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Preface



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Guest Editor

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Over time, since its first use in evaluation of the musculoskeletal system, ultrasound has become more accepted and its applications more diverse. This continued growth relates to advances in technology and awareness that this imaging method has a definite role in the diagnosis of musculoskeletal pathology. Indeed, musculoskeletal ultrasound should be viewed as another important imaging tool, along with MR imaging, CT, and radiography. From the point of view of a radiologist, the more tools available to image the musculoskeletal system, the more musculoskeletal pathology can be effectively diagnosed.

While musculoskeletal ultrasound can demonstrate pathology seen on other imaging studies, such as MR imaging, ultrasound should be viewed as a complementary tool rather than one that competes with MR imaging. The choice of ultrasound versus MR imaging depends upon many factors, such as access, expertise, expense, clinician preference, the anatomical area imaged, and the pathology suspected. The use of ultrasound should fit a logical algorithm that takes all of these issues into consideration. For example, in an older individual with shoulder pain, one algorithm

would be to start with radiography and, depending on the findings, continue with ultrasound. If the diagnosis is still unclear, then continue with MR imaging. In contrast, the evaluation of shoulder pain in a young athlete, one should consider radiography and then MR arthrography, given the likelihood of cartilage pathology. There are indications where ultrasound should be the primary consideration. One area is the evaluation of dynamic pathology that requires joint movement or positioning, such as snapping or dislocating structures.

One of the reasons for the relatively slow growth of musculoskeletal ultrasound compared to MR imaging is the time and effort required to learn and perform this imaging method. For musculoskeletal ultrasound to succeed in a busy imaging practice, I believe that musculoskeletal ultrasound technologists must be at the forefront, performing the examination and acquiring images. However, it is vital that both the technologist and physician are skilled in musculoskeletal ultrasound. The purpose of this issue of *Ultrasound Clinics* is to review the current and most common applications of musculoskeletal ultrasound.

It is my honor to be invited as the Guest Editor for this issue of the *Ultrasound Clinics*. I am fortunate that the leading experts in musculoskeletal ultrasound have agreed to contribute. In this issue, after a brief introduction, tendon and muscle pathology, is reviewed with Drs. Finlay and Friedman discussing upper extremity and Dr. Miller discussing lower extremity. This is followed by discussions of ligament abnormalities by Dr. Craig and musculoskeletal infection by Drs. Mossa-Basha and van Holsbeeck. Dr. Martinoli and colleagues then discuss applications of ultrasound in evaluation of peripheral nerves. Dr. Shiels shares his immense experience with foreign bodies in the next article, including percutaneous foreign body removal.

A comprehensive review of soft tissue masses is authored by Drs. Adler and Hwang. The important role of ultrasound in evaluation of dynamic imaging is reviewed by Drs. Khoury and Cardinal, whose article includes real-time video clips available through an Internet Web link. Drs. Jamadar and Franz then review the always challenging topic of inguinal region hernias. Dr. Lopez-Ben discusses the use of ultrasound in assessing synovitis and erosions, an important application in assessment of inflammatory arthritis. Lastly, Drs. Fessell and van Holsbeeck review interventional musculoskeletal ultrasound, which includes techniques in joint aspiration. I hope that you find the material by these leading authors enjoyable and educational.