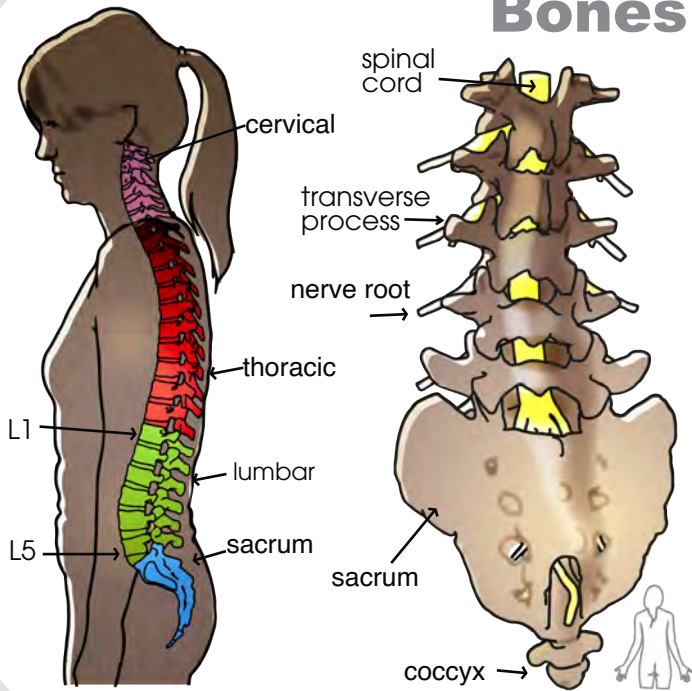
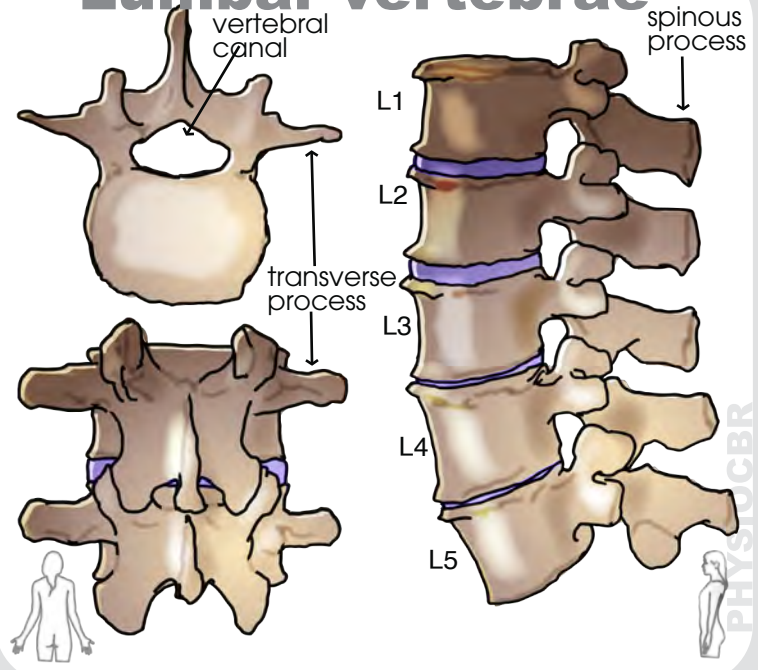


