

OAS Class 14

Ankle joint (talocrural)

AROM

1. Plantar flexion is 50 degrees, (40 degrees or greater)
2. Dorsiflexion is 20 degrees or greater
3. Inversion (supination) is 45 to 60 degrees, (30 degrees or greater)
4. Eversion (pronation) is 15 to 30 degrees, (20 degrees or greater)

PROM: the same movements

RIM: the same movement

Special tests

1. Anterior drawer sign of the ankle – designed to test anterior talofibular ligament (the most injured ligament of the ankle joint, mechanism of injury is violent inversion). Patient supine, patient foot is in 20 degrees of plantar flexion and examiner draws talus forward. To increase the stress on this ligament examiner can inversion of the foot. This test is commonly positive if only this ligament is damaged. If there is more pain (more damage), calcaneofibular ligament
2. Prone anterior drawer test – the patient lies prone with the feet extended over the end of the table. With one hand, the examiner pushes the heel forward while stabilizing the leg with another. If there is excessive anterior movement there can be noticeable sucking of the skin on both sides of the Achilles tendon. Test anterior talofibular ligament
3. Talar tilt – test for torn calcaneofibular ligament. Patient is supine or side lying position, the foot is held in 90 degree position. Talus is then tilted from side to side into the inversion and eversion. Inversion tests calcaneofibular ligament, eversion tests Deltoid ligament and posterior talofibular ligament
4. Thompson test – the patient lies prone with feet over the edge, and examiner squeezes the calf muscles. In norm there is plantar flexion. In absence of plantar flexion indicates ruptured Achilles tendon
5. (Neutral position of talus)
6. (Leg heel alignment)

Disorders

1. Ankle ligament sprain/tear
 - b. Sudden trauma – inversion sprain. If many people involved eversion sprain.
 - c. Sharp pain during injury, will be reproduced during activities. Localized to the side being affected.
 - d. Difficult to go over uneven surfaces, climbing steps
 - e. Observation: swelling

- f. AROM; limitation
 - g. PROM : the same
 - h. RIM: in neutral position no discomfort
 - i. **Palpation: tenderness**
 - j. Special tests: Anterior drawer, Talar tilt
- 1. Ankle instability
 - a. Due to poorly treated ligament sprains and tears, children during growth spurts, especially girls
 - b. History of problems
 - c. Observation; uneven shoe wear
 - d. AROM: normal
 - e. PROM: patient pain is reproduced on overpressure
 - f. RIM: normal
 - g. Palpation: tenderness
 - h. Special test: poor balance test
- 2. Achilles tendonitis
 - a. Friction forces over calcaneus
 - b. 20-40 years of age
 - c. Gradual, hard running, uphill running
 - d. Pain at the Achilles attachment. Deep aching pain during running.
 - e. Some times there is calcaneus bone spur.
 - f. Observation: bone thickening at the posterior calcaneus, some swelling
 - g. AROM: normal
 - h. PROM: discomfort on overpressure during dorsiflexion with knee extended
 - i. Palpation: pain around calcaneus
- 3. Plantar fasciitis
 - a. Extends from tubercle at the medial and lateral aspects of the inferior surface of the calcaneus to the level of metatarsophalangeal joint area (blends with capsular ligaments)
 - b. Helps to maintain the longitudinal arch of the foot
 - c. Flattening of the arch puts the strain on plantar fascia as does extension of the toes
 - d. Sharp pain in the morning with first steps
 - e. Observation: normal
 - f. AROM: normal
 - g. PROM: normal
 - h. RIM: normal
 - i. Palpation: tenderness
- 4. Gastrocnemius tear
 - a. Middle aged patient – upper medial muscle belly pain, Younger person pain at the junction of belly and tendon
 - b. Not enough warmup and stretching, competing at too high level
 - c. Sudden onset
 - d. Tennis, squash
 - e. Sharp pain, like being kicked in the leg
 - f. Deep aching pain, ill defined, sharp on stretching, worse when knee is fully extended.
 - g. AROM: decreased dorsiflexion
 - h. PROM: pain on overpressure during dorsiflexion

- i. RIM: pain on plantarflexion
- 5. Peroneal tenosynovitis
- 6. Posterior tibial tenosynovitis
- 7. Anterior tibial tendonitis
- 8. Shin splints
 - a. Overuse injury, running. Inflammation anterior tibial and posterior tibial
 - b. Pain is the most felt at the beginning of the activity
 - c. A posteromedial aspect of middle third of the tibia or the anterior compartment on the middle of the shin
 - d. Burning pain during activity
 - e. Observation: normal
 - f. AROM: pain on dorsiflexion with eversion
 - g. PROM: the same
 - h. RIM: plantar flexion and eversion
 - i. Palpation: pain
- 9. Morton's neuroma
 - a. Inflammation of the nerve that leads to buildup of tissue in nerve sheaths
 - b. High heels, tight shoes
 - c. Flat foot, pronated foot
 - d. Pain and paresthesia's
 - e. Like to wear soft footwear.
 - f. O: normal
 - g. AROM: normal
 - h. PROM: normal
 - i. RIM: normal
 - j. Palpation: can detect neuroma and reproduce pain
- Tarsal tunnel syndrome
- 10. Foot dislocations
- 11. Ankle dislocations
- 12. Foot fractures
- 13. Ankle fractures

