



433 Teams
ORTHOPEDICS

OSCE

Back Examination

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Back Examination

Goal:

To establish competence in physical examination of the thoraco-lumbar spine .

Method:

First: Standing/walking position:

Look

- ✓ Expose the trunk and lower limbs properly.
- ✓ Examine front and back.

- Abnormal **gait** types: **Antalgic, Trendelenberg, waddling.**
 - <https://www.youtube.com/watch?v=W-S8Pk63YRE> (Antalgic)
 - <https://www.youtube.com/watch?v=Rz7V1i8kYGU> (Trendelenberg)
- Heel and toe walking: "This examinations for the nerve roots"
 - Unable to heel walk=L4 weakness
 - Unable to toe walk= S1 weakness

- Alignment, deformity, muscle wasting, skin changes, swelling, or scars, hairy tuft, "café au lait" spots).
"café au lait" spots).



"café au lait" spots

- Are shoulders & pelvis level.

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's ROM both actively and passively:

- **Start with active ROM** in all 6-directions:
 - Flexion. Record as such: able to touch toes/shins/knee/thighs... etc.
 - Extension: normal around 30°
 - Lateral bending: normal around 30°
 - Rotation: normal around 40°
- Note if painful/painless.
- Attempt passive ROM if active ROM is limited and painless, record.

Special test

Adams Forward bending test:

- ✓ 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.

<https://www.youtube.com/watch?v=1EPii3Pz6V0>



Second: Supine position:**Look**

Note any **muscle wasting** in the lower limbs.

Feel

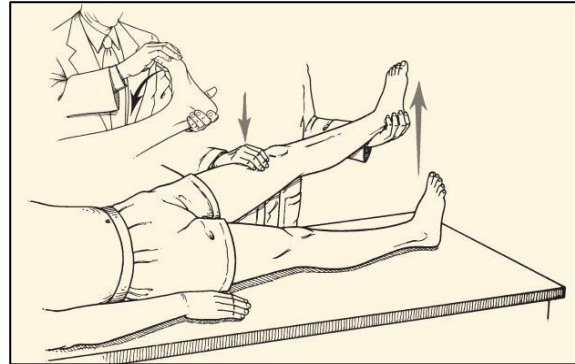
Check for **Leg length discrepancy** (ASIS to medial malleolus).

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 sign of discomfort.

- ✓ A positive test is reproduction of **sciatica**-i.e. sharp shooting pain that radiates **below the knee**- between 30° and 70° of hip flexion.
- ✓ The pain is **aggravated with dorsiflexion** of the ankle and relieved with knee flexion.

<https://www.youtube.com/watch?v=v8moZMdxJfi>



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

- **Screening Hip and knee examination** (e.g. 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:

- ✓ Motor: Hip flexion=L2, knee extension=L3, Ankle dorsiflexion=L4, EHL=L5, Ankle plantar flexion=S1.
- ✓ Sensory: dermatomes.
- ✓ Tone: normal, flaccid or rigid.
- ✓ Reflexes: knee & ankle jerks.

Vascular examination:

- ✓ Pedal pulses (dorsalis pedis & posterior tibial).
- ✓ Capillary refill (normal < 2 seconds).

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