MSK PoCUS
Joints
Objectives

- PoCUS in Shoulder Dislocation
- PoCUS in Joint Effusions
  - Elbow, Wrist, Hip, Knee, Ankle
Shoulder POCUS

• Shoulder Pain
  • Assessment of the Rotator Cuff
  • Assessment of the Subacromial Bursa

• Shoulder Trauma
  • Triage diagnosis of dislocation
  • Post reduction confirmation
Shoulder PoCUS
Dislocation View

Posterior Transverse

- Deltoid Muscle
- Infraspinatus Muscle
- Labrum
- Humeral Head
- Glenoid
- Posterior Joint Recess
- Infraspinatus Tendon
- Articular Cartilage

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Shoulder PoCUS
Anterior Dislocation

Dislocated

Post-reduction
Shoulder PoCUS
Anterior Dislocation

Dislocated

Post-reduction

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Shoulder PoCUS
Posterior Dislocation

Dislocated

Post-reduction

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Shoulder PoCUS
Posterior Dislocation

Dislocated

Post-reduction
Joint Effusion PoCUS

• Indications
  
  • Bursitis vs Septic Arthritis
  
  • Occult Fracture
  
  • Pediatric Hip
  
  • Aspiration Guidance
Elbow

- Posterior Approach
  - Elbow flexed
  - The most sensitive view for joint effusion
  - Olecranon fossa
Elbow

- Radial Approach
  - For occult radial head fracture
  - Larger effusions

1 Radial Head #, 2 Hemarthrosis

Physiological joint fluid
Wrist

- Scaphoid Fracture
  - Hemarthrosis
  - +/- visible fracture
Wrist

• Differentiate effusion from tenosynovitis

Capitate, Lunate, Radius

Extensor Tenosynovitis

Wrist Joint Effusion - *
Hip

• Anatomy
Pediatric Hip PoCUS

• Requirements
  • High frequency linear probe
  • Co-operative child and parent!
  • 1st hand holds probe, 2nd hand holds leg
  • 3rd hand to freeze image!

• Top Tips
  • Gel on parent first
  • “do you want to see your leg on TV?”
  • Ask parent to apply gel
Pediatric Hip PoCUS

- Child supine
- Probe transverse on upper femur
- Move proximally until greater trochanter
- Align probe along femoral neck by rotating 45° oblique
- Identify neck, growth plate and head
- Identify hyperechogenic capsule & iliopsoas tendon
Pediatric Hip PoCUS

- Normal = concave upwards
- Abnormal = convex upwards
- 2 mm = normal
- Asymmetry >2mm
- The cause of effusion cannot be differentiated by ultrasound
Pediatric Hip PoCUS
Adult Hip PoCUS

- Indications
  - Septic arthritis?
  - Non-weightbearing geriatric with inconclusive radiograph
Knee

- Superior Approach
  - Distinguish effusion from pre-patella bursitis

Pre-femoral fat (PFF), Supra-patellar fat pad (SPFP)
Small amount fluid in Supra-patella bursa

Large Supra-patella fusion
Knee

• Medial Approach
  • Sensitive for small effusions

MCL - arrows

Synovitis - s, Effusion - *
Ankle

• **Dorsal Approach**
  
  • Effusion emerges between Tibia and Talus
  
  • This is best approach for aspiration, taking care to avoid *Dorsalis Pedis*

Extensor tendons -Te, small effusion - arrow

Large effusion
Questions