

## LETTERS TO THE EDITOR

### Bone density in elderly women

EDITOR,—In the article by Rhodes *et al* "Effects of one year of resistance training on the relation between muscular strength and bone density in elderly women", I was surprised to see no mention of HRT status in the women in the trial. Given the relatively small number of women taking part, surely this is quite an important variable?

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### Author's reply

EDITOR,—The answer to this inquiry is very simple. None of the women in our study were on hormone replacement therapy.

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### Who should be blinded?

EDITOR,—I was very pleased to read the recent article by Eston and Rowlands<sup>1</sup> on the various stages of development of a research project. It is important to have papers on research methodology that deal specifically with sports science/medicine examples.

Even though the authors described the paper as "a brief guide to the most common sequence of stages",<sup>1</sup> it nevertheless addressed many good points about research design. However, their description of blinding was perhaps oversimplified, disregarding experimental design in some areas of sports medicine research. They stated that in a single blind study the participants do not know which treatment they are receiving, and in double blind studies neither the participants nor the tester know which treatment the participants are receiving.

Research in sport and exercise medicine encompasses a number of professions, who differ in the way they provide treatments and interventions. In some of these disciplines, the way the intervention is administered will prevent researchers from blinding the investigation as described in the paper. Recent work on the design of randomised clinical trials has suggested that a study may be described as single blind if one of the groups of people involved does not know which intervention has been given to each participant.<sup>2</sup> It was added that it may be the investigators assessing the outcomes that are blinded.

A recently published paper sought to determine the effects of stretching before exercise on lower limb injury.<sup>3</sup> The authors of this study were able to claim that the study was single blind, despite the fact that all participants were aware of the intervention they were receiving. The blinding was achieved by masking the practitioner who diagnosed the injuries to the patient allocation. Blinding the

examiner rather than the patient is a common practice when there is no other way to disguise the specific treatment.

A traditional view may state that blinding must be carried out as described by Eston and Rowlands.<sup>1</sup> However, the design strategy needs to be flexible enough to incorporate the distinctive features of the intervention under investigation.

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- 1 Eston RG, Rowlands AV. Stages in the development of a research project: putting the idea together. *Br J Sports Med* 2000;34:59–64.
- 2 Jadad AR. *Randomised controlled trials*. London: BMJ, 1998.
- 3 Pope RP, Herbert RD, Kirwan JD, *et al*. A randomised trial of preexercise stretching for prevention of lower-limb injury. *Med Sci Sport Exerc* 2000;32:271–7.

### Authors' reply

EDITOR,—Thank you for providing us with the opportunity to reply to this letter. We agree entirely with the observations. We were referring to the traditional view of "blinding", which is more common in the sports and exercise science scenario. Dr Gissane is quite justified in bringing this to our attention, and we thank him for his interest and positive comments.

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### The genetics of physical fitness

EDITOR,—Might I briefly comment on Dr Lavin's observation that elite athletes, whom he classes as "freak", "are as removed from real life as it is possible to be"? "Real life" is what is all around us, from the homeless in the street to the most highly paid sports, pop, or business star. Humphrey Lyttelton, whose jazz talents took him on a different career path from his high positioned family, was told once by his uncle "Yours is a different world". To which he replied "No, it is the same world as yours, only bigger". Elite competitors have a talent which they market to their best and brief advantage, as do many in the creative arts, sciences, and professions. They also bring enjoyment to many of our lives, and are no more—and no less—"freaks" than genetic outliers in any of the talents.

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- 1 Lavin E. The genetics of physical fitness. *Br J Sports Med* 2000;34:154.

### Serum concentrations of P-selectin decline rapidly in resting humans

EDITOR,—In assessing the health benefits and risks of physical activity, there has been much interest in the relation between exercise and the immune and inflammatory responses. However, only a very limited number of studies have examined the role of exercise on adhesion molecule profiles. P-selectin (CD62P) is an adhesion molecule

expressed on activated platelets and endothelial cells and is one of a group of related molecules that play an important role in leucocyte rolling on the vascular endothelium. Therefore it is intimately involved in the regulation of immune and inflammatory responses. Circulating forms of several adhesion molecules, including P-selectin, have been observed in humans, and elevated levels may reflect acute infection or inflammation. Alterations to the concentration of circulating adhesion molecules have also been associated with increased risk of specific diseases. High levels of soluble P-selectin, for example, have been associated with cardiovascular risk.<sup>1</sup>

