

Why the EFSUMB guidelines in musculoskeletal ultrasonography are necessary?

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Musculoskeletal ultrasonography (MSUS) has become a widely used technique in rheumatology, orthopaedics, sports medicine, rehabilitation medicine, radiologists, and many other medical specialities. The technique is recognized as a dynamic, multiplanar, patient-friendly, easily and bedside available diagnostic imaging method. Also, US details relevant anatomical and pathological conditions of the cortical bone and soft tissue structures, can assess multiple joints, provides high-resolution and real-time images on multiple plans and is less expensive than other imaging methods. Its sensitivity and specificity are higher than the clinical examination's and, in many situations, its ability for detecting the real pathology is comparable to the magnetic resonance imaging (MRI). The utility of MSUS for the diagnosis, management and monitoring of the musculoskeletal disorders is largely recognised and all these are emphasized by the possibility of efficiently guiding the local therapy or biopsy.

The number of publications related to the MSUS has grown exponential in the last years, the research being stimulated by the numerous developments of the technology (for example: high-quality US machines or high-frequency transducers – more than 24 MHz, new US techniques such as elastography or contrast enhanced US). The increased quality of Doppler techniques transformed the MSUS in the preferred imaging technique used for inflammation evaluation.

The high interest in using MSUS in the daily professional life was stimulated also by the medical scientific societies, by organizing courses, workshops or congresses [for example the European League Against Rheumatism (EULAR), European Society of Musculoskeletal Radiology (ESSR) or European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) in Europe]. In the last years, many clinical practice guidelines or position statements regarding MSUS were published [1-9]. Being considered an operator-dependent technique, standardization of the US was a matter of debate over the years. The work of OMERACT (Outcome Measures in Rheumatoid Arthritis Clinical Trials) was very important for publishing expert consensus on MSUS definitions for normal and pathological findings, these definitions being considered to form a standardized nomenclature in the present [10].

Taking in consideration the huge number of MSUS indications and the multitude of medical specialities that have been using the technique, the necessity for a common position among MSUS experts became obvious. The synovitis, tenosynovitis, muscle trauma, ligament tears, nerve compressions, bone erosions, fascial thickening or subcutaneous nodules have the same US aspect, irrespective of the speciality of the performing examiner.

For this reason, EFSUMB, an organisation in which US is 4all, brings together experts from different specialities and medical scientific societies in order to elaborate generally valid recommendations for the use of MSUS. After discussions and consultations inside the EFUMB Executive bureau and in the steering group, 35 representative personalities of the MSUS from 15 countries across Europe were invited. The group has been working for more than 10 months and now is close to completing the task.

The recommendations are based on an extensive literature review. The literature research included the papers

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that have been published in the last 20 years, a period that we considered to be the most representative for the knowledge in MSUS. A recommendation level was suggested for each guideline based on the published literature. The Oxford Guidelines for reporting medical evidence was used, specifying the level of evidence (LoE) and the grade of recommendation (GoR) [11] and the entire process have followed the principles and the methodology of EFSUMB in creating the Clinical Practice Guidelines [12]. Finally, the guidelines will be adopted after the level of consensus of the members in the task force group will be established following a Delphi process.

What we expect from these guidelines and recommendations? A uniformity in the way that MSUS is viewed, used and, particularly, an increased confidence in its results.

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