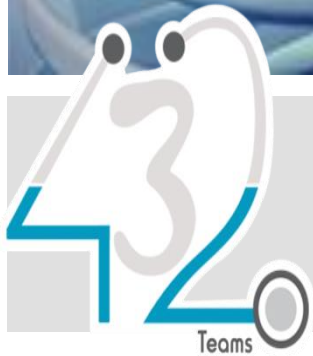


Orthopedics

OSCE - Foot & Ankle Examination



Done By: Hessah AlShehri (F1)

Team Leader: Khulood AlRaddadi (F1)

Khulood.AlRaddadi@gmail.com

جامعة
الملك سعود
King Saud University



Color Code:

Slides

431 team work

Sessions' Notes

Arabic Words

Team Notes

Books' notes

Important

Other Sources

Foot & Ankle Examination

Objectives:

To be able to perform examination of the foot & ankle, and to distinguish and identify an abnormal finding that suggests pathology.

Examination:

❖ WIPE:

W: wash hands

I: introduce yourself & take consent

P: Privacy+ Position: Standing position, supine position

"Remember: during the examination you will ask the patient to walk to check gait, & prone position for Thompson test"

E: Proper bilateral exposure, at least from mid leg & below.

❖ General examination (you can say: I would do general examination at the end)

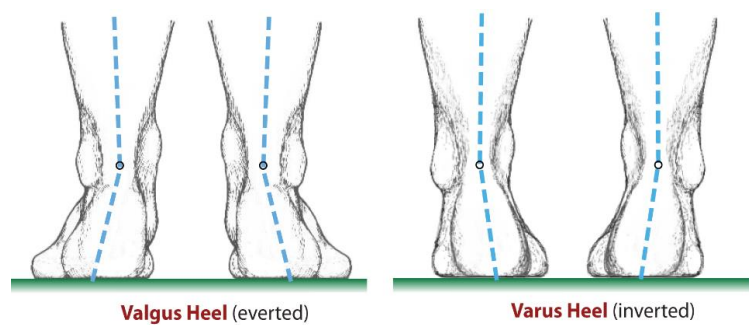
1- Look:

Standing position:

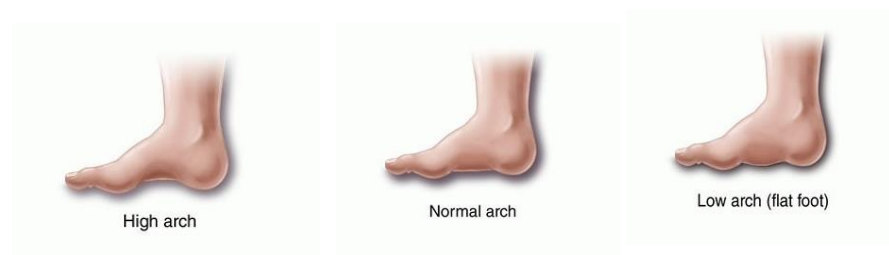
Inspect from the front, sides and back of the patient & compare right and left foot & ankle.

✓ Alignment.

- **Hind foot:** alignment of the ankle joint from behind



- **Mid foot:** alignment of the arch



• **Forefoot:** alignment of the first metatarsophalangeal joint



Normal



Hallux valgus



Hallux varus

- ✓ Deformity
 - **Hind foot:** varus or valgus
 - **Mid foot:** cavus, flat foot
 - **Forefoot:** Hallux Valgus
- ✓ Skin changes (e.g. callosities*, scars)
- ✓ Swelling or mass
- ✓ Muscle wasting (leg) e.g. calf muscle.
- ✓ Gait: Examples of abnormal gaits:

* Callosities on the plantar aspect indicate where there is high pressure or friction

Abnormal gait	description	Video
Antalgic gait	The patient moves quickly off the painful side.	https://www.youtube.com/watch?v=be719xp3kas https://www.youtube.com/watch?v=W-S8Pk63YRE
High-stepping gait	Foot drop when the ankle dorsiflexors are weak, causing a slapping foot strike. The leg may be lifted higher than usual so the foot can clear the ground (a high-stepping gait).	https://www.youtube.com/watch?v=SWvEU8FYMFc

2-Feel: ****before palpation ask if there is any pain, if there is pain leave it to the last****

"Always look at the patient's face for tenderness"

Supine position:

- A. Soft tissue: skin temperature, tenderness, Achilles tendon and planter fascia, medial and lateral collateral ligaments.

- B. Bony prominences: first metatarsal head (Osteoarthritis Bunion), fifth metatarsal base (tenderness-avulsion fracture), medial and lateral malleoli and calcaneal tuberosity
- C. Joint line anteriorly

3-Move:

-Active **ankle** range of motion (ROM):

Ask the patient to do **dorsiflexion** and **plantarflexion**

-Passive **ankle** range of motion (ROM)

Hold the heel in the left hand and the midfoot in the right hand. Assess plantar flexion (0–40°) and dorsiflexion (usually 0–15°).