ANATOMY

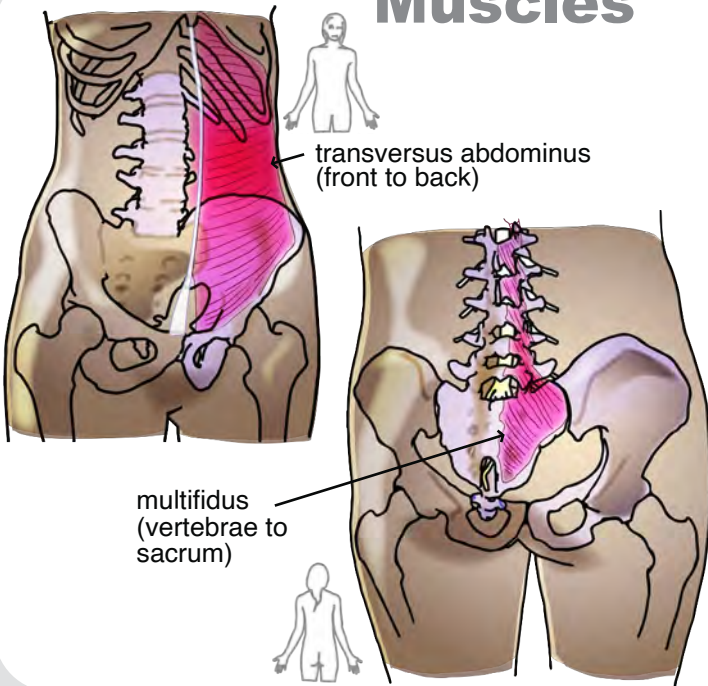
Bones



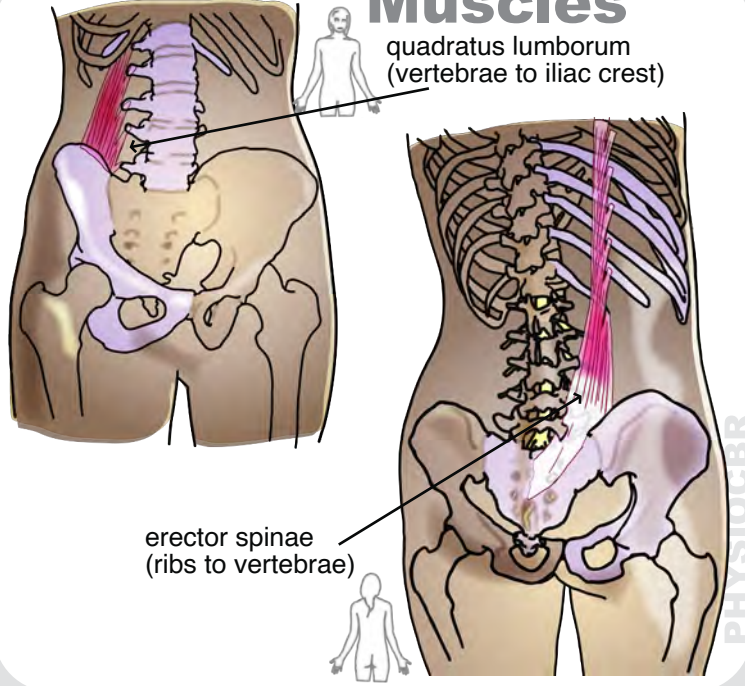
Lumbar vertebrae



Muscles



Muscles



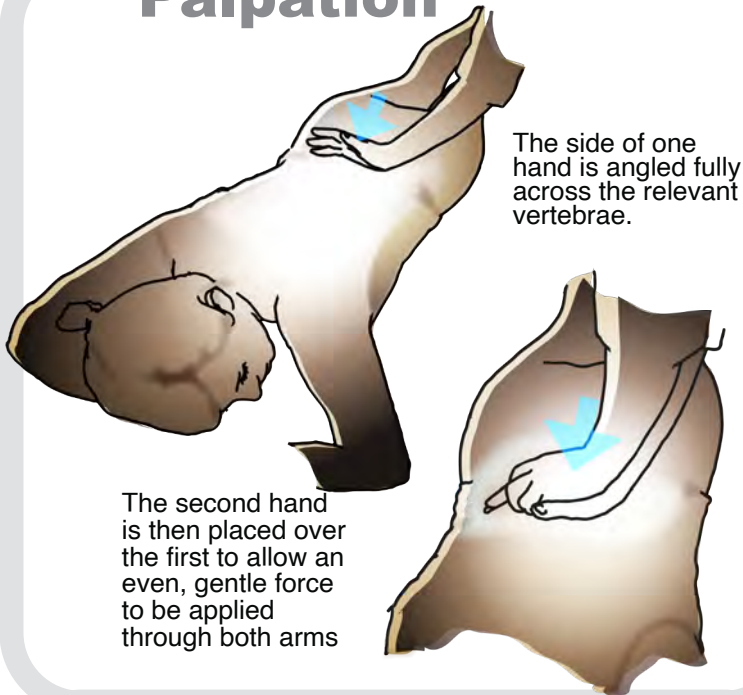
PHYSIOLOGY

Palpation



the lumbar palpation requires correct use of two hands on the relevant vertebrae

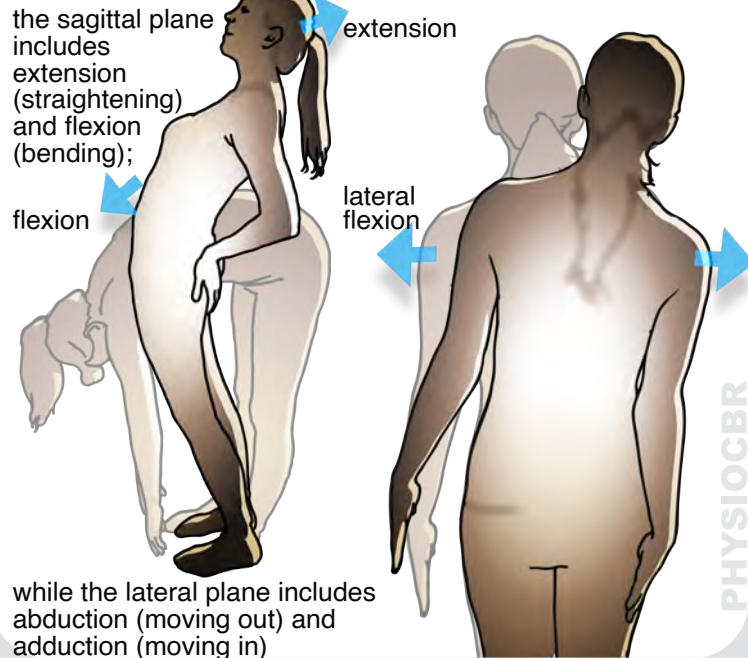
Palpation



The side of one hand is angled fully across the relevant vertebrae.

The second hand is then placed over the first to allow an even, gentle force to be applied through both arms

Range of Movement



the sagittal plane includes extension (straightening) and flexion (bending);

