

PAEDIATRIC MUSCULOSKELETAL ULTRASOUND

Objective To ensure that all staff follow correct procedure for the evaluation of the musculoskeletal system.

Responsibility All sonographers, trainee sonographers, registrars and radiologists performing paediatric ultrasound examinations.

Frequency At clinician's request.

Procedure The following table describes the process to be followed when a request is made for an MSK examination.

Step	Action
1	A thorough history must be obtained from the patient so the examination can be tailored to address the specific problem.
2	Enquire about: <ul style="list-style-type: none"> • Location of pain/swelling. • What movements cause the pain • The duration/onset of the problem • Any trauma or repetitive movement of the region • Previous surgery • Results of previous imaging examinations
3	As with all musculoskeletal ultrasound examinations, compare with the opposite limb.

Shoulder

1	The following structures should be scanned and documented:
2	<ul style="list-style-type: none"> • Long head of biceps • Subscapularis • Supraspinatus • Infraspinatus • Teres Minor • SASD bursa • AC joint

Elbow

1	Depending on the location of pain or symptoms, the following structures should be scanned and documented:
2	Anterior aspect: <ul style="list-style-type: none"> • Distal biceps tendon • Anterior joint recess • Posterior interosseous nerve

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3	Lateral aspect: <ul style="list-style-type: none"> • Common extensor tendon • Radiocapitellar joint • Radial collateral ligament • Annular ligament
4	Posterior aspect: <ul style="list-style-type: none"> • Triceps tendon • Ulnar nerve
5	Medial aspect: <ul style="list-style-type: none"> • Common flexor tendon (CFT) • Ulnar collateral ligament

Wrist

1	Depending on the location of pain or symptoms, the following structures should be scanned and documented:
2	Dorsal aspect: <ul style="list-style-type: none"> • APK • EPB • ECRL • ECRB • EPL • ED • EDM • ECU • Scapholunate ligament • Distal radioulnar joint
3	Palmar aspect: <ul style="list-style-type: none"> • FDP • FDS • FPL • Median nerve • Ulnar nerve

Hip

1	The neonatal hip protocol is used when DDH is suspected.
2	Assessment of possible joint effusion can be done at any age. The normal hip is scanned first. The patient should be supine with the hip extended as much as possible.
3	The anterior joint recess should be scanned in two planes: longitudinal and transverse relative to femoral neck.
4	The effusion may be anechoic or complex. Synovial thickening, if present, should be documented.

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Knee	
1	Depending on the location of pain or symptoms, the following structures should be scanned and documented:
2	Anterior Knee <ul style="list-style-type: none"> • Quadriceps Tendon • Suprapatellar joint recess • Femoral trochlea • Patellar tendon
3	Medial Knee <ul style="list-style-type: none"> • Medial collateral ligament • Medial meniscus • Pes anserinus tendons
4	Lateral Knee <ul style="list-style-type: none"> • Iliotibial band • Lateral collateral ligament • Lateral meniscus
5	Posterior knee <ul style="list-style-type: none"> • Semimembranosus tendon • Semitendinosus tendon • Semimembranosus-Gastrocnemius bursa • Biceps femoris tendon • Medial gastrocnemius muscle • Lateral gastrocnemius muscle

Foot and Ankle	
1	Depending on the location of pain or symptoms, the following structures should be scanned and documented:
2	Anterior Ankle <ul style="list-style-type: none"> • Tibialis anterior tendon • Extensor hallucis longus tendon • Extensor digitorum longus tendon • Anterior recess of the ankle joint
3	Lateral Ankle <ul style="list-style-type: none"> • Peroneal longus tendon • Peroneal brevis tendon • Anterior talofibular ligament • Anterior tibiofibular ligament • Anterior calcaneofibular ligament
4	Medial Ankle <ul style="list-style-type: none"> • Tibialis posterior tendon • Flexor digitorum longus tendon • Deltoid ligament

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5	Posterior ankle <ul style="list-style-type: none">• Achilles tendon• Plantaris tendon• Retrocalcaneal bursa
6	Plantar aspect of foot <ul style="list-style-type: none">• Plantar fascia• Flexor Hallucis Longus Tendon• Flexor Digitorum Longus Tendon
7	Dorsal aspect of foot <ul style="list-style-type: none">• Metatarsal web space