PoCUS for Fractures

Does my patient have a fracture…?
Ultrasound and Fractures

- Diagnosis
- Guide for Reduction
- (Guide for Anesthesia)
Lower Limb
Extension of FAST


Use of emergency department ultrasound in the diagnosis and early management of femoral fractures.

Atkinson P, Lennon R.
Toddler’s

• Limping child (post injury)
• Initial radiographs…
• Repeat radiographs (10 days)
Katz et al examined 41 clavicular fractures in newborns by using both radiographic and ultrasonographic methods. They found no substantial difference between the modalities. They suggested that ultrasonography is a sensitive diagnostic tool in the evaluation of clavicular fractures at birth and should be the procedure of choice in the diagnosis of neonatal clavicular fracture.
RT TRN fracture clavicle
fracture

clavicle
Forearm
Fracture Reduction

- Real-time ultrasound assessment of cortical alignment
- Ultrasound guided haematoma block
- Ultrasound guided regional nerve block
Case

- A 5-year old presents with a badly displaced distal radius fracture.
A 5-year old presents with a badly displaced distal radius fracture.

The orthopedic team is in the OR

You want to sedate the child for reduction in the ED
Case

- Do you:
  - A. Get an image intensifier from the OR?
  - B. Reduce - plaster - Xray - repeat if required?
  - C. Wait for the orthopedic team?

- Can ED ultrasound help?
A 14 year old boy was admitted via emergency ambulance to the ED. He had fallen whilst skateboarding heavily onto his left non-dominant hand. Examination revealed an obvious clinical deformity to his left wrist. There was no skin breach and his neurovascular status was intact. There were no other associated injuries.
Case
Case
Case
Case
Case
Bone Injury

- Indications
  - Extension of FAST
  - Occult Fracture
    - Toddler’s fracture
  - Rib Fracture
  - Sternal / Clavicular Fracture
  - Forearm fractures

- Advantages of Sonography:
  - Early diagnosis
  - Better reductions?
  - Anesthesia