needed the drugs for health reasons, they would not be disqualified if drug checks proved positive. However, when urine specimens were screened there were several positives in the modern pentathlon contest. To the amazement of officials, team managers came forward with doctors' certificates covering *whole teams*. In October 1984 Colonel Willy Grut, the secretary-general of the world body governing the modern pentathlon, challenged the IOC to reveal the names of those athletes who 'clearly took dope, not for medical reasons, but to improve performance' (Donohoe & Johnson, 1986, 85-6). What is of importance in the context of the present argument is not the fact that these athletes took drugs but that the drugs appear to have been taken with the knowledge of team doctors who then protected the athletes against disciplinary action.

The Dubin Commission provided perhaps the clearest picture of the network of relationships between doctors, athletes and coaches in relation to doping. The Canadian sprinter, Angela Issakenko, testified to the Commission that she obtained her first prescription for Dianabol – the steroid which, incidentally, Dr Ziegler had helped to develop – from Dr Gunther Koch, a physician practising in Toronto, in 1979. In 1983, she went on a different drug programme following a visit to Dr Robert Kerr in San Gabriel, California, while from the autumn of 1983 until 1988, her drug programme was supervised by

Dr Jamie Astaphan, who also supervised the drug programme of Ben Johnson (Dubin, 1990, 244-246).

The Dubin Commission noted that the 'names of physicians willing to prescribe anabolic steroids and other performance-enhancing drugs circulate widely in gyms' and that such physicians 'may develop practices with a focus on athletes and performance-enhancing drugs'. One such practitioner named in the report was Dr Ara Artinian, a Toronto general practitioner who had been prescribing and administering anabolic steroids to athletes regularly for several years. Between 1981 and 1988, he purchased anabolic steroids worth \$215,101 from various pharmaceutical companies. (Dubin, 1990, 356).

The Commission also took evidence from Bruce Pinnie, a former shot putter who at the time of the inquiry was a throwing coach, and who testified that he had obtained anabolic steroids for performance-enhancement purposes from his doctor as early as 1972. Pinnie also indicated that there were, even at that early date, several doctors in Winnipeg who were well known for their willingness to supply steroids (Dubin, 1990, 356-7). In relation to the situation in Canada the Dubin report noted that:

The Commission also heard evidence from many other athletes that they received anabolic steroids directly from physicians. Clearly, there are physicians in most major centres across the country who have at one time or another been involved in prescribing anabolic steroids and other performance-enhancing drugs to athletes (Dubin, 1990, 357).

Dubin also pointed out that the situation in the United States appeared to be similar. The shot putter and discus thrower, Peter Dajia, described visiting a doctor's office in Fort Worth, Texas, and obtaining a prescription for anabolic steroids simply by indicating what he wanted. Particularly revealing was the evidence of Dr Robert Kerr, a California sports physician, who estimated that there were at least seventy physicians in the Los Angeles area alone who prescribed anabolic steroids to athletes. Kerr, who was the author of *The Practical Use of Anabolic Steroids with Athletes* and who was often referred to as the 'steroid guru', had an extensive practice principally involving US athletes, though he indicated that he had also prescribed anabolic steroids for athletes from Canada, South America, Australia and the Far East (Dubin, 1990, 357). In his evidence, Kerr also testified that he had prescribed anabolic steroids to approximately twenty medallists at the 1984 Olympic Games (Armstrong, 1991, 61).

The Committee also noted that in Australia, a senate Committee investigating the use of drugs in sport had estimated that 15,000 users obtained anabolic steroids through physicians. Forty-one per cent of a group of Australian bodybuilders who were surveyed indicated that physicians were their source of supply. One medical witness who gave evidence to Dubin stated that in Sydney there were between ten and twenty doctors who prescribed anabolic steroids, and that he himself would see up to 200 'patients' (ie athletes) a year for this purpose. Another medical witness testified that he was prescribing anabolic steroids for fifty male bodybuilders, one female weightlifter and three other athletes (Dubin, 1990, 357).

