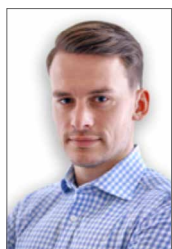




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Role of ultrasound in diagnostic and interventional musculoskeletal imaging

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Musculoskeletal ultrasound (MSK-US) has gained popularity as an essential diagnostic tool, used by a variety of medical specialists, including Radiologists, Sports Medicine Physicians, Rheumatologists and Orthopaedic surgeons^(1,2). In more recent years, there has been a plethora of literature dedicated to exploring the benefits and applications of US in the diagnosis and management of Musculoskeletal conditions. In this special edition issue of the *Journal of Ultrasonography* a mixture of articles is presented, with contributions from the 'Young Club' of the European Society of Skeletal Radiologists, supported by their mentors, demonstrating examples from their institutional practices of MSK-US. Recent multicentre surveys and position statements from experts have confirmed the benefits of establishing a high quality standardised MSK-US training curriculum as one of the key factors increasing the popularity of residency programmes amongst applicants and improving patient outcomes⁽²⁻⁵⁾. We therefore hope you find the content of this collaboration relevant to your practices and beneficial to your patients.

When targeting rheumatological and inflammatory conditions, grading disease activity has been shown to be the most common indication for MSK-US examination, with the presence of increased power Doppler flow the factor most frequently associated with changes in therapeutic management^(6,7). Recent advances in MSK-US including superb microvascular (SMi) evaluations, can help with early detection and monitoring of disease response, avoiding delays in the initial diagnosis or therapy modulation, particularly when there is otherwise diagnostic uncertainty with equivocal findings on routine serological and imaging tests^(8,9). This is reflected in our current issue where we sought to bring to the readers a variety of articles on these conditions including those from Falsetti *et al.*, Serpi *et al.* and Tortora *et al.*

With advances in the resolution of imaging on modern scanners, and due to its dynamic nature, MSK-US neurography is utilised as a first line investigation imaging modality for the majority of nerve conditions, particularly those in the appendicular skeleton⁽¹⁰⁾. Systematic reviews consolidate evidence advocating US guidance for nerve-related interventions, with proven longer effects, improved safety profile and patient satisfaction^(11,12). Our current issue explores the applications of MSK-US neurography practices from within the ESSR community, including neurography by Bautista *et al.* and Singh *et al.*, as well as Ultrasound-guided interventions for neuropathies by Klontzas *et al.*, Matičić *et al.* and Tortora *et al.*

High resolution and dynamic imaging enable us now to assess a variety of superficial soft tissue lesions and skin conditions, particularly for small lesions such as glomus tumours which could be missed on other imaging modalities. Several papers have been published in the journal of ultrasonography conveying the knowledge of such advancements⁽¹³⁻¹⁵⁾ and the role of MSK-US guided interventions for such conditions including those in our current issue by Kakkos *et al.* and Bartoszewicz.

Shearwave elastography is another advanced MSK-US technique which is gradually being incorporated into clinical practice⁽¹⁾. Shearwave elastography can be used for assessment of tendons, muscles as well as joint diseases. We hope you enjoy reading further on this in the current articles by Gimber *et al.* and Kakkos *et al.*

Last but not least, with regards to patients' pathways, one-stop clinics have received particular attention due to the COVID-19 pandemic, and the need to reduce the number of hospital visits whilst expediting decision making and management of patients. Such initiative recognises the value and expertise of radiologists as expert clinicians capable of making accurate diagnostic decisions, consenting patients as well as performing various interventions in a one-stop model. Examples could include lumps and superficial lesions, pain management clinics, paediatric

hip screening as well as cancer screening clinics delivered within a multidisciplinary set up to include pathologists and clinicians. We include an article by Kilsdonk *et al.* discussing the additional benefits of dynamic ultrasound of the neonatal hip as a screening tool for DDH: how to and differences in screening programmes between European countries.

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