Imaging Center of UWS

Information Sheet for Musculoskeletal Ultrasound

Musculoskeletal diagnostic ultrasound is an injury assessment modality that uses sound waves to create images of painful or injured areas in the body. This technique provides high resolution images of muscles, tendons, and ligaments. Musculoskeletal ultrasound is an effective modality in helping to improve the care of patients with a variety of musculoskeletal issues. MRI has been the mainstay imaging procedure for many years in the US; musculoskeletal ultrasound is emerging as an affordable alternative to MRI.

Safety: Ultrasound imaging is safe, noninvasive, and without known risk factors. It can be used with patients for whom MRI is contraindicated. There is no radiation involved and can therefore be used repeatedly if clinically necessary.

Accuracy: There are certain anatomic regions like the shoulder where this technique has proven to be equal or superior to MRI. Unlike MRI, which provides only static imaging, MSK ultrasound can be performed dynamically, which further improves accuracy. Ligaments, tendons, and muscles can be tested under the application of stress. This allows direct visualization of structures that may be painful during movement and evaluates the integrity of these important soft tissues.

Affordability: The cost of MSK ultrasound exams is less than the insurance deductible for an MRI.

Efficiency: The ultrasound is easily portable and allows the examiner to immediately screen for injuries at any location. This explains the high utilization of this technique in professional athletics.

Indications of musculoskeletal ultrasound: MSK ultrasound can be an effective tool for many different types of injuries such as:

Shoulder conditions: The number one indication is to evaluate for rotator cuff injuries, calcific tendinosis, subacromial bursitis, joint effusion, and impingement syndrome. If there is suspicion of instability with potential SLAP and labral lesions referral for MRI is indicated.

Elbow and wrist conditions: Joint effusions as a sign of acute or chronic injury, distal biceps tendinosis, dynamic testing of ligaments, and evaluation of flexor/extensor origins and insertions. Dynamic imaging can be performed for suspicion of ulnar nerve subluxation. Finger pulley or tendon pathology can be seen.

Hip and thigh conditions: Joint effusions, bursitis, and gluteal tendon abnormalities are a good indication for musculoskeletal ultrasound. Screening of the neonatal hip can rule in or out congenital hip dysplasia which may be missed clinically.

Knee conditions: Joint effusions, synovial hypertrophy, bursal abnormalities, tendon pathologies, MCL and LCL lesions, cartilage changes, and popliteal (Baker) cysts are very well seen with MSK ultrasound. There is limited visualization of the menisci and the ACL/PCL cannot be seen with ultrasound.

Foot and ankle: Joint effusions, synovial hypertrophy, bursal abnormalities, tendon pathologies (Achilles, plantar fascia, peroneal), ligamentous injury (anterior talofibular, deltoid, interosseous syndesmosis, etc.) and Morton neuroma are visible.

Please contact Dr. Melinda Novak, Chiropractic Sonographer, at menovak@uws.edu if you would like more information or call 503-255-6771 to schedule an appointment!