

PostScript

LETTERS

Month by month analysis of the number of athletic training injuries: a prospective one year study on 2701 athletes

Various studies have focused on sport injuries.^{1,2} In a previous report the incidence of injuries in athletes in a one year study was analysed using a sample size that was less than 150 subjects.¹ It was hypothesised that subjects who were more involved in sport before injury (eight hours or more a week of sport and exercise) would exhibit a greater emotional response to injury and perceive their recovery to be less.²

In view of this we analysed a large sample of athletes (2701) who trained a minimum of 10 hours a week to see in which months of the year athletic training injuries were most common.

In a one year prospective study (from January 2004 to December 2004) we recorded the number of training injuries sustained in a month by month fashion. The mean (SD) age of the subjects was 39.62 (12.98) (range 14-63).

We recorded a total of 450 athletic training injuries. The greatest number of injuries were recorded in January (n = 71; 15.8%) followed by February (n = 64; 14.2%), March (n = 56; 12.4%), May (n = 54; 12.0%), April (n = 47; 10.4%), December (n = 37; 8.2%), June (n = 34; 7.5%), September (n = 29; 6.4%), July (n = 27; 6.0%), November (n = 22; 4.9%), August (n = 7; 1.5%), and October (n = 2; 0.4%).

A total of 191 injuries (42.4%) were recorded between January and March, 135 (30.0%) between April and June, 63 (14.0%) between July and September, and 61 (13.5%) between October and December. The total recorded between January and June was 326 (72.4%) compared with 124 (27.5%) between July and December.

In summary, our study has shown that the number of athletic training injuries was higher during the first semester of the year than the second.

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Competing interests: none declared

References

- 1 D'Souza D. Track and field athletics injuries: a one-year survey. *Br J Sports Med* 1994;28:197-202.
- 2 Johnston LH, Carroll D. The psychological impact of injury: effects of prior sport and exercise involvement. *Br J Sports Med* 2000;34:436-9.

Effective measures to improve driver safety

In a recent article in this journal by Leonard and colleagues,¹ it was concluded that changing the configuration of motor racing circuits by introducing chicanes may significantly decrease the risk of severe injury to drivers. We believe that this evidence is reliable up to a certain point. There are several other measures that could be implemented to improve the overall safety of drivers; making circuits slower is not necessarily the only or the best strategy. From a spectator point of view, the introduction of numerous slow chicanes over the past decade, disrupting the original configuration of some legendary circuits such as Hockenheim, Imola, and Monza, has contributed to making motor racing less spectacular. From a scientific perspective, driver safety may be improved by the adoption of alternative measures that will not substantially affect the attractiveness of motor racing. Some of these are much more readily and economically applied, and may even turn out to be safer. The foremost of these measures is to increase the weight of the car and reduce engine power, which may encourage manufacturers to build more robust cockpits and slower competition vehicles.² Next, we propose the obligatory use of efficient protective measures for the most commonly and severely traumatised body parts (head, limb, and legs), such as the recently designed HANS carbon fibre collar, thereby improving safety without affecting the spectacle.³ Finally, more efficient protective measures on circuits, such as replacing tyre barriers and metal rails with temporary crash protection barriers made of steel tubes and pads of hard foam, may absorb some of the crash energy, reducing the loading to both head and neck during dramatic decelerations up to 100 g.⁴ As technological advances in competition are usually translated to production vehicles, these strategies may also be effective in preventing or limiting the severity of injuries from road traffic accidents outside the racing circuits.

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Competing interests: none declared

References

- 1 Leonard L, Lim A, Chesser TJ, et al. Does changing the configuration of a motor racing circuit make it safer? *Br J Sports Med* 2005;39:159-61.
- 2 Nirula R, Kaufman R, Tencer A. Traumatic brain injury and automotive design: making motor vehicles safer. *J Trauma* 2003;55:844-8.
- 3 Minoyama O, Tsuchida H. Injuries in professional motor car racing drivers at a racing circuit between 1996 and 2000. *Br J Sports Med* 2004;38:613-16.

- 4 Elvik R. The safety value of guardrails and crash cushions: a meta-analysis of evidence from evaluation studies. *Accid Anal Prev* 1995;27:523-49.

BOOK REVIEWS

Sports ethics: an anthology

Edited by Jan Boxill. Published by Blackwell Publishers, 2002, £60.00 (hardcover), £17.99 (paperback). ISBN 0631216960

This is a collection of 35 papers, 10 of which were written specifically for this anthology. It presents a wide range of material, spanning specific topics, such as racial issues or drugs in sport, and also more abstract areas, such as the quality of sportsmanship. Most of the writing is by philosophers, but there are pieces representing sportspeople, physical education specialists, sports psychologists, sport scientists, journalists, a lawyer, and a basketball coach. For this reason, the book is stylistically very diverse. Fittingly, the volume closes with a 1999 piece by Rick Reilly, a writer for *Sports Illustrated*, written from the perspective of an 8 year old sports fan who is getting the wrong message from televised sport.

The theme of sport's corruption seems to run strongly in this collection. There seems to be an undercurrent of moral outrage at sport's degradation through commercialisation, new technology, and competition taken too far.