My colleagues and I are interested in the influence of smoking on the aetiology of chronic inflammatory periodontal disease and have recently completed a study in which we observed the acute in vivo effect of smoking a standard 2R1 research cigarette on the serum concentration of a range of adhesion molecules and on adhesion molecule expression on circulating monocytes and neutrophils.<sup>2</sup> As part of the experimental protocol, all subjects, who were apparently healthy, rested in a dental chair in a semi-reclined position for one hour. There were no statistically significant differences between the serum levels of soluble P-selectin of heavy smokers ( $n = 9$ ; serum cotinine concentration  $\geq 100$  ng/ml), light smokers ( $n = 10$ ; serum cotinine concentration  $\leq 60$  ng/ml), and non-smokers ( $n = 10$ ; serum cotinine concentration  $\leq 10$  ng/ml) at baseline. However, an incidental and unexpected observation was that soluble P-selectin concentrations fell significantly over the one hour rest period, independent of smoking status, as shown in fig 1.

It may be relevant to note that Kirkpatrick *et al*<sup>1</sup> reported an increase in soluble P-selectin on repeated exercise in subjects with intermittent claudication. They concluded that the rise in soluble P-selectin after exercise may indicate progressive platelet

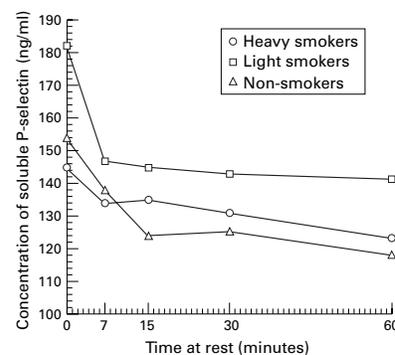


Figure 1 Mean concentration of soluble P-selectin (ng/ml) in serum of resting heavy smokers, light smokers, and non-smokers at baseline and various time points after smoking a standard 2R1 research cigarette (non-smokers did not smoke). Differences in the concentration of soluble P-selectin between smoking groups at baseline were analysed using a two group *t* test. No significant differences were found. Variations in the concentration of soluble P-selectin, with respect to smoking group and time, were measured by two way repeated measures analysis of variance with a post-analysis contrast performed using the Student-Newman-Keuls method. The decrease in the concentration of soluble P-selectin with time was significant in all smoking groups ( $p < 0.001$ ). Adapted from Scott *et al*.<sup>2</sup>

activation. Jilma *et al*<sup>3</sup> had previously shown that, in healthy men, exercise could lead to an increase in the serum concentration of soluble intercellular adhesion molecule-1, another adhesion molecule involved in the chain of receptor-ligand interactions regulating leucocyte transmigration in inflammatory and immune responses.

We have shown that a period of rest can lead to a rapid decrease in circulating concentrations of soluble P-selectin. This observation is, to the best of our knowledge, entirely novel and may represent an important insight into the complex relation between physical activity and the inflammatory response. Further studies by those with expertise in sports physiology and medicine may be warranted.

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- 1 Kirkpatrick UJ, Mossa M, Bland AD, *et al*. Repeated exercise induces release of soluble P-selectin in patients with intermittent claudication. *Thromb Haemost* 1997;78:1338-42.
- 2 Scott DA, Todd DH, Wilson RF, *et al*. The acute influence of tobacco smoking on adhesion molecule expression on monocytes and neutrophils and on circulating adhesion molecule levels *in vivo*. *Addiction Biology* 2000;5: 195-205.
- 3 Jilma B, Eichler HG, Stohlawetz P, *et al*. Effects of exercise on circulating vascular adhesion molecules in healthy men. *Immunobiology* 1997;197:505-12.

### Exercise at altitude

EDITOR.—In the early sixties I established a record for the running ascent of Kilimanjaro (19 340 feet (5985 m)) of 6 hours and 48 minutes, and my colleague (and current London marathoner) Norman Myers ran up and down the same mountain (36 miles) in 13 hours and 20 minutes, both from a start of around 6000 feet (1828 m), and both of us unaccompanied. We also lived for six and 25 years respectively at altitudes varying from 5200 feet (1600 m) to 7000 feet (2100 m). Neither of us gave any of this much thought. However, on reading today's issue of the journal, in particular Buckler and O'Higgins<sup>1</sup> on medical provision for a downhill marathon (which started at a mere 5184 m), and Bailey *et al*<sup>2</sup> on worries about glutamine and immune status (in a group spending a mere four weeks at 1640 m), I am not in the slightest detracting from such highly interesting and important work, when I humorously observe that I am simply glad such data were not available before we set foot in East Africa!!

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- 1 Buckler DGW, O'Higgins F. Medical provision and usage for the 1999 Everest marathon. *Br J Sports Med* 2000;34:205-9.
- 2 Bailey DM, Castell LM, Newsholme EA, *et al*. Continuous and intermittent exposure to the hypoxia of altitude: implications for glutamine metabolism and exercise performance. *Br J Sports Med* 2000;34:210-12.