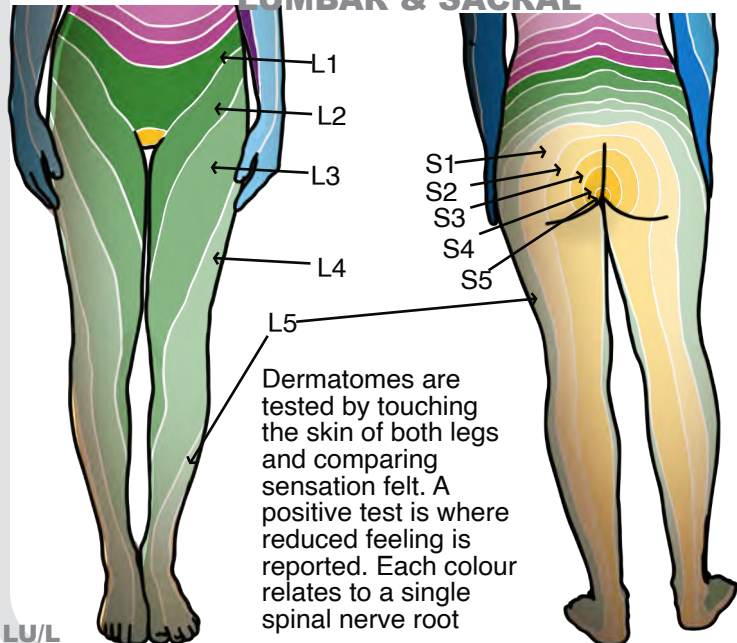
flexion

extension

lateral flexion

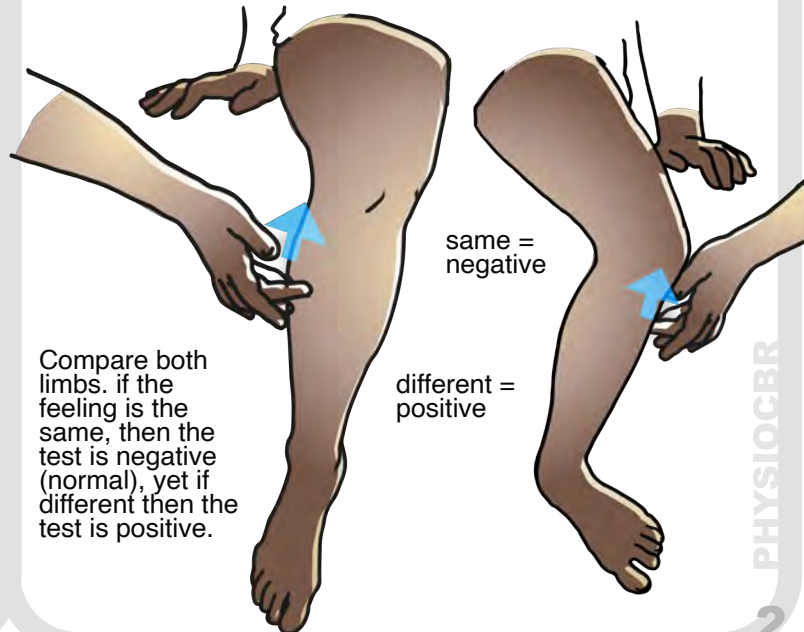
while the lateral plane includes abduction (moving out) and adduction (moving in)

Dermatomes LUMBAR & SACRAL



Dermatomes are tested by touching the skin of both legs and comparing sensation felt. A positive test is where reduced feeling is reported. Each colour relates to a single spinal nerve root

Dermatome testing LIMB COMPARISON

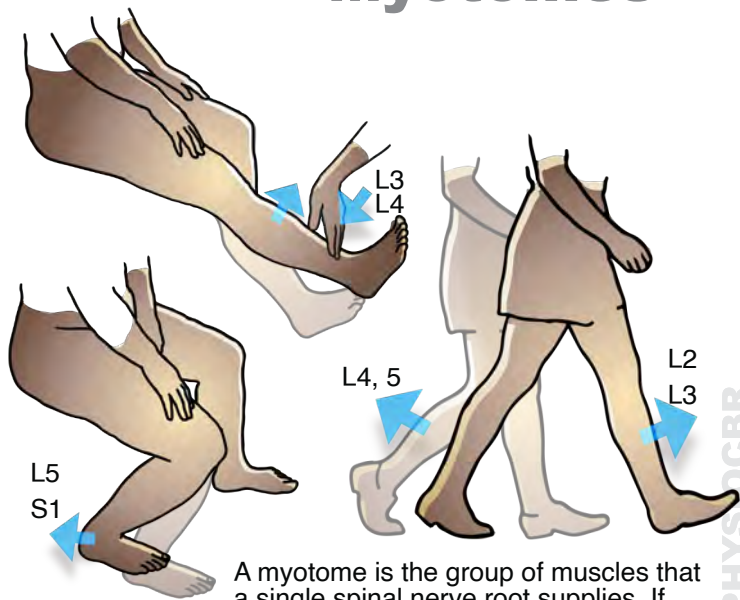


Compare both limbs. if the feeling is the same, then the test is negative (normal), yet if different then the test is positive.