-Passive **subtalar** ROM

Ankle to neutral, and stabilized then apply

- **Inversion** (usually 0–30°)
- **Eversion** (usually 0–15°)

The subtalar joint is distal to the ankle joint. It is the articulation between the talus & the calcaneum.

N.B: note if painful or painless

Mentioned by Dr. Awwad in revision:

- If the patient is unable to do dorsiflexion: Ask him to do it when the knee is **flexed**.
 - 1- **Able** to do it: the patient has gastrocnemeus muscle tightness.
 - 2- **Unable** to do it: either soleus tightness or mechanical joint problem.
- If the patient can't do dorsiflexion at all → do dorsiflexion passively.

4-Special Tests:

A. Anterior drawer test with ankle plantarflexion to evaluate **anterior talofibular ligament** "part of lateral collateral ligament", which is frequently injured during an inversion ankle sprain.

Stabilize the lower extremity with one hand and grab the heel with the other → then pull the talus anteriorly. (8mm difference is positive).



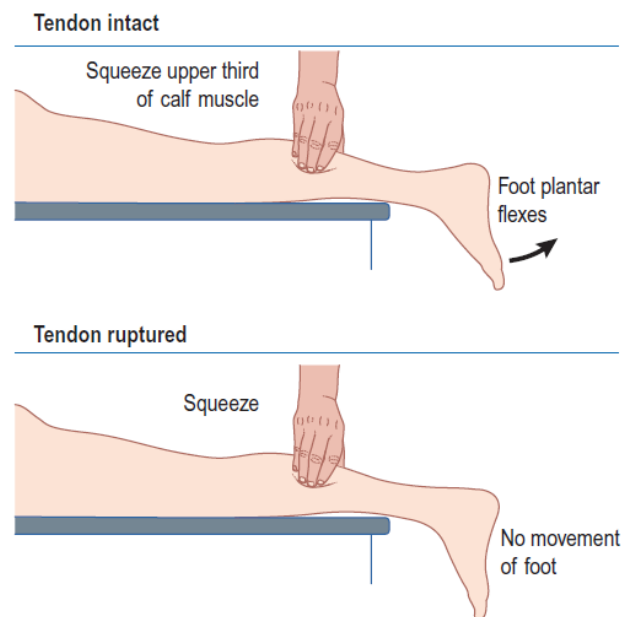
B. Achilles tendon test: Thompson test.

The patient should be in prone position → squeeze the calf muscle and look at the Achilles tendon → check for plantar flexion.

Normal: there will be plantar flexion.

Ruptured Achilles: No plantar flexion.

Don't confuse Thompson test with Thomas test which is done in hip examination.



C. If patient has flat foot: you will ask the patient to stand on the tip of toes to check if it is flexible or rigid flatfoot, you have to observe if the heel will correct from valgus to varus or not as well as mid foot arch reconstitution.



D. How to differentiate between Achilles tightness or only gastrocnemius tightness? By dorsal flexion of ankle while the knee extended then flexed will help for spine session but not for ankle and foot itself.

5-Neurovascular examination**6-Examine the knee joint and the hip joint.**

Examination checklist:

Foot & Ankle examination
Wash hands
Introduce yourself
Take consent
Insure privacy & stand on the right side of the patient
Position: (standing for inspection, walking for gait, supine for feel & move, prone for Thompson test)
Exposure: bilateral exposure, at least form mid leg & below.
Look (standing)
Alignment (hind foot, mid foot, forefoot)
deformity
Skin changes
Swelling or mass
Muscle wasting (leg)
Gait
Feel (Supine) "ask about pain"
Soft tissue: skin temperature, tenderness, Achilles tendon and planter fascia, medial and lateral collateral ligaments.
Bony prominences: first metatarsal head (Osteoarthritis Bunion), fifth metatarsal base (tenderness-avulsion fracture), medial and lateral malleoli and calcaneal tuberosity
Joint line anteriorly
Move
Active & passive ankle range of motion (ROM): dorsiflexion & plantar flexion
Passive subtalar ROM: inversion & eversion.
Special Tests
Anterior drawer test to evaluate anterior talofibular ligament
Achilles tendon test: Thompson test.
Assess flexibility of flat foot.
To complete the examination
Neurovascular examination & Examine the knee & hip joint.

Helpful videos:

- 1- Anatomy of the foot & ankle: <https://www.youtube.com/watch?v=c7QewW3Up50>
- 2- Gait Cycle: <https://www.youtube.com/watch?v=5j4YRHf6lYo>
- 3- Assessing Subtalar joint: https://www.youtube.com/watch?time_continue=168&v=Y_qGYIW7c
- 4- Anterior drawer test: <https://www.youtube.com/watch?v=sIWuEtbHEQ4>
<https://www.youtube.com/watch?v=a94Z3kBN5Mo>
- 5- Thompson test: <https://www.youtube.com/watch?v=AmDi08rIR3I>
- 6- Assessing foot flexibility: https://www.youtube.com/watch?time_continue=28&v=eK3AakEYmr8