## BOOK REVIEWS

**Nancy Clark's sports nutrition guidebook.** 2nd ed. N Clark. (Pp 455; £12.92.) Leeds: Human Kinetics Europe Ltd, 1997. ISBN 0-87322-730-1

Athletes who want up to date advice on sports nutrition are the targeted readers for this book. It would also be a useful addition to the bookshelf of a sports coach or scientist.

The second edition enhances the chapters on weight control and eating disorders and covers the full spectrum of sports nutrition, with advice for training, competing, and recovery, as well as healthy eating for life.

The author is one of the best known writers on sports nutrition in the United States, a registered dietitian and athlete. She deals with the subject in a "user friendly" American style with lots of practical advice, as well as the theory behind why certain practices should/should not be carried out.

About one third of the book is devoted to recipes, with a useful nutritional analysis. They are generally quick and easy to prepare, with ingredients that for the most part are available in the United Kingdom, although the terminology occasionally differs. As with all American cookbooks, the ingredients are measured in cups, which I find "off-putting".

There is a good bibliography and reference section for those who want to delve deeper into specific subjects.

This is an excellent book if you are American, and I found much of the practical advice useful. For the British reader, there are perhaps too many references to American food products and RDAs referring to nutrients per pound body weight or to 8 oz of fluid, whereas we are now thinking in terms of kg and 100 ml respectively.

### Analysis

Presentation	14/20
Comprehensiveness	16/20
Readability	14/20
Relevance	17/20
Evidence basis	16/20
Total	77/100

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**Interactive skeleton.** Sports and kinetic edition. P Abrahams, J Anderson, D Field. (Technical information: PC, Pentium processor, 16 MB Ram 16 bit or Hi Colour display; Windows 95,98 NT4.0; MAC, Powermac or better processor; 6 MB free Ram; thousands of color display; Mac OS 7.1 or higher. \$99.) Primal Pictures Ltd (www.primalpictures.com). ISBN 1-902470-07-9.

I found that this disc was easy to load—my Pentium 233 64 MB RAM achieved it automatically with no obvious help from myself. Initial browsing was fun; the graphics were clear and the instructions concise. With no difficulty I could locate bones and muscle attachments while reading the relevant text alongside the images. Rotating the image and

zooming up and down the body was no sweat, even for a 37 year old barely literate novice. There were a number of nice features such as images of anatomical dissections or x ray photographs that could be enlarged and labelled at will. The spoken dialogue was, however, rather basic. The search facility was also poor, searches for sacroiliac joint, sinus tarsi, and subacromial bursa all drawing blanks.

Did I like it and would I buy it? Personally, I prefer to refer to good old fashioned textbooks and to visualise anatomy from a real life skeleton, and hence would not invest. I was impressed by some of the imagery and tools. The ability to take an image and transfer it to a PowerPoint slide was most useful. My lasting impression was one of a gimmick that was fun, but when push comes to shove, my colour atlas would be my first choice. I'm certain that students of anatomy—whether medical, physiotherapy, or sports science—would find it of use, especially the quiz facility.

### Analysis

Presentation	18/20
Comprehensiveness	10/20
Readability	16/20
Relevance	16/20
Evidence basis	12/20
Total	72/100

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**ABC of sports medicine.** 2nd ed. Eds M Harries, G McLatchie, C Williams, J King. (Pp 129; £18.95.) BMA House, Tavistock Square, London WC1H 9JR: BMJ Books, 2000. ISBN 0-7279-1366-2.

Here we are, at the second edition already, only five years after the first appearance of the first edition! Has sports medicine changed that much? With this in mind, I compared the editions and found some interesting similarities and differences. The four editors and seven of the chapters are the same. Eleven chapters have new authors, and seven chapters are new. Some chapter titles have been dropped from the second edition, although some of these are covered elsewhere. There is no preface to the second edition which is odd, but the already good layout is improved by the use of a bold type face for paragraph headings. I found no typographical errors but the antipodean x ray photograph on page 21 was challenging.

The chapter contents are largely the same between editions and authors, and the core knowledge base is essentially unchanged. The evidence base is a mixture of clinical experience, empiricism, and scientific trials, which come from a group of authors of national and international standing. There are some useful additions to some chapters, for example the inclusion of valvular disease in the chapter on sudden death. The chapter on the immediate treatment of severe injury is improved with the use of ATLS guidelines. I thought that the chapter on benefits of exercise could have been expanded, and I particularly found no comment on the effects of exercise on pregnancy and vice versa. In chapter 1, I think it would have been useful to mention the need to know the occupation of a sports person unless they are lucky enough to participate in sport full time.