Two years before the Dubin Commission reported, an investigation into doping in British sport – the investigation had been set up to examine claims made by *The Times* that doping in British sport was widespread – also found clear evidence of the involvement of doctors. The Drug Abuse Enquiry Report accepted that there were doctors in Britain who were involved in 'monitoring athletes on a regular basis in circumstances which can only be construed as checking the effect upon those athletes of the drugs they

have been taking to aid their performances' (Coni et al., 1988, para. B20). The report concluded:

We have evidence of a few doctors prepared to prescribe banned drugs to athletes ... Medical support arises more often, though, on the basis of the doctor who says that, whilst he would never advocate the taking of drugs for the sake of athletic achievement, it is his responsibility if an athlete has made that decision for himself to monitor the athlete's health to ensure so far as the doctor can that he does so without physical harm. Since availability of banned drugs presents few problems, the end result from the standpoint of drug use by athletes - that medical advice is available for those who care to look for it - is of course the same, whether the doctor is prescribing, or simply monitoring the effects. We are also told that test centres are readily to hand at which a British athlete who has been using banned drugs in training can check in advance of competition that his urine sample will no longer disclose the presence of the banned drug. We are told that such centres are available in London, in Birmingham and in Edinburgh, and no doubt there are others (para. B21).

We also now know - though this was not revealed until a *Sunday Times* investigation several years later - that at about the same time that Charlie Francis and Dr Jamie Astaphan were supervising the drug programme of Ben Johnson, Dr Jimmy Ledingham, who was the doctor to the British Olympic men's team between 1979 and 1987, was prescribing steroids to British athletes and also offering advice on how to avoid detection; the same report also revealed that Britain's national director of coaching from 1979 to 1994 had 'turned a blind eye' to athletes who had told him they were taking steroids (*Sunday Times*, 29 October 1995).

Ben Johnson's positive doping test at the Seoul Olympics was, in a number of respects, a watershed in the history of doping in sport. The event generated huge media coverage and it raised public awareness of doping in sport to a level which was almost certainly unprecedented. The ramifications of Johnson's positive test - and in particular the establishment of the Commission of Inquiry under Mr Justice Dubin also marked a watershed in some respects, for it provided more systematic, more reliable and more detailed information than had ever been available before about the networks of relationships - and the central position of sports physicians within those networks - amongst those involved in doping.

If Johnson's positive test marked one watershed in the history of doping in sport, then it may well be the case that the major doping scandal in the 1998 Tour de France cycle race will come to be regarded as a second watershed, both in terms of the amount of media coverage which it generated and in terms of the amount of information about the systematic organisation of doping in professional cycling which was made publicly available during and after the Tour. Moreover, this information made it unambiguously clear that, once again, physicians - this time in the form of team doctors - were heavily implicated in the organisation of doping. That this was so should not have come as a surprise to followers of cycling. Two years prior to the '98 tour, two French professional cyclists, Philippe Gaumont and Laurent Desbiens, tested positive for the steroid nandrolone and it was revealed that the drug had been supplied by their team doctor, Patrick Nedelec, who had previously worked for both the French national cycling federation and the international governing body of cycling, the Union Cycliste Internationale (*Cycling Weekly*, 29 June, 1996). The 1998 Tour de France indicated very clearly that this practice was not

unique to the team for which Gaumont and Desbiens raced, but that it was a common practice among professional teams on the European continent.

The doping scandal at the 1998 Tour de France unsurprisingly received massive media coverage but, again perhaps unsurprisingly, almost all of this coverage was heavily emotive and highly censorious, and did little to enhance our understanding of the processes involved. One of the few exceptions, and one which brought out particularly clearly the involvement of team doctors, was a piece written for *The Times* by James Waddington, a novelist who is also a cycling fan. Waddington pointed to the enormous physical demands which the Tour makes upon riders - he described the Tour as 'not just healthy exercise' but 'close to punishment and abuse' and suggested that, in the attempt to keep their team members in the race, the team doctors will draw upon an exhaustive knowledge of a range of substances - nutritional, hormonal and anabolic. He continued:

It is a complex regime, with maybe 20 different components ... Only the team doctor has this exhaustive knowledge, and thus the average professional cyclist with no scientific background becomes not a partner but a patient. He opens his mouth, holds out his arm, and trusts. That trust, not the reflex shriek of 'drugs, the excrement of Satan', should be the crucial point in the whole discussion (*The Times*, 25 July, 1998).

One might perhaps take issue with Waddington's characterisation of professional cyclists as passive participants in the doping process; indeed, there is direct evidence in the form of statements from some of the cyclists themselves to suggest that they were not passive participants. However, Waddington does make a point of critical importance: if we wish to understand doping in sport then it is crucial that we understand the centrality of the relationship between elite level athletes and practitioners of sports medicine

### 3. CONCLUSION

Although sports physicians are often seen as experts who play a front-line role in the fight against 'drug abuse' in sport, a closer examination of the development of sports medicine indicates that the growing involvement of sports physicians in the search for record-breaking and competition-winning performances, especially since the 1950s, has increasingly involved them not merely in the search for improved diets or training methods, but also in the development and use of performance-enhancing drugs and techniques.

