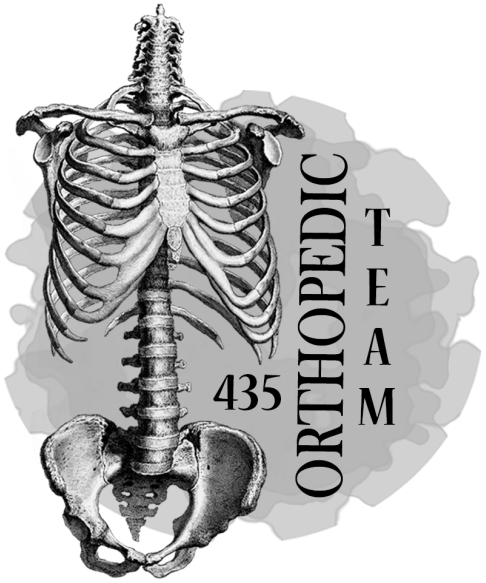

Back Examination

Objective:

to establish competence in physical examination of the thoracolumbar spine.

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Edited By: Fahad AL Abdullatif
Revised By: Saleh Al Khalifa
References: Department handout, Notes(by moath baeshen), Browse's, Toronto, 433 OSCE Team.

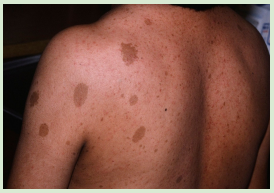
Standing/Walking Position:

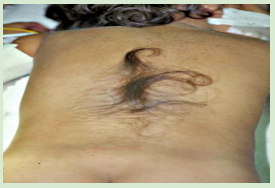
★ Look

- Expose the trunk and lower limbs properly.
- Examin **front** and **back**

- Abnormal gait types: **Antalgic**, **Trendelenburg**, **Waddling**.[1]
- **Heel** and **toe walking**:For nerve roots.
  - Heel walk = Examining L4.
  - Toe walk = Examining S1.

- Alignment, Deformity (Kyphosis, Scoliosis,Hyperlordosis…), Muscle wasting, skin changes,swelling,scars, Hairy tuft, "cafe au lait" spots.
  At shoulder and pelvis levels.





★ Feel

- Palpate **spinous processes** for tenderness, steps or gaps.(Check for the spinous processes alignment if it is central).
- **Soft tissues**: Temperature, tenderness.

★ Move

❖ Test the spine **ROM** (Actively and passively):

- Start with Active ROM in all **6**-directions:
  - Flexion: Record as such (able to touch toes/shins/knee/thighs…) (Make sure the leg is straight/ knee extended)
  - Extension: Normal around 30°.
  - Lateral bending: Normal around 30°.
  - Rotation: Normal around 40°. (When assessing rotation, it's mandatory to put your hands on each side of the patient's pelvis !!)
- Note if Painful/Painless.
- Attempt passive ROM if Active is limited and painless, record.

★ Special test

- **Adams forward bending** test: (The examiner stands behind the patient to assess)
  - Full forward flexion until back is horizontal to the floor. (with complete knee extension and hands in the air not touching the knee).
  - If thoracic Scoliosis is present, then rib hump will become visible.

[1] Antalgic (Video), Trendelenburg (Video), Waddling (Video).

Supine Position:

★ **Look**

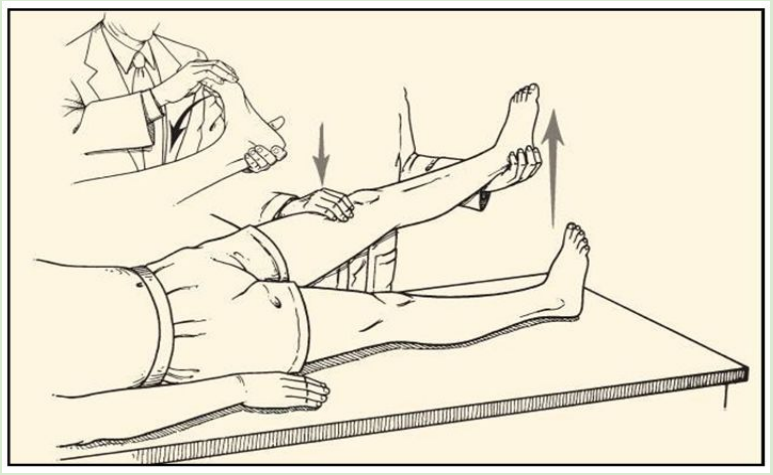
- Note any muscle wasting in the lower limbs.

★ Feel

- Check for Leg Length Discrepancy (ASIS to medial malleolus).

★ **Special tests**

- **Straight leg raising test** (SLRT):
  - With the patient supine, passively elevate the leg, the examiner's hand behind the heel-with knee extended while observing the patient's face for any signs of discomfort.
  - A positive test is reproduction of sciatica (Sharp shooting pain radiating below knees- between 30° and 70° of hip flexion.
  - The pain is aggravated with ankle dorsiflexion and relieved with knee flexion.



Hamstring tightness and knee or hip pain should be distinguished from a true positive SLRT.

★ Screening Hip and Knee examination (rotation of the hips, joint line tenderness at the knees) should be done to rule out hip or knee OA which can be confused with sciatica.

★ We differentiate between them by flexion of the knee this relieves the pain in case of sciatica. If the pain didn't reduce with knee flexion the cause is most likely from the hip or the knee.

★ Neurologic Examination (The patient is in supine position)

- **Motor**:
  - Hip flexion=L2
  - Knee extension=L3
  - Ankle dorsiflexion=L4
  - EHL(great tot extension-Extensor Hallucis Longus)=L5
  - Ankle plantar flexion=S1
- Sensory: Dermatomes.
- Tone: Normal, Flaccid or rigid.
- Reflexes: Knee & ankle jerks.
  (For the knee jerk, slide one arm below the knee while the patient is supine,then strike the hammer with the other hand. For the ankle jerk, put the foot that will be tested on the other leg and passively dorsiflex it slightly, then strike the hammer.)

★ Vascular Examination

- **Pedal pulses**:
  - Dorsalis Pedis.
  - Posterior Tibial.
- **Capillary refill time**: Normal < 2 seconds.