

## More doctors use ultrasound to diagnose, manage rheumatic diseases

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More rheumatologists are embracing musculoskeletal ultrasound (MSUS) to diagnose and manage rheumatic diseases. In response, the American College of Rheumatology (ACR) assembled a task force to investigate and determine best practices for use of MSUS in rheumatology practice. The resulting scenario-based recommendations, which aim to help clinicians understand when it is reasonable to integrate MSUS into their rheumatology practices, now appear online in *Arthritis Care & Research*.

In Europe, more than 100 million individuals are affected by [rheumatic diseases](#), according to the European League Against Rheumatism (EULAR). The ACR estimates that nearly 50 million Americans are burdened by [arthritis](#) and more than 7 million individuals suffer from inflammatory rheumatic diseases such as systemic lupus erythematosus, rheumatoid arthritis and gout.

"With so many people affected by rheumatic diseases, including arthritis, a diagnostic tool such as MSUS that is minimally invasive and with little risk to patients is an important tool for rheumatologists," explains lead researcher Dr. Tim McAlindon from Tufts Medical Center in Boston, Mass. "Our task force goal was to establish when use of MSUS was 'reasonable' in a number of medical situations."

The task force reviewed medical literature to come up with scenario-based recommendations for how MSUS could be used in rheumatology practice. These recommendations include a rating by type of evidence,

with Level A supported by at least two randomized clinical trials or one or more meta-analyses of randomized trials; Level B backed by one randomized trial, non-randomized studies or meta-analyses of non-randomized studies; and Level C confirmed by consensus expert opinion, case studies, or standard clinical care.

The complete list of 14 recommendations of the reasonable use of MSUS in rheumatology, along with level of evidence, is published in the article. Partial list of recommendations includes:

- For a patient with articular pain, swelling or mechanical symptoms, without [definitive diagnosis](#) on clinical exam, it is reasonable to use MSUS to further elucidate the diagnosis at the following joints: glenohumeral, acromioclavicular, sternoclavicular, elbow, wrist, metacarpophalangeal, interphalangeal, hip, knee, ankle, midfoot and metatarsophalangeal. Level of evidence: B.
- For a patient with diagnosed inflammatory arthritis and new or ongoing symptoms without definitive diagnosis on clinical exam, it is reasonable to use MSUS to evaluate for inflammatory disease activity, structural damage or emergence of an alternate cause at the following sites: glenohumeral, acromioclavicular, elbow, wrist, metacarpophalangeal, interphalangeal, hip, knee, ankle, midfoot and metatarsophalangeal, and enthesal. Level B.
- For a patient with shoulder pain or mechanical symptoms, without definitive diagnosis on clinical exam, it is reasonable to use MSUS to evaluate underlying structural disorders; but not for adhesive capsulitis or as preparation for surgical intervention. Level B.
- It is reasonable to use MSUS to evaluate the parotid and submandibular glands in a patient being evaluated for Sjögren's disease to determine whether they have typical changes as further evidence of the disorder. Level B.

- For a patient with symptoms in the region of a joint whose evaluation is obfuscated by adipose or other local derangements of soft tissue, it is reasonable to use MSUS to facilitate clinical assessment at the glenohumeral, acromioclavicular, elbow, wrist, hand, metacarpophalangeal, interphalangeal, hip, knee, ankle/foot, and metatarsophalangeal joints. Level C.
- For a patient with regional neuropathic pain without definitive diagnosis on clinical exam, it is reasonable to use MSUS to diagnose entrapment of the median nerve at the carpal tunnel; ulnar nerve at the cubital tunnel; and posterior tibial nerve at the tarsal tunnel. Level B.
- It is reasonable to use MSUS to guide articular and peri-articular aspiration or injection at sites that include the synovial, tenosynovial, bursal, peritendinous and perientheseal areas. Level A.

The benefits of MSUS use include a faster, more accurate diagnosis, better measurement of treatment success, reduced procedural pain, and improved patient satisfaction. However, the authors highlight that economic impact was not part of this study. Dr. McAlindon concludes, "Further study of the cost-effectiveness and long-term outcomes of MSUS is necessary to determine its value compared to other interventions."

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