Imaging of Arthritis and Metabolic Bone Disease

This multiauthor textbook is intended for radiologists and nonradiologists, to serve as a resource for understanding the role of current imaging techniques in assessing rheumatologic and metabolic diseases of bone, as well as providing guidelines for selecting the optimal imaging algorithm for evaluating these various conditions.

The contents are divided into 4 sections:
1. General imaging principles. This omits discussion of conventional radiography and focuses on more advanced techniques including computed tomography, scintigraphy, magnetic resonance imaging, arthrography and injection procedures, dual-energy X-ray absorptiometry, and ultrasound. A superb overview of these imaging modalities is provided and offers a solid framework for understanding the subsequent chapters.
2. Imaging of degenerative and traumatic conditions. From a semantic perspective, the title of this section does not follow logically if the subject is arthritis, and might more appropriately have been entitled Rheumatologic Conditions. Notwithstanding this proviso, the section provides key discussions of many topics germane to the practice of rheumatology. There are the expected chapters dealing with degenerative, inflammatory, and crystal arthropathies, including 2 excellent chapters dealing with pediatric conditions. In addition, other important disorders are included, such as diabetes, imaging of muscle, tendon and bursae, entrapment syndromes, and drug-related disorders.
3. Imaging of metabolic conditions. This includes concise, well written chapters dealing with essential topics (e.g., osteoporosis, reflex sympathetic dystrophy, hyperparathyroidism, and renal osteodystrophy), along with more esoteric subjects such as hypophosphatasia (a 1 page chapter) and Fanconi syndrome and renal tubular acidosis (a 2 page chapter).
4. Interventions. This section provides discussion of a variety of procedures relevant to rheumatology and orthopedics, as well as a noteworthy chapter dealing with bone diseases related to organ transplantation.

Each of the 41 chapters in these different sections attempts to follow a uniform format set by the editor, beginning with general musculoskeletal manifestations followed by specific imaging features at relevant anatomic sites, and finally extraskeletal manifestations of each entity.

This text would be a valuable addition to the library of medical imaging and rheumatology departments and, in my opinion, is highly recommended reading for trainees in those medical specialties, as well as residents in orthopedics and plastic surgery.

JOEL RUBENSTEIN, MD, Sunnybrook Health Sciences Centre, Medical Imaging, 2075 Bayview Avenue, Toronto, Ontario M4N 3M5, Canada.

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