Complex regional pain syndrome in thoracic outlet syndrome

We read with interest the article by Casey et al.1 Notwithstanding their substantial work, we have a few comments about their article. First of all, we wonder whether they performed any evaluations for coagulopathy in such a patient with severe thrombosis and endothalial damage. We also wonder why they delayed surgery for one month, whether they prescribed an exercise programme before prophylactic left cervical rib excision was planned, if the patient initially had any neurological findings, such as muscle weakness, atrophy, hypoaesthesia, or reflex abnormalities, or any objective evidence of neurogenic thoracic outlet syndrome (TOS). As the patient was diagnosed with TOS and it is generally recommended that first rib resection and scaleneotomy be performed for this condition, why these were not applied is not clear from the text.

The main point that we would like to stress is the mechanism of the patient’s pain relief after sympathectomy. Do the authors believe that it was due to improved circulation, which we believe is unlikely in such occluded vessels, and could it have been confirmed by imaging? We believe that some of the painful symptoms may have been due to complex regional pain syndrome, a likely diagnosis in patients with TOS, in whom the sympathetic fibres around the subclavian artery, innervating the upper extremities, become compressed by a cervical rib. The patient’s good symptomatic relief despite some arm claudication after surgery also supports our hypothesis. Thus we propose that the favourable outcome after sympathectomy may rather have stemmed from its beneficial effects on complex regional pain syndrome.

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Reference

Upper body contribution to high intensity cycle ergometer exercise: implications for blood lactate measurements and power profiles

We read with interest the article by Hunter et al.1 We would like to elaborate a little on the measurement of high intensity exercise and in doing so identify possible factors that may have contributed to the conclusions drawn. We recently investigated the upper body contribution to high intensity exercise performance.2 The purpose of the study was to examine the upper body contribution through a handgrip to power profiles and blood lactate concentrations during high intensity cycle ergometry. Nine trained male subjects each completed a 20 second, high intensity cycle ergometer test twice, in a random order, using two protocols, with a handgrip (WG) and without a handgrip (WOHG). Capillary (ear lobe) blood samples were obtained before and after exercise. Blood samples were corrected for changes in plasma volume.

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References
Clinical governance is unworkable

In your editorial on clinical governance, you cited “fragmented…evaluation” and “…lack of…benchmarks of quality of care…” and thus entails an analogy between clinical evaluation of patients and performance evaluation of physicians. The clinical biochemical literature identifies a deficit that renders the analogy false: “…total quality management (TQM) in laboratory medicine [requires]…that objective quality goals must be clearly defined a priori…”

Obviously, an evaluator can compare care he examines with quality benchmarks in either laboratory or clinical medicine only if he has a clear, a priori, definition of quality of care in mind. Mechanistic goals of laboratory medicine may be amenable to a priori definition, but the more subjective, viewpoint dependent goals of clinical medicine are not, as Steffen inadvertently demonstrated as he sank into a conceptual quagmire in his attempt to define quality of medical care.

Another logical bind noted in the medical literature is that performance evaluation of individuals is counterproductive of Continuous Quality Improvement (CQI/ TQM), because it instils fear and erodes morale,” so clinical governance, reliant on CQI, is likewise incompatible with it. Deming implemented CQI by substituting leadership for performance evaluation. Leadership, unlike performance evaluation, is compatible with collegial principles governing professional development in medicine.

Besides, the clinical assessor too often errs because of the customary procedure in medical peer review: without having examined the patient in question, he relies on the relevant clinical chart alone in his attempt to evaluate a physician’s performance.

Accordingly, it is small wonder that “there is…little published evidence that clinical governance makes any…difference.” The foregoing fundamental internal contradictions render clinical governance unworkable.

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References

BOOK REVIEWS

Textbook of sports medicine

I have long been impressed by the Scandinavian contribution to sports medicine and exercise science. Therefore a textbook that is the product of leading Scandinavian authors is eagerly awaited. This one does not disappoint. It should appeal to both sports scientists and clinicians.

The first section of the book is devoted to basic science—exercise physiology, bio-mechanics, and tissue repair processes. The chapters are well written and up to date, but, as a clinician, I found the information was not as well presented as in Wilmore and Costill, which for me remains the benchmark for presentation style.

The second section deals with aspects of human performance and is both detailed and accurate. In the absence of overtreatment, there is appropriate mention of the work of major contributors such as Eric Newsholme and Laurel McKinnon. In the section on altitude training, there is discussion of the live high, train low concept, which is the product of relatively recent research. This demonstrates the contemporary nature of this text.

Moving on, there are well written contributions on exercise in acute and chronic disease states. Some of the major pioneering research on osteoarthritis and sports participation was done in Finland, and this work is given due mention in the textbook. There is a 25 page chapter on imaging of sports injuries, which provides an overview of the basis of the strengths and weaknesses of the various imaging modalities. The images and diagrams that accompany the text are well chosen.

