**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