same = negative

different = positive

Myotomes



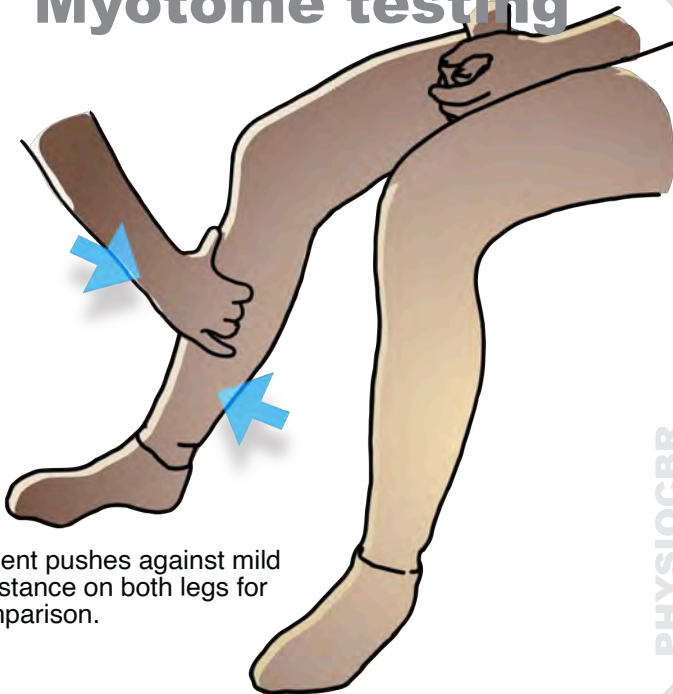
A myotome is the group of muscles that a single spinal nerve root supplies. If myotomes test positive, there is muscle weakness.

Myotomes



Myotomes. A myotome is the group of muscles that a single spinal nerve root supplies. If myotomes test positive, there is muscle weakness.

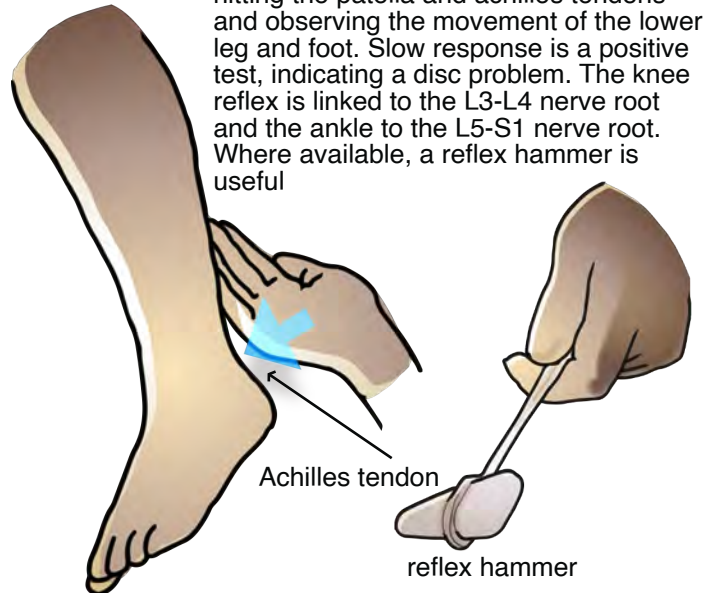
Myotome testing



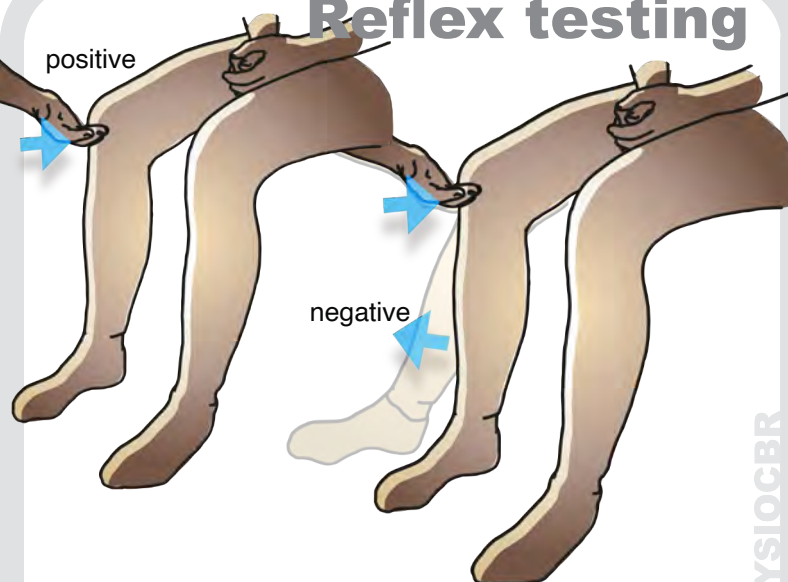
Patient pushes against mild resistance on both legs for comparison.