The new chapters included and the old chapters dropped are all worth while; perhaps there were constraints on book length?

On balance, I think that this is an excellent investment for the aspiring sports physician and a useful aide memoire to the established. I do not think that sports medicine has changed a lot in five years, but the second edition successfully builds on the breadth of the first.

#### Analysis

Presentation	16/20
Comprehensiveness	13/20
Readability	15/20
Relevance	18/20
Evidence basis	18/20
Total	80/100

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## NOTES AND NEWS

### IOC Postgraduate Research Grant Programme 2001

The Museum and Olympic Studies Centre of the International Olympic Committee have launched their Postgraduate Research Grant Programme for 2001. These grants are intended to enable researchers in human and social sciences, who are interested in the Olympic games and Olympic sport, to study the historical archives of the IOC. These grants are open to postgraduate students and university staff who have completed their masters or doctorate in the last five years. The closing date for applications is 1 December, 2000. Further details are available from the Postgraduate Research Grant programme, Museum and Olympic Studies Centre, PO Box 1001, Lausanne, Switzerland. Email: studies\_centre.museum@olympic.org

### British Association of Immediate Care education programme

The British Association of Immediate Care have a very active education programme offering a range of courses for those involved in the provision of immediate medical care including doctors, nurses, paramedics, occupational health professionals, the emergency services and those involved in health care at sporting and other events. The Pre-hospital Emergency Care Certificate is perhaps the course most suitable for those providing medical cover at sporting events. A full brochure and booking form is available from BASICS Education Ltd, 7 Black Horse Lane, Ipswich IP1 2EF, UK.

### BASEM 2000 Congress

The BASEM 2000 Congress takes place from 3–5 November, 2000 at the Hilton Puckrup Hall Hotel in Tewkesbury, UK. There has been considerable national and international interest in the meeting this year. The keynote lectures by Professor Norbert

Bachl (Austria) and Dr Bob Cantu (USA) have attracted a lot of interest but in view of recent events at the Sydney Olympics, the session hosted by the British Olympic Association and the Diplomates has also attracted a very large audience. Booking and enquiries should be made to Mrs Sue Roberts, BASEM Company Office, 12 Greenside Avenue, Frodsham, Cheshire WA6 7SA, UK.

### Dilemmas in sport: a journey through ethics, the law and medicine

The Institute of Sports Medicine together with the Sports Medicine Section of the Royal Society of Medicine have organised a meeting entitled "Dilemmas in sport: a journey through ethics, the law and medicine". This all day meeting will take place on 8 November 2000 at the Royal Society of Medicine in London. A wide range of speakers from the world of sport, politics, and the law will address many of the controversial aspects of sports medicine including the ethics of boxing and drugs in sport. John Lloyd Parry, a BASEM stalwart, is the current President of the section of Sports Medicine at the RSM.

### Drugs in sport

The issue of drugs in sport continues to become increasingly complex. Advising athletes about prohibited and permitted medications is difficult. New initiatives by the British National Formulary and MIMs should help doctors to avoid any possible prescribing pitfalls. UKSPORT have produced a Competitors' and Officials' guide which has been made available to teams and officials at major events. There is also an information line at UK Sport, which is supported by a range of fact sheets.

### Centre for Sport and Exercise Science

Sheffield Hallam University have renamed their Sports Science Research Institute. It will now be known as the Centre for Sport and Exercise Science (CSES). It will have three subdivisions: the Centre for Sport Performance, the Centre for Corporate Wellness, and the Centre for Exercise and Health. It is fascinating to see this evolution of sports science and the greater inclusion of aspects of exercise and health.

### How to complain about the Journal!

You probably didn't know this but this journal, as with other journals published by the BMJ Publishing Group, is regulated by the press complaints commission. The publishing group pay a fee to be part of this system of regulation and adhere to a code of practice and are professionally self regulating. The code of practice includes guidance on maintaining the highest professional and ethical standards. It protects both the rights of the individual and the public's right to know. If you do have a problem with any aspect of the journal, please do let us know and we will try to resolve any difficulties. If you have a serious problem, a copy of the guidance notes may be obtained from the Press Complaints Commission, 1 Salisbury Square, London EC4Y 8JB, UK.

## CALENDAR OF EVENTS

### Diploma in Sport and Exercise Medicine, Great Britain and Ireland

This two part diploma examination will be held twice a year. Part 1 of the examination, consisting of a multiple choice question and short essay paper will be held in April and September in London, Glasgow, or Dublin. Successful candidates will proceed to part 2 of the examination in either June or November. This consists of an oral and a clinical, based on two OSCEs, and will be held at a single centre which will rotate every six months.