The close interrelationship between sports medicine, sports science and the development of what have come to be regarded as illicit drugs and techniques, was nicely brought out by Cramer in his report on the use of blood doping by the United States cycling team at the 1984 Olympics:

In the national euphoria after the games, no one thought to pry out any secrets. The US team had won nine medals, dominating the cycling events. 'Great riders....' 'Great coach....' 'Great bikes....' said the press, reporting the daisy chain of back pats. No one thought to add, 'Great doctors....' (Cramer, 1985, 25).

As long ago as 1988, the British medical journal, *The Lancet*, published an article with the title *Sports medicine - is there lack of control?* It suggested that although 'evidence of direct involvement of medical practitioners in the procurement and administration of hormones is lacking, their connivance with those who do so is obvious and their participation in blood doping is a matter of record', and it concluded that:

Members of the medical profession have long been concerned with the health and welfare of people in sport, but never have the stakes been so high. Evidence continues to grow that some are showing more interest in finding new ways of enhancing the performance of those in their charge than in their physical wellbeing. Surely steps must soon be taken to curb the activities of those few doctors practising on the fringe by bringing sports medicine beneath the umbrella of a recognised body within an accredited programme of professional training (Lancet, 1988, 612).

With this comment, *The Lancet* was beginning to move towards a more adequate understanding of the relationship between sports medicine and the development and use of performance-enhancing drugs. In one major respect, however, *The Lancet* article did not properly come to grips with an important dimension of this relationship. In suggesting that the search for new, and by implication, unethical, means of enhancing performance is confined to a 'few doctors practising on the fringe', *The Lancet* failed to grasp a key aspect of modern sports medicine. A central argument of this paper has been that the growing involvement of sports physicians in high-performance sport has meant that the search for performance-enhancing substances and techniques - a search which, as we have seen, has resulted in the development of some drugs and techniques whose use has subsequently been considered unethical - is not confined to a few 'fringe' practitioners. Rather, it has become an increasingly important part of the task of practitioners of sports medicine. In this sense, what *The Lancet* saw as a problem concerning the lack of control of sports medicine is not a problem which is confined to the fringes of sports medicine but, on the contrary, one which goes to its very heart.

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## **DOPING U SPORTU: NEKI PROBLEMI ZA MEDICINSKE STRUČNJAKE**

**Ivan Waddington**

*Ovaj rad istražuje blisku istoriju medicine sporta. Pretpostavlja se da se pojavila negde u periodu između dva rata i rapidno je napredovala u poslednje tri do četiri decenije, kada su nastale dramatične promene u istraživačkoj orijentaciji mnogih vodećih sportskih lekara i u vezi s tim, istovetne dramatične promene u prirodi sportske medicine, kao discipline. Ovaj proces je podrazumevao radikalne promene, daleko od situacija u kojima su raniji sportski lekari sagledavali sport, prvenstveno, kao izvor podataka za studije fiziologije čoveka, i bili su, manje ili više, nezainteresovani za pokušaje postavljanja novih sportskih rekorda; s druge strane, kako su sportski lekari sve više i više uključivani u svet sporta koji je, posebno od 1950-tih godina postao izuzetno takmičarski, tako se njihove naučne aktivnosti, ujedno neprekidno razvijaju i istovremeno dobijaju smisao potrage za pobedom i verovatno, iznad svega, potrage za dostignućima koja obaraju rekorde. Ukoliko su rani predvodnici sportske medicine bili, mahom, nezainteresovani za napredak sportskog dostignuća, ovo sada predstavlja najznačajniji smisao i razlog postojanja savremene medicine sporta. Rastuće uključivanje sportskih lekara u trku za obaranjem rekorda i pobedničkih dostignuća, naročito posle 1950-tih, sve ih više povezuje, upravo, ne samo sa unapređivanjem pravilne ishrane ili metoda treninga, već sa razvojem droga i tehnika koje doprinose poboljšanju dostignuća. Radi razumevanja dopinga u savremenom elitnom sportu, neophodno je razumeti povezanost između vrhunskih dostignuća i sportskih lekara.*

Ključne reči: *lekovi, doping, sportska medicina, sportski lekari*