Upper and Lower Extremity Radiograph Interpretation

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Objectives

1. Describe the important components in interpretation of upper and lower extremity radiographs.
2. List findings to accurately identify common fractures involving extremities.
3. Describe findings to identify common dislocations involving extremities.

Outline

Approach to reading plain radiographs

Description of x-rays

Alignment

Open vs. closed fractures

Complete vs. incomplete

Direction of fracture lines

Transverse

Spiral

Oblique

Comminuted

Location of fracture

Midshaft

Head

Neck

Shaft

Shortening or Angulation

Dorsal
Volar

Radiographic Anatomy

Epiphysis
Metaphysis
Diaphysis

Salter Harris Classification

Salter I – V

Hand Injuries

Volar fractures
Dorsal fractures
Intra-articular fractures
Bennet’s fracture
Gameskeeper’s thumb
Trigger thumb
Mallet finger
Swan neck deformity
Subungual hematoma
Boutoniere deformity
Boxer fracture

Wrist injuries

Anatomy of the wrist
Physical exam
Mechanism of injury
Common fractures of the wrist

- Colles fracture
- Smith fracture
- Barton fracture
- Chauffeur (Hutchinson) fracture
- Ulnar styloid fracture

Forearm
- Galleazzi
- Monteggia
- Ulnar fractures
- Radius fractures

Elbow
- Anatomy of the elbow
- Physical exam
- Mechanism of injury
- Common fractures of the elbow
  - supracondylar fracture
  - radial head fracture
  - olecranon fracture

Shoulder
- Humeral fractures
- Dislocations
- Clavicle
- Scapula

Hip
- Classification of hip fractures
  - Subcapital
Transcervical

Trochanteric

Femur

Shaft

Proximal & distal femur

Knee

Patellar fractures

Bipartite patella

Subluxations

Dislocations

Tibial plateau

Fractures of the Tibia & Fibula

Proximal tibia

Proximal fibula

Maisonneuve fractures

Fractures of the tibia and fibular shaft

Fractures of the ankle

Malleolar fractures

Bimalleolar fractures

Trimalleolar fractures

Fractures of the foot

Calcaneal fractures

Talar fractures

Navicular fractures

Cuboid and cuneiform fractures
Tarsometatarsal fractures
LisFranc fractures
Metatarsal fractures
Sesamoid fractures
Phalangeal fractures