Reflexes

The knee and ankle reflexes are tested by hitting the patella and achilles tendons and observing the movement of the lower leg and foot. Slow response is a positive test, indicating a disc problem. The knee reflex is linked to the L3-L4 nerve root and the ankle to the L5-S1 nerve root. Where available, a reflex hammer is useful



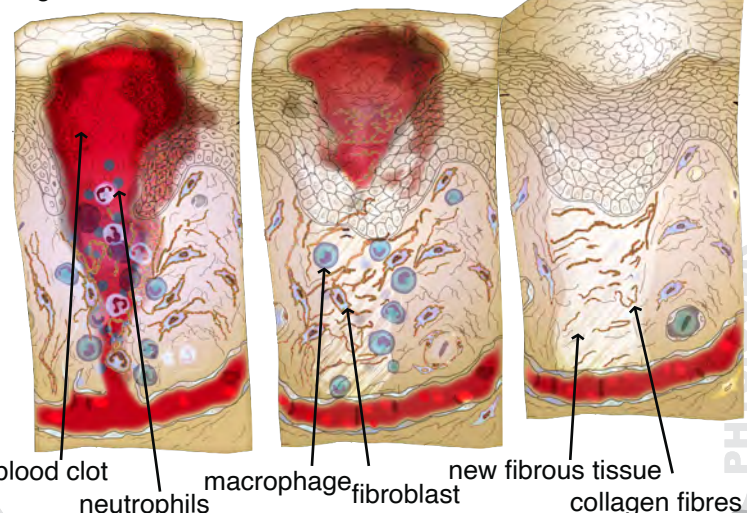
Reflex testing



Knee (and ankle) reflexes are tested by hitting the tendons and observing the movement of the lower leg and foot. Slow response is a positive test, indicating a disc problem

Soft tissue healing PHASES

Acute inflammation blood clot forms, tissue disruption. 72 hours. Regeneration clot shrinks, new fibrous tissue forms. 72 hours – 6/8 weeks. Re-modelling tissue fibres become organised. 6/8 weeks – 6/12 months

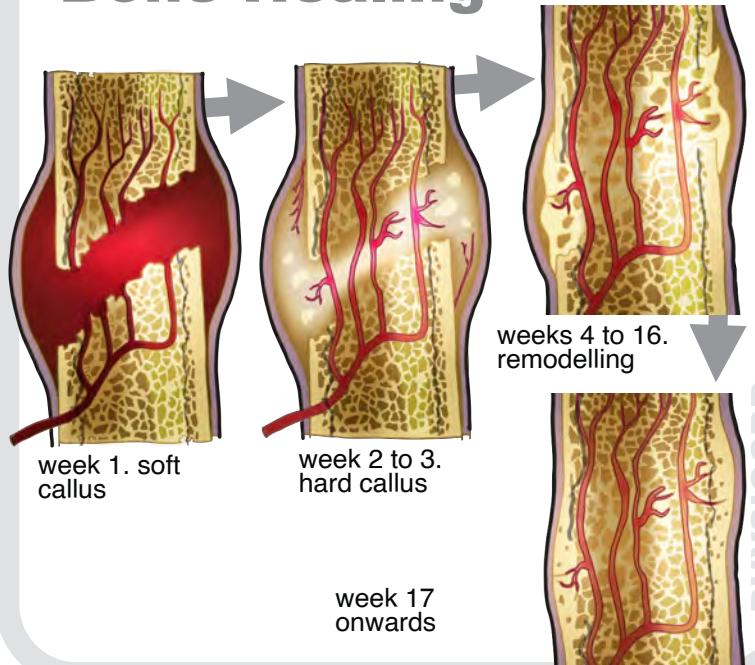


blood clot, neutrophils, macrophage, fibroblast, new fibrous tissue, collagen fibres

