Book reviews

Evidence-based sports medicine

Domhnall MacAuley, Thomas Best (eds), 578 pages, BMJ Books, 2002
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In recent years, the requirements relating to the scientific base on which various studies are founded have been raised significantly. Evidence-based medicine (EBM) has become a general term, which is being used increasingly. It goes without saying that it is a good thing that the standards have been raised and that studies are based to an increasing degree on scientific facts and not simply on clinicians' views, which have traditionally been based on out-dated dogmas. The underlying concept of evidence-based medicine is randomized, controlled (prospective, blind, etc.) studies (RCT), even if studies of other kinds, such as register studies and meta-analyses, also play an important role. There is no question that this discussion and the call for well-organized, well-planned studies have led to many positive developments and the relative speed with which they have taken place is perhaps most rewarding. EBM has never been questioned.

I therefore read the book entitled, "Evidence-based Sports Medicine" with great confidence, not least because sports medicine has often been criticized for being unscientific. Having read the book, I was not at all disappointed. Writing a summary of EBM in a complete field and giving an entire picture of the situation is a new and very interesting approach, but it is not completely satisfactory, firstly because of the rapid developments in this field. For this reason, the authors have simply not had the time to include several relatively recent studies of high quality; the time it takes from starting to write a book to getting it published adds to the difficiulties in this respect. I regard this as the only real weakness of the book, but it is a weakness that is unavoidably inherent in this method. The alternative would have been not to publish the book at all and instead to put the material on a website, for example. The two main authors (one from Ireland and the other from the USA) have been assisted by 45 co-authors and it seems that the choice of collaborators has been successful. These authors represent different sub-disciplines and are geographically spread, thereby increasing the scope of both the preparation and their views. This book, which has just under 600 pages, is divided into 6 sections. The first of them (40 pages) is entitled, "An introduction to evidence-based medicine in sport" and it deals with the way the literature in question should be approached critically, a discussion of the method and the way databases can and should be used. These chapters are general and are largely based on facts, but they can nonetheless be regarded as compressed, well-written information about research methods. The next section is, "Management of acute conditions". It discusses topics such as the effect of low temperatures on acute injuries, what is known about physical activity in connection with acute infections and the manner in which physical activity could reduce the risk of injuries resulting from falls and their effects. It is clear that there are many studies which show the positive effects of physical activity on health, such as the prevention of illness and injury. As in other parts of the book, the chapters in this section are very well written and, despite the lack of illustrations (there is not a single color illustration in the entire book), the text is easy to read. The large number of tables, data boxes and summaries considerably improve the pedagogic value. Each chapter ends with key messages, case studies and a question bank, which is often made up of multiple choice questions. This all helps significantly to enhance the value of the book and gives an opportunity for individual studies of the material. The next section is logically entitled, "Management of chronic conditions". This discusses questions, such as whether physical activity helps or causes damage in connection with arthrosis of the knee,

the best way of treating physically active people with back pain and the importance of physical activity in conjunction with the prevention of fractures due to osteoporosis. These chapters have the same form—i.e., no illustrations, but they nonetheless have many other interesting pedagogic approaches, such as ending the chapters with a short table entitled, "summarizing the evidence". These tables also rank the level of evidence in various studies, thereby extending the depth of the information still further. The final three sections deal somewhat more traditionally with "Injuries to the upper limb", "Injuries to the groin, hip or knee" and, finally, "Injuries to the lower leg". This is also the most comprehensive part of the book, covering more than 300 pages literally packed with data. It is clear that the evidence relating to the value of certain treatment methods and certain injuries is far greater than that relating to others. There are, for example, 13 RCTs which demonstrate the value of cortisone injections (compared with placebo) in patients with shoulder pain, while there are none which satisfactorily compare the conservative treatment of anterior cruciate ligament rupture with surgical treatment—in other words, whether or not a cruciate ligament injury should be treated surgically. This is somewhat surprising, as we have thousands of studies on the treatment of cruciate ligament injuries. In the chapter dealing with the optimal treatment of cruciate ligament injuries, the limitations of this book do, however, become obvious. The authors state that there are no studies (no RCTs) which answer the question whether patellar tendon or hamstring tendons are best as grafts for anterior cruciate ligament reconstructions. This was, of course, correct when the chapter was written, but there are currently 9 RCTs and 1 well-conducted meta-analysis which answer this specific question with good scientific reliability. Another important criticism is the weakness of the evidence about the way acute Achilles tendon ruptures should be treated—in other words, by an operation or just immobilization. More than 800 studies on treatment have been published and only a few RCTs, but additional evidence has become available since this chapter was written. A detailed review is also available about the treatment of acute shoulder dislocations, injuries to ankle ligaments (prevention and treatment), stress fractures and various tendon problems, such as pain in the groin and plantar fasciitis. Each chapter is accompanied by a detailed and very well-updated reference list and the book ends with an index, which is of practical value.

Taken as a whole, this is an impressive book, the concept is new and many of the pedagogic approaches are excellent. Despite the lack of color illustrations, the text is interrupted in various ways—e.g., by well-designed tables and data boxes. Therefore, it is never difficult to read. What is more, the main authors have done a very good job in coordinating the text between the different chapters, which is often difficult when there are so many collaborators and it calls for meticulous work when it comes to editing, language processing and so on. This book has a very wide range of uses and it is well worth reading. I recommend it highly.

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