

MUSCULOSKELETAL

LUMBOSACRAL RADICULOPATHY

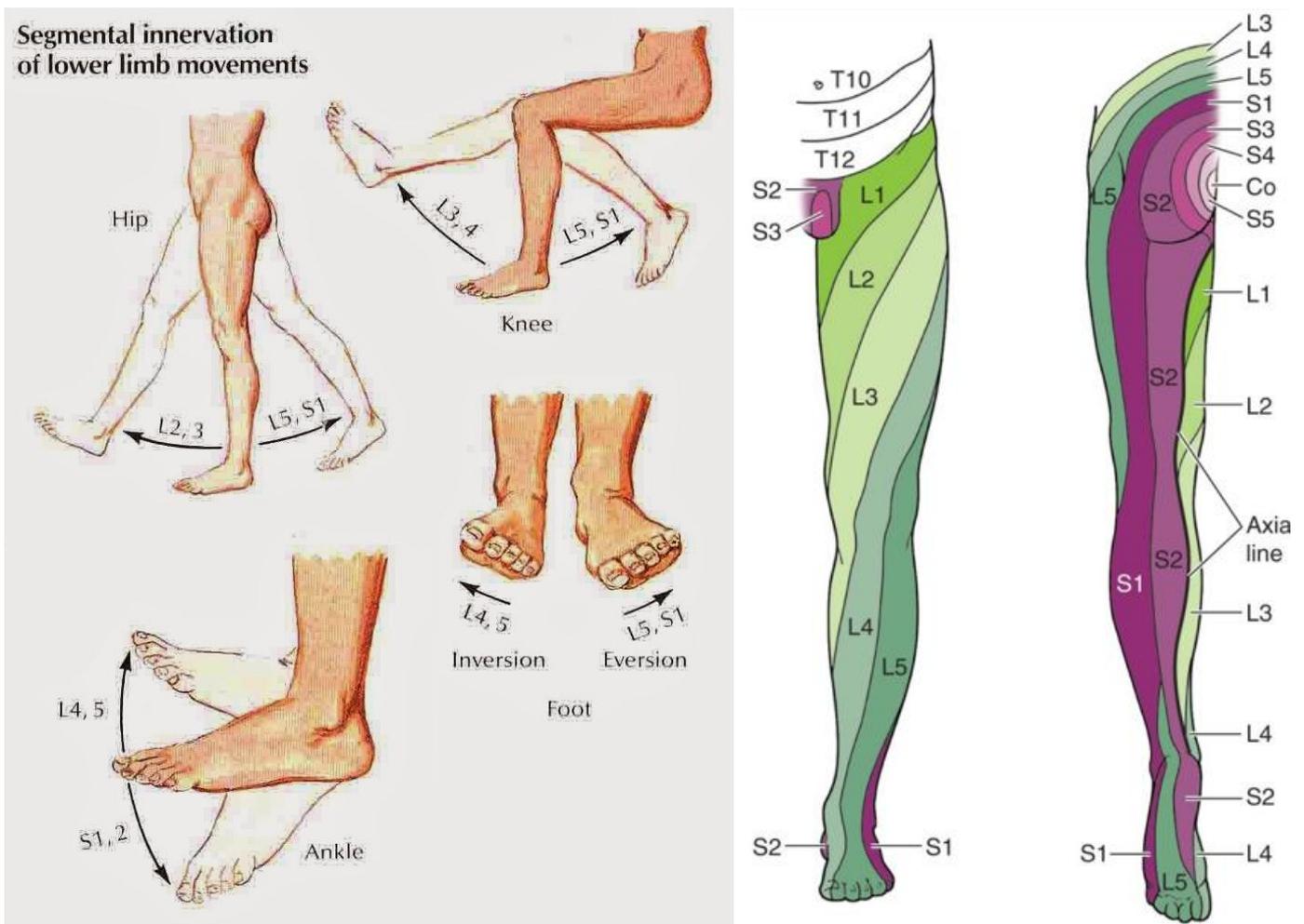
Radicular pain is pain due to irritation of a nerve root. Compression of a lumbosacral nerve root causes radicular back pain and is a common presentation to ED. L5 and S1 radiculopathies are most common.

Causes of Radiculopathy

- Disc prolapse.
- Spondylosis.
- Mass lesion (tumour, abscess)
- Infection (CMV, VZV)
- Infarction of nerve root (esp. in diabetes)

Myotomes and Dermatomes

Nerve root compression causes motor and sensory disturbance in a distribution innervated by the nerve root i.e. in myotomes and dermatomes. Note that strength may be preserved due to innervation of a muscle by multiple nerve roots.



Nerve root	L4	L5	S1
Pain			
Numbness			
Motor weakness	Extension of quadriceps	Dorsiflexion of great toe and foot	Plantar flexion of great toe and foot
Screening exam	Squat and rise	Heel walking	Walking on toes
Reflexes	Knee jerk diminished	None reliable	Ankle jerk diminished

Examination Findings

The most common lumbosacral radiculopathies are shown opposite.

Straight leg raise will usually be limited (30-60 degrees rather than 80-90 degrees). Note that pain on SLR should be in a dermatomal distribution, not confined to the back or hamstring.

Exclude serious causes such as AAA, ischaemic limb, pyelonephritis, renal colic and discitis. Check:

- Temperature.
- GI masses/tenderness.
- Peripheral pulses.
- Urinalysis.

Always consider cauda equina:

- Bilateral leg weakness or sensory disturbance.
- Saddle anaesthesia.
- Urinary/faecal incontinence.

Indications for Urgent Imaging

- Symptoms of cauda equina.
- Rapidly progressive neurological deficit.
- Suspected neoplasm.
- Suspected epidural abscess.

Management

Do not perform an x-ray unless you suspect a fracture. X-rays will not show discs, cord compression or nerve root compression and will not rule out malignancy or infection.

If there are indications for urgent scanning (see box above) discuss with orthopaedics, take bloods and arrange an MRI.

In the absence of an indication for urgent scanning, most patients can be discharged with analgesia and advice to keep mobile. Most radicular back pain will settle given time; persistent symptoms warrant follow up by the GP and consideration of imaging at 4-6 weeks.

Always advise the patient to reattend if symptoms of cauda equina develop.