

## Book reviews

### ***MRI atlas of the musculoskeletal system***

Torsten B Möller and Emil Reif (editors), 308 pages, Blackwell Scientific Publications, Boston, 1993  
ISBN 0-86542-291-5

Knowledge of the anatomy is mandatory in cross-sectional imaging, including MRI of the musculoskeletal system. In the evaluation of soft tissue and bone tumors it is of great importance to diagnose tumor extension, i.e., whether one or more muscle compartments are involved, whether deep fasciae are penetrated by tumor, etc. With increasing use of MRI for diagnosis of joint diseases, an exact knowledge of the anatomy of different joints is important, especially since we can now with MRI visualize the joints in several projections, not only in axial views as with CT. This increases the demands for a knowledge of anatomy.

This atlas of the musculoskeletal system is an attempt to increase our knowledge of anatomical details in the axial, coronal and sagittal planes. The section that is depicted is marked on an anatomical drawing of the skeleton to identify the level of the section. Each section consists of an MR image accompanied by a line diagram of the same section. Each muscle group is identified by its own color, which is the same in all sections where this muscle group occurs. This makes the identification of muscles easy. Every anatomical detail of the picture is marked by arrows and an accompanying text. Nerves, arteries and veins always have their special color. The uniformity of this system makes it easy to

follow all anatomical structures from section to section.

The line diagrams and the color system are excellent. Unfortunately, the MR images, from which the line diagrams are made, are often of poor quality, and the details of the line diagrams cannot always be identified on the too dark MR image. It must also be emphasized that the finer details of the joint anatomy are not well illustrated, notably many ligaments of the wrist or the popliteal ligament and its relation to the posterior horn of the lateral meniscus of the knee.

One more critical point is that the muscles of the thoracic and abdominal trunk are only occasionally shown, for instance, around the buttock. The anatomy of the spine and the paraspinal muscles are not included.

Thus, this atlas covers the gross anatomy of the extremities and is in this respect of excellent quality, especially concerning muscles. For anatomic details of joints more specialized books are needed, but this atlas is not unique in this respect.

#### **Kjell Jonsson**

*Department of Radiology, Lund University Hospital,  
S-221 85 Lund, Sweden*

## The knee

John N Insall, Rusell E Windsor, W Norman Scott, Michael A Kelly, Paolo Agletti (editors), 2nd edition, 1213 pages, Churchill Livingstone, London 1993  
ISBN 0-443-08734-2

This is the second edition of a classic textbook, the first edition having been published in 1984. The chief editor is John N Insall, well known for his work on patellofemoral disorders and total knee arthroplasty. The text is organized into 6 major sections: basic science, examination, ligament injuries, joint replacement, trauma, and miscellaneous conditions, concisely written by 40 contributors.

In the section on basic science there is a well written chapter on healing of menisci and knee ligaments. Meniscal repair and regeneration and the vascular anatomy of the menisci are thoroughly described. The chapter on mechanics is, however, only a short review on the complex function of the knee.

In the section on examination there are informative chapters on radiographic methods, including arthrography. The chapter on MRI is concise and well written. However, there is no specific chapter on CT. The chapter on clinical examination is supplemented by excellent illustrations, and I found the description of surgical approaches practical and useful.

There are excellent reviews on classifications of ligament injuries and chronic instabilities, and the section on reconstruction of the anterior cruciate ligament is thorough and up-to-date. The consequences of anteromedial and anterolateral instabilities are well described, including the detailed description of reconstruction of the anterior cruciate ligament using the central part of the patellar tendon. The technical approaches in the management of injuries to both cruciate ligaments are extensively described, and good illustrations supplement the detailed descriptions of the different techniques.

Diagnostic and operative arthroscopy are covered in 2 chapters, with a review of instrumentation, surgical approaches, techniques, documentation and complications. The chapter on disorders of the patellar articulation is a thorough review of this controversial topic, with substantial information on the use of CT, and Insall gives his own vast experience of surgery for recurrent patellar instability and patellar pain.

An excellent chapter on surgical pathology of knee arthritis by Freeman describes the kinematics and biomechanics of arthrosis and rheumatoid arthritis, and some of the best chapters are those on osteo-

necrosis and on osteotomy for early osteoarthritis. The first description of spontaneous osteonecrosis by Ahlbäck and co-workers is commented on appreciatively, but Ahlbäck's radiographic classification of arthrosis is hardly mentioned. The descriptions of etiology, pathology and clinical aspects of osteonecrosis are precise and up-to-date, and the use of scintigraphy, as first documented by Bauer and co-workers for diagnosis of early stages of osteonecrosis, is discussed. The indications, contraindications and different techniques for high tibial osteotomy are described in detail, supplemented by informative illustrations.

The most extensive section of this book covers total knee replacement (TKR) and its alternatives in no less than 11 chapters, starting with historical development, classification and characteristics of knee joint prostheses. Tribute is paid to the early development of the hinged prosthesis by Walldius. Detailed descriptions of surgical techniques and instrumentation, TKR with posterior cruciate ligament retention and substitution, as well as cementless TKR and revision surgery, are nicely supplemented with illustrations. Unicompartamental knee arthroplasty is covered in only 10 pages and the PCA uni-knee disaster is not discussed at all. In the chapter on complications after TKR, problems with polyethylene wear and osteolysis caused by debris are discussed in detail. The use of roentgen stereophotogrammetry for studies of fixation and loosening of knee prostheses is discussed, but the nationwide multicenter prospective study of knee arthroplasties in Sweden is not mentioned.

The section on congenital and developmental abnormalities is brief, and a description of anterior cruciate ligament injuries in patients with open growth plates is lacking. The chapter on rehabilitation is brief but concise.

The reference list, including several Scandinavian authors, is very extensive and up-to-date. In spite of the above-mentioned few shortcomings, this is an excellent textbook and a great source of information for any knee surgeon.

### Jon Karlsson

Department of Orthopedics, Östra sjukhuset,  
S-416 85 Göteborg, Sweden