For sports physicians, the bulk of clinical work involves injury diagnosis and treatment, which occupies the final 250 pages of the book. Here the content is mixed. There is a good description of common and less common causes of leg pain—for example, popliteal artery entrapment. However, tendinopathy is not mentioned as such in this section of the book—rather the term tendinosis is used. Alfredson’s concentric ten eccentric strengthening regimen is mentioned, but no specifics are given, such as appears in the textbook of Brukner and Khan. There are only two paragraphs devoted specifically to diagnosis and treatment of stress fracture of the naviculare, which is a bit light in a textbook of this size. Sadly, there is no mention of the Vienna conference consensus on concussion held in 2002.

In summary, this is a useful textbook that successfully combines sports science and medicine into a unified body of work. Its strength is the close linkage and reference to original research (each chapter starts with a reference to a classic paper). Its weakness is that, for clinicians, more detail on diagnosis and management of certain injuries would be required for those wanting a text to consult for specific advice.

It’s a very good book, but in my view Brukner and Khan remains a better text for clinicians.

Analysis
Presentation 14/20
Comprehensiveness 17/20
Readability 15/20
Relevance 18/20
Evidence basis 19/20
Total 83/100

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Essentials of sports nutrition, second edition

The author summarises the aim of this book in his preface as “to give a scientific but easily understandable overview of aspects related to nutrition and physical activity”, and it does just that.

Having published numerous scientific studies himself, this well respected author, Brouns, is certainly qualified to write such a text. This, together with the panel of internationally recognised experts acknowledged as having critically reviewed the manuscript, ensures that this book is a highly credible source of sports nutrition information.

As expected in a sports nutrition book, this book logically summarises the macro and micro nutrients, with chapters dedicated to each of carbohydrate, fat, protein, fluid, minerals, trace elements, vitamins, and antioxidants. Each chapter provides a detailed overview of the research relating to the topic. The key points at the conclusion of each chapter provide a simple summary without the detail and research for those just wanting the bottom line.

With almost 500 scientific references provided to support the facts, it really is a scientific reference book. It is therefore easy to understand why this book is used as an educational text in graduate courses of sports science, physical education, and sports medicine, in several countries. Although this book is certainly not targeted towards the sports person or athlete wanting to learn how to meet their nutritional requirements, some practical information could have easily been incorporated. In my opinion this is the only “essential” ingredient lacking. There is a chapter dedicated to “From theory to practice”; however, this is more of a summary of the scientific facts. There are some guidelines relating to what to do—that is, nutritional requirements. However the “how to” component is lacking. Additional tips and strategies for applying the facts would complement this book and perhaps extend its use.

Overall, Essentials of sports nutrition is a very useful addition to any sports nutrition library.

www.bjsportmed.com

PostScript
The female athlete


This book is a very informative source, both from a practical point of view with its sports medicine content, and also from an educational angle with information on the psycho-social aspects of the female athlete, which are very relevant and are not often included in general sports medicine texts.

The book presents sex differences in injury occurrence and gives effective advice on prevention and injury management. It is largely targeted at sport medicine professionals, but also significant sections are relevant to coaches, trainers, administrators, and, in some part, the athletes themselves and their families.

The organisation is logical, with the content divided into sections including firstly historical, psychosocial, and performance issues followed by chapters on female specific and general medical conditions, and finally sections dealing with orthopaedic, rehabilitation, and sport specific conditions. The chapters are well written and easy to read, with a considerable level of research literature and statistical data discussed within.

The presentation of the text is clear, with good use of tables, figures, and other visual representation of information.

The initial section gives a good historical background to female sports participation and explores psychosocial and performance issues and how they relates to the athlete and those working with her. This is important in knowing how to create a successful working relationship by understanding the subtle differences in dealing with female rather than male athletes. This is particularly well explained. There could be more information included here, for example on race, class, and sexuality as such subjects are rarely broached in this type of literature and would improve the knowledge of those caring for the athlete.

The following section covers in great detail problems associated with nutrition, menstrual dysfunctions, and other obstetric and gynaecological issues including pregnancy as well as general medical conditions. Despite some repetition of information, there are very good chapters covering the female athlete trial and the sequelae of disordered eating, with pragmatic advice on recognising symptoms of these conditions. The chapter on the physically challenged athlete supplies detailed information on some of the unique problems faced by this group of athletes. This is important in knowing how to create a successful working relationship by understanding the subtle differences in dealing with female rather than male athletes. This is particularly well explained. There could be more information included here, for example on race, class, and sexuality as such subjects are rarely broached in this type of literature and would improve the knowledge of those caring for the athlete.

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training, strength and power training for sports.

Readers who enjoyed the first edition of this book will be delighted to see that most of the original 30 contributors (all world experts in their field) accepted the invitation to revise and update their chapter(s) for this edition.