*Further details:* Examinations Department, Royal College of Surgeons in Edinburgh, Nicolson Street, Edinburgh EH8 9DW. Website: [www.rcsed.ac.uk](http://www.rcsed.ac.uk)

### 19th congress of sports medicine

13–14 October 2000; Bruges, Belgium

Topics include:

- Sports physiotherapy
- Children and sports
- Arthroscopy and sports traumatology
- Medical ethics, doping, and sports

*Further details:* Dr Michel D'Hooghe, President BrucoSport, Hospital AZ Sint-Jan AV, Ruddershove 10, B-8000 Brugge, Belgium. Tel: +32 50 452230; fax: +32 50 452231; email: [brucosport@azbrugge.be](mailto:brucosport@azbrugge.be)

Website: <http://user.online.be/brucosport/index.htm>

### 1st Moscow International Forum: Sport medicine science and practice on the eve of the 21st century

20–25 October 2000; Moscow

*Further details:* Organising Committee of the Forum, Yachshuk AM, Zemlyanoi Val 53, Moscow. Tel: +7 928 29 92.

### Symposium: training, overtraining, and regeneration in sport—from the muscle to the brain

26–28 October 2000; University of Ulm, Germany

Topics include:

- Training and regeneration in sports
- Metabolism, training, and monitoring
- Cellular protection and immunological function
- Muscular adaptations and stress proteins and cytokines
- Peripheral mechanisms for adaptation and regeneration
- Hypothalamic hormonal regulation and the central nervous system

*Further details:* Dr JM Steinacker, Abt. Sport and Rehabilitationsmedizin, Medizinische Klinik und Poliklinik, Universitätsklinikum Ulm, 89070 Ulm, Germany. Tel: +49 731 502 6966; fax: +49 731 502 6686; email: [org.sportmed@medizin.uni-ulm.de](mailto:org.sportmed@medizin.uni-ulm.de)

Website: [www.uni-ulm.de/sportmedizin](http://www.uni-ulm.de/sportmedizin)

**An introduction to sports physiotherapy**

28 October 2000; Wales, UK

*Further details:* Dawn Walling. Tel: +44 (0)20 7251 0583 x 238; email: dawn.walling@nsmi.org.uk

**British Association of Sport and Exercise Medicine congress**

3–5 November 2000; Tewkesbury, UK

Final bookings should be received by 2 October 2000.

Lectures include:

- Muscular conditioning during space station MIR flight
- Health enhancing physical activity—an upgrowing challenge for sports medicine

Please note that there have been some small changes to the congress programme.

*Further details:* Mrs Sue Roberts, BASEM Company Office, 12 Greenside Avenue, Frodsham, Cheshire WA6 7SA. Tel/fax: 01928 732 961; email: basemoffice@compuserve.com

Website: www.pmhcs.com/basem

**6th International Sport Sciences Congress**

3 November–5 November, 2000; Ankara, Turkey

*Further details:* Associate Professor G Demirhan, Hacettepe University, School of Sport Sciences and Technology, Beytepe 06532, Ankara, Turkey. Tel: 90 312 299 2167; email: demirhan@ada.net.tr

**20th national congress of the Société****Française de Médecine de Sport: Physical activity, sport and health**

6–8 December 2000; Paris, France

Topics include:

- Physical activity and fertility
- Sport and aging
- Rehabilitation

*Further details:* Pranacom, 40 rue des Blancs Manteaux, 75004 Paris, France. Email: pranacom.ifrance.com

Website: www.sfms.asso.fr

**NSMI/BASEM Current concepts meeting on tendinopathies**

8–9 December 2000; Cambridge, UK

Subjects covered include:

- Tendon science
- Achilles tendon
- Rotator cuff

*Further details:* Barry Hill, NSMI Medical Education, Medical College of St Bartholomew's Hospital, Charterhouse Square, London EC1M 6BQ. Tel: 020 7251 0583 x237; fax: 020 7251 0774; email: barry.hill@nsmi.org.uk

Website: www.nsmi.org.uk

**True or false?—answers**

(T = true; F = false)

p 326: Petrella RJ. Is exercise effective treatment for osteoarthritis of the knee?

1(a) T; (b) F; (c) F; (d) T. 2(a) T; (b) T; (c) F; (d) F. 3(a) T; (b) T; (c) T; (d) T. 4(a) T; (b) T; (c) T; (d) T. 5(a) T; (b) F; (c) T; (d) T.