**EVALUATION OF THE ANKLE IN THE EMERGENCY DEPARTMENT SUMMARY HANDOUT**

**Anatomy**

* Bones: tibia, fibula, talus
* Ligaments: ATFL, CFL, PTFL, Deltoid, AITFL, PITFL, Transverse
* Cartilage:
* Tendons: Achilles, flexor hallicus longus, flexor digitorum, peroneal, posterior tibialis, anterior tibialis

**Radiographs**

* Use the Ottawa Ankle Rule to determine the need for x-rays in acute ankle injuries
* AP, lateral and mortise x-rays are standard. May obtain stress view if suspect ligament injury

**Physical exam**

* Inspection
* Palpation
* Range of motion
* Special tests
* Neurovascular exam

[Link to ACEP Sports Medicine Section physical exam demonstration videos](https://www.acep.org/how-we-serve/sections/sports-medicine/musculoskeletal-exam-series/)

**Pathological conditions**

* Tarsal Tunnel Syndrome
  + Entrapment posterior tibial nerve (motor to foot muscles and sensation to plantar foot)
  + Evaluated with physical exam (Tinel’s sign), ultrasound, MRI
  + Treatment can be conservative with steroid injections and orthotics. May require surgery
* Achilles Tendon Rupture
  + Sudden pain. Feel or hear “pop” in ankle
  + Diagnosed by physical exam with inability to palpate tendon or defect noted
  + Positive Thompson test
  + Can diagnose with ultrasound
  + Place in splint in plantarflexion
* Ankle dislocation
  + Can occur in various directions: Anterior, Posterior, Lateral, Upward
  + Clinically diagnosed by examination
  + May be associated with Malleolar Fracture
  + Emergent reduction
  + Splint after reduction
* Ankle Sprain
  + Often from plantar flexion and inversion injuries
  + Often Lateral Ligaments (ATFL, CFL, PTFL)
  + Isolated Deltoid ligament rare
  + Obtain x-rays based on Ottawa Ankle rules
  + Clinically diagnosed by examination
  + Unstable: splint with urgent Ortho referral
  + Stable: RICE, Brace
* Maisonneuve Fracture
  + External rotation of ankle
  + Rupture of Deltoid Ligament + proximal fibular fracture
  + Medial ankle pain and swelling consider Xray of proximal fibula
  + May require surgery
* Ankle Fracture
  + Lateral, Medial, Posterior Malleolar, Bi-Malleolar, Tri-Malleolar, Bi-Malleolar equivalent
  + Concurrent ligament injuries can occur
  + X-rays to confirm. May need CT and/or MRI for surgery
  + Treatment is based on stability (stable = splint/boot; unstable = surgery)
* Septic joint
  + Always consider in acute, non-traumatic joint pain
  + Diagnostics include arthrocentesis with synovial fluid analysis, ESR, CRP
* Traumatic arthrotomy
  + Must exclude diagnosis when lacerations and penetrating injuries are near a joint
  + Saline load test is the generally accepted practice, but CT is commonly used
  + The use of methylene blue is not recommended