PATHOLOGY

Bone Healing

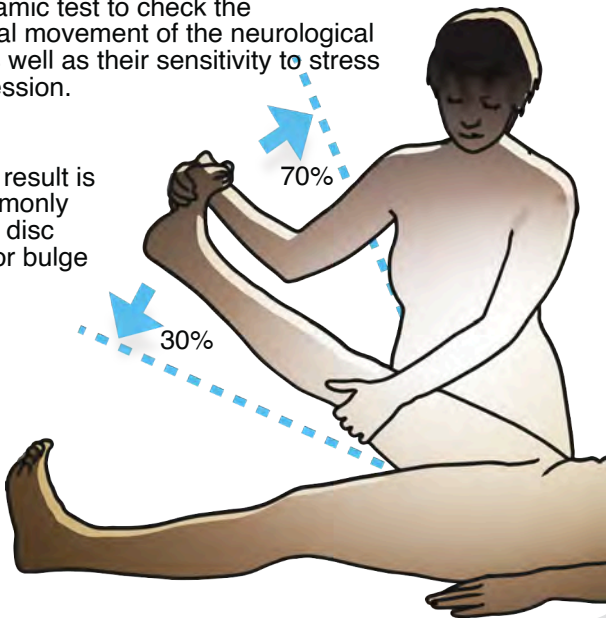
haematoma



Straight leg raise

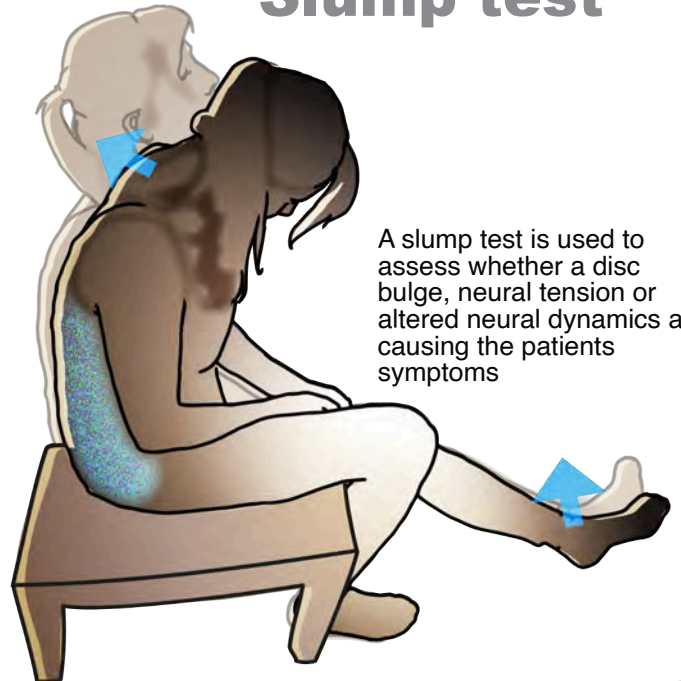
the Straight Leg Raise (SLR) test is a neurodynamic test to check the mechanical movement of the neurological tissues as well as their sensitivity to stress or compression.

A positive result is most commonly found in a disc prolapse or bulge



Slump test

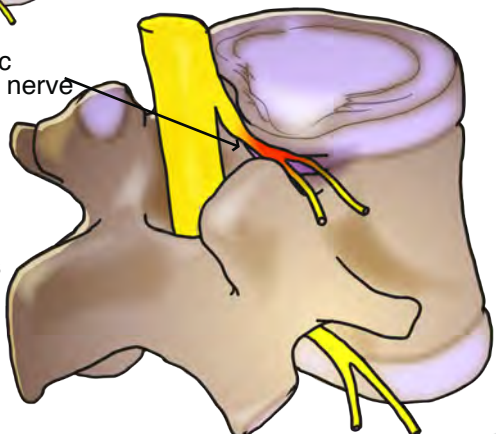
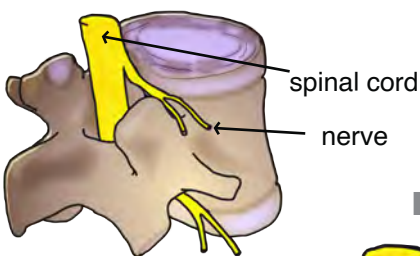
A slump test is used to assess whether a disc bulge, neural tension or altered neural dynamics are causing the patients symptoms



HEALTHY DISC