Although such multiauthor books can sometimes lack congruency and be repetitive in places, the editor should be applauded for ensuring consistency and minimising repetition. Although the structure and content area of the current edition is very similar to the first edition, some excellent new chapters have also been included.

These new chapters describe: proioprietary training; aging and neuromuscular adaptations to strength training; biomechanics of strength and power training; the application of vibration loads for strength and power development. Such additions to this edition reflect the rapid growth of research interest and knowledge in these specialist areas. On the other hand, some chapters that I valued in the first edition—for example, anthropometric factors related to strength and power, as well as training for bodybuilding and power events—have been omitted. However, the lack of such sections is a minor quibble as the material presented in the current edition is well written and probably covers the most important aspects of strength and power development.

This book would be a great reference for anyone interested in strength and power training and development. I would recommend its purchase for sport scientists (in particular exercise physiologists and biomechanists), sports medicine professionals, university students in the field, strength and conditioning coaches, clinical exercise specialists, and personal trainers. Hence, I believe that a copy of this book should be found in the library of any institution in which sports science or medicine is taught.

Overall, I found the book to be well presented with a logical structure (both within and between chapters). The numerous figures and tables highlighted pertinent research and complemented the material presented in the text. Consistent with the aims of the International Olympic Committee (IOC), this book was very comprehensive, covering (in detail) most issues that relate to strength and power development. However, chapters on the influence that anthropometry and nutrition have on strength and power would have been invaluable. Although some of the nutritional issues are discussed in Nutrition in Sport (another book in the IOC Encyclopedia of Sports Medicine series), it would be convenient to find such material in Strength and power in sports as well. Similarly, although one chapter described training for Olympic weightlifting, I would have also appreciated the inclusion of comparable chapters on other sports as well. Strength and power in sports was a pleasurable and informative read, as it was generally written in a scientifically rigorous yet reader friendly manner. However, some readers may find sections within the small number of mathematically based chapters more difficult to follow. Regardless, readers should endeavour to work through such chapters, as they will be rewarded with a greater understanding of strength and power development. As the material covered in this book is based predominantly on peer reviewed journal articles (a good number of which were written by the chapter authors), such material generally reflects the current views in the field. However, some examples of anecdotal evidence and/or personal views also appear in certain chapters. The presentation of such non-refereed material may reflect the relative infancy of research in strength and power training and/or the accumulated wisdom and experience of the authors. Although not yet experimentally validated, such speculation may act as a catalyst for further research.

Exercise and sports cardiology


On numerous occasions athletes are charged with “having no heart” or alternatively “having a huge heart”. According to this text they all have one, but they do vary in size considerably.

This is not “Sports cardiology for dummies”: Pithed more at the cardiologist with an interest in sport, than the sports physician with an interest in cardiology, this text overflows with information. It assumes a basic knowledge of cardiology, for example arrhythmias, ECG interpretation, and the basics of echocardiography. If you are a little rusty, keep the basic text handy.

Many parts are highly technical and delve deeply into cardiac and exercise physiology. For the scientist this is fantastic, the sports medicine clinicians may wish to skip it. However, the clinical sections are excellent.

The relevant topics are dealt with clearly, thoroughly, and with more than adequate depth. It describes diagnostic criteria for relevant syndromes (Marfans, HCM) affecting the heart and includes up to date genetic research in these areas. All appropriate sports medicine and cardiology issues are explored, with excellent sections on children, screening, and the effects of exercise on medical conditions such as diabetes and lipid disorders. Interestingly, treatment of all areas mentioned is discussed only fleetingly.

The book can be complex but the statements are reasoned, and the authors clinical perspective is interesting and thought provoking. Despite this complexity in some parts, Exercise and sport cardiology will be an excellent reference text for those studying and practising clinical sports medicine and is something that has been missing from the library until this point.
The 6th STMS World Congress on Medicine and Science in Tennis in conjunction with the LTA 2004 Sports Science, Sports Medicine and Performance Coaching Conference
Keynote speakers include Professor Per Renstrom (SWE), Professor Peter Jokl (USA), Professor Savio Woo (USA), Dr Carol Otis (USA), Dr Mark Safran (USA), Dr Ben Kibler (USA), Prof Bruce Elliott (AUS), and Professor Ron Maughan (UK).
Further details: Dr Michael Turner, The Lawn Tennis Association, The Queen’s Club, London W14 9EG, UK; email: michael.turner@LTA.org.uk

9th European College of Sports Science Conference
3–6 July 2004, Clermont-Ferrand, France
More than 1500 participants from 70 countries are due to attend.
Further details: website: www.ecss2004.com

The Leeds Sports Imaging Course
6–7 September 2004, Leeds, UK
This two day course is aimed at both radiologists and clinicians who are involved in sports imaging. The course will comprise an imaging and clinical overview of all relevant joint, bone and soft tissue sporting injuries.
Further details: website: www.leedsth.nhs.uk

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