Editor Jan Boxill's introductory piece on the moral significance of sport, for example, defines sport in terms of four "paradigmatic" properties, all of which seem prone to "perversion". Sport, Boxill explains, can be degraded when we make a living from it, when we break rules, or when we view our sporting success as our opponent's loss. These paradigmatic qualities, Boxill says, also explain the importance of sport: it is the "single most available and the single most participated in means" for attaining self development, self expression, and self respect. "Sport is the art of the people", she claims, which sounds wonderful—yet we wonder if perhaps this amounts to a devaluation of sports fans' appreciation of sport's baser, less artistic, merits: Beckham's glamour, McEnroe's tantrums, or Mohammed Ali's propensity to verbally raise the stakes of victory. Some of the "best" sportspeople on Boxill's definition, such as Pete Sampras, are the least loved. And if sports are really "of the people", then surely the popularity of a sport is a good metric of whether or not it is headed in the right direction?

We are not so worried about the perversion of sport as most of these authors are. Boxill, like many of the authors of this volume, is an avid amateur sportsman as well as a philosopher, and it shows in her conception of sport—a conception that is more "of the sportspeople" than "of the people". Sport evolves in ways that the sportspeople themselves are often slowest to accept, because they are most strongly affected by change. But from the point of view a sports appreciator,

commercial sponsorship did not eliminate sportsmanship from cricket, graphite racquets failed to eliminate skill from tennis, and professionalism did not ruin the Olympics. As these changes have rolled in, participation and audience involvement have ballooned—"the people" have loved it. Nonetheless, in this book Peter Wenz's article on "Human equality in sports" decries professionalism, Kathleen Pearson presents an indictment of deliberate fouls, and all three papers on performance enhancing drugs conclude that banning drug use in sport is justified.

Whether we agree with the authors' sporting politics or not, the quality of the work selected is often very good. One of the pieces specifically written for this book is Laura Morgan's "Enhancing performance in sports: what is morally permissible", in which she looks for a new argument supporting her intuition that performance enhancements "do not belong" in sport. Her novel argument is that the use of drug enhancements is harmful to the sport, meaning that it worsens the nature of sport. The difficulty for many commentators on this issue is that they want to prohibit even harmless drugs on the basis that they make a sport unfair, but have no answer to the objection that sport is already a genetic contest which is intrinsically unbalanced and unfair. Morgan avoids this issue by placing the emphasis instead on matching contestants to produce competitive contests which will challenge every competitor. Harmless drugs, she argues, would worsen the nature of sport because they inhibit this matchmaking, and thus would undermine the "mutual quest to achieve excellence" which is the ideal goal of sport. This argument entails the rather radical conclusion that harmless drugs would be permissible in solitary, non-competitive sports. We have argued that far from perverting the spirit of sport, performance enhancement embodies the human drive to be better. To be human is to be better. Performance enhancement, we have argued, embodies the spirit of human sport.¹

This is a volume that questions much of the status quo concerning how we ought to play sport, and how we ought to appreciate it, but only rarely challenges this conservative conception of what sport is all about. Those who share the authors' stance on what is valuable about sport are likely to be fully satisfied by this anthology, but for some of us, perhaps a few more challenging papers could have been presented. Boxill's introductory piece is intended to motivate an academic discourse on the nature of sport, which is an excellent goal, and the breadth of the material presented here gives this goal impressive support. This is an intriguing and comprehensively interdisciplinary collection of writing.

Rating	
● Presentation	17/20
● Comprehensiveness	15/20
● Readability	19/20
● Relevance	15/20
● Evidence basis	14/20
● Total	80/100

J Savulescu, B Foddy

References

1 Savulescu J, Foddy B, Clayton M. Why we should allow performance enhancing drugs in sport. *Br J Sports Med* 2004;**38**:666–70.

Performance enhancing substances in sport and exercise

Edited by Michael S Bahrke, Charles E Yesalis. Published by Human Kinetics, 2002, £43.00 (hardcover), pp 384. ISBN 0736036792

This is a worthwhile addition to the library of all who work in sport and exercise medicine whether as physician, physiotherapist, or sports scientist. It extends to over 350 pages, is straightforward to read, well arranged, and with a useful index.

The initial chapter on the history of performance enhancing substances (PES) contains considerable information on early attempts at performance enhancement within sport, with much that was new to the reviewer. It even manages a brief reference to the current Governor of California under the subject of body building and anabolic agents!

The first 300 pages consider ergogenic agents in specific groups—identifying the mode of action, likely performance gains, relevant clinical studies, potential problems resulting from use, and ending with a brief overall conclusion. The statements made are generally referenced, and the sources for these are listed extensively at the end of each chapter.

The book would appear to have been initially published some three years ago—my review copy was dated 2002. As the world of PES changes very rapidly, the book inevitably predates some very significant incidents, publications, and changes in regulatory activity. There is no reference to therapeutic use exemption (TUE) certificates, nor to the 2002 IOC report on supplement contaminants. It follows that the 2004 whistle blowing on "designer drug" use by elite USA athletes is also omitted.

I attempted to use the book to find specific information on a drug that had recently been brought before the UK TUE committee for consideration. There was good information on the group to which it belonged, but only a passing reference to the drug itself. That said, the chapter-end discussion of potential benefits and disadvantages was helpful and evidence based.

There is an inevitable North American slant to the text, and some of the examples cited refer to American sports that are not universal in popularity. I noted reference to a local regulatory control—the *US Dietary and Supplement Health and Education Act 1994*; the need for regulation of non-drug supplements is clearly in harmony with current European thought on the matter.

In the chapter on anabolics, there is what seems to be an unusual statement (p 33) "from the late 30s to the mid 80s, anabolic steroids were used successfully to treat depression, melancholia and involuntional psychoses". This certainly hasn't been my experience of conventional UK management of any of these conditions.

B-agonists are dealt with in some depth. Clenbuterol, which is not available in the UK or the USA but is obtainable in Europe, being the most closely scrutinised. This revisited the

few unpleasant memories I have of the Barcelona Olympics, where its use by two athletes caused significant problems to GB team officials. However, I could find nothing in the chapter to justify the considerable effort many of us have made in implementing recent IOC regulations in respect of permitted B-agonist inhaler use.

One area of discussion struck a chord with me, the difference in perception of doctors and athletes—or to be precise some athletes. Doctors and sports scientists put their faith in scientific studies. Athletes, however, often place much greater importance on testimonials and internet advertorials and treat research with suspicion if not contempt.

Which raises the question: how valid are clinical studies of PES in athletes? The point is well made that there may be numerous confounders at play, and this is demonstrated in the often conflicting study results contained in many chapters. Athletes rarely use ergogenic aids in the framework that would be demanded of a clinical study. PES are not used in isolation, but rather within "cocktails" where the dosage consumed and the frequency of dosage may have little to do with their use in clinical indications and which would be rejected out of hand if forwarded to an ethics committee for consideration.

The later part of the book looks to possible future developments in doping techniques and deals with some of the more difficult areas of drug testing: its problems and limitations. In the final chapter, the legal context of PES is also considered. I'll leave the saddest quotation in the book to the end: "To be a great athlete today you need a great coach, a great chemist and a great lawyer".

I really do wish that didn't ring any bells with me.

Rating	
● Presentation	17/20
● Comprehension	16/20
● Readability	15/20
● Relevance	13/20
● Evidence basis	16/20
● Total	77/100

C Jarvis

CALENDER OF EVENTS

Osteosynthese International 2005

15–17 September 2005, Curiohaus, Hamburg
Congress-Chairman: Johannes M. Rueger, M.D., Professor and Chair

Topics:

- Innovations in intramedullary osteosynthesis
- New frontiers in osteoporosis and fracture treatment
- Current trauma research
- Special topic: Recent development in pelvic and acetabular fractures

Abstract submission deadline: 31 March 2005

Further details: INTERCONGRESS GmbH, Martin Berndt, Düsseldorf Str. 101, 40545 Düsseldorf-Germany. Tel: +49 211 585897-80; Fax: +49 211 585897-99; Email: martin.berndt@intercongress.de; Website: www.osteoint2005.de

4th European Sports Medicine Congress

13–15 October 2005, Lemesos, Cyprus

Further details: Email: pyrgos.com@cytanet.com.cy

BASEM Conference 2005

10–12 November 2005, Edinburgh, Scotland

Further details: Email: BASEMinfo@aol.com; Website: www.basem.co.uk

8th International Congress of the Society for Tennis Medicine and Science

14–15 January 2006, Melbourne, Australia

To be held immediately prior to the 2006 Australian Open tennis championships, the congress will combine presentations from international and Australian experts, including Professors Tim Noakes, Bruce Elliott, and Mark Hargreaves to stimulate discussion on topical tennis science and medicine issues.

Registrations are now open via the congress website.

Further details: Email: stms2006@meeting-planners.com.au; Website: www.stms2006.com.au

13th Commonwealth International Sport Conference (CISC2006)

9–12 March 2006, Melbourne, Australia

Further details: Email: enquiries@cisc2006.com; Website: www.cisc2006.com

BASEM Conference 2006

5–7 October 2006, Oxford, UK

Further details: Email: BASEMinfo@aol.com; Website: www.basem.co.uk

CORRECTION

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C A Vella, R A Robergs. A review of the stroke volume response to upright exercise in healthy subjects (*Br J Sports Med* 2005;**39**: 190–5).

A mistake in the second sentence of the first paragraph of "Historical Perspective" has been noted:

"The theory of a stroke volume plateau developed from early research based on a few subjects during two or three exercise intensities..." should read "two to five exercise intensities".

In addition, there is a misprint in table 1. Under Ferguson *et al* the values in the $\text{VO}_{2\text{MAX}}$ column and the SV_{MAX} (ml/beat) are incorrect and should be:

7 MT women (18–30): $\text{VO}_{2\text{MAX}}$ 42.1 ml/kg/min, SV_{MAX} (ml/beat) 90

9 ET women (18–30): $\text{VO}_{2\text{MAX}}$ 64.3 ml/kg/min, SV_{MAX} (ml/beat) 121