
At International Olympic Committee level, drug testing was introduced at the Olympic games in 1968. Over the last decade the fight against doping has intensified markedly through the establishment of WADA (1999), resulting in a harmonization of rules and a significant increase in the number of tests conducted. During this period scientists have carried out research to develop reliable tests for existing (well-known) drugs, but they have also been challenged by the emergence of new, sophisticated drugs. Some of those involved with drug-testing techniques in sport or other anti-doping procedures have contributed to Pharmacology, Doping and Sports: A scientific guide for athletes, coaches, physicians, scientists and administrators. Jean L. Fourcroy, a regulatory consultant in urology and endocrinology appointed to the board of the United States Anti-Doping Agency, is not only the editor of this volume but also the author of three of its fourteen chapters. This compilation of self-contained articles results in several repetitions in the course of the book.

The first chapter by Jean L Fourcroy and Baaron Pittinger offers a brief description of historical developments in the fight against doping in Olympic sports. Chapter Two, by Larry D. Bowers, provides further insights into what is being done to sustain the performance levels of the WADA–recognized laboratories and into some of the analytical challenges of testing that face them today. The next four chapters deal in different ways with anabolic-androgenic steroids (AAS) in sport. The first of these by Richard V. Clark, provides an insight into the historical background, physiology and use of AAS in sport, along with their common side effects. That testing for AAS is complex is made clear in the next chapter by Christiane Ayotte, which offers a detailed description of AAS structures and metabolites, as well as the characteristics of “designer drugs.” Ayotte lists the challenges encountered when testing for “natural” and “designer” AAS respectively, thereby shedding light on possible gaps in the testing system. Some of the same problems are emphasized in the next chapter by Larry Bowers. Here, Bowers focuses explicitly on designer steroids and the art of discovering them. In combination with chromatography and combustion, the IRMS testing method is the most efficient technique available today of testing for steroid use. This method is described in detail in the following chapter by Rodrigo Aguilera.

Stimulants, Therapeutic Use Exemptions (TUE), and masking agents such as diuretics are described in Chapter 7 by Richard L. Hilderbrand. The next two chapters, by Francoise Lanse and by Michael N. Sawka, Stephen R. Muza and Andrew J Young respectively, deal primarily with matters related to modifying blood profiles. The technique of conducting the EPO test and the challenges of testing for EPO and biosimilar or modified EPO products are described, as well as the legal ways to manipulate blood profiles, the effects of blood doping and the comprehensive efforts that need to be made in order to detect blood doping by infusing erythrocytes. The physiology of growth hormone (GH),
together with its effects and use in sport, is described by Peter H Sönksen and Richard Holt in Chapter 10. In addition, the authors take us through the history, problems and challenges of developing a reliable test of GH during a period of three Olympics. The chapter leaves the reader curious about whether such a test was an expanded version of the authors “GH-depending markers test”, a version of the “isoform method” (also described in this chapter) or a third method that was used at the recent Olympic Games in Beijing: and, following on from this, whether we can actually trust the GH test used at the Beijing Games. Chapters 11 and 12, by Theodore Friedmann and Fourcroy respectively, provide insights into gene doping/therapy. Contrary to expectations, the prospects of actually detecting some variations of gene therapy are promising. In the next chapter Andrew Pipe describes various substances on the prohibited list and briefly advocates the need to secure the health and well-being of athletes. The concluding chapter, written by Fourcroy, summarizes selected parts of different topics from various chapters. Surprisingly, Fourcroy writes: “identifying and profiling steroids is not a challenge for good scientists” (p.200). This isn’t the impression the reader gets from reading the chapters on steroids.

*Pharmacology, Doping and Sports* offers an in-depth insight into especially AAS, GH and EPO and the methods used for testing for them, along with the related challenges, as well as a thorough description of all substances from the prohibited list. The historical aspects of doping in sport and the organizational development of anti-doping work are briefly described in several chapters, although the historical part does not appear to be a priority of the book. Nor are ethical questions and sociological issues (e.g., why some athletes take drugs), social and cultural issues, and problems related to drug use and testing in sport a particular focus. As the title indicates the book has a large target audience; it claims to be a scientific guide for athletes, coaches, physicians, scientists and administrators. It must be questioned, though, whether or to what extent the book really addresses all these groups, and it is unclear in what way it is intended to be for their guidance. One major question that appears is: do the athletes, coaches and administrators (in general) really care about the minutiae of testing methods, have an in-depth knowledge of doping substances that they are not permitted to use or flaws within the system unless they are using drugs and/or are planning to beat the testing regime? The latest version of *Drugs in Sport*, edited by David R. Mottram (2005), might offer more accessible knowledge to athletes, coaches and administrators. However, *Pharmacology, Doping and Sports* offers some great articles and provides an in-depth knowledge of various substances from the prohibited list, as well as insight into the complexity and challenges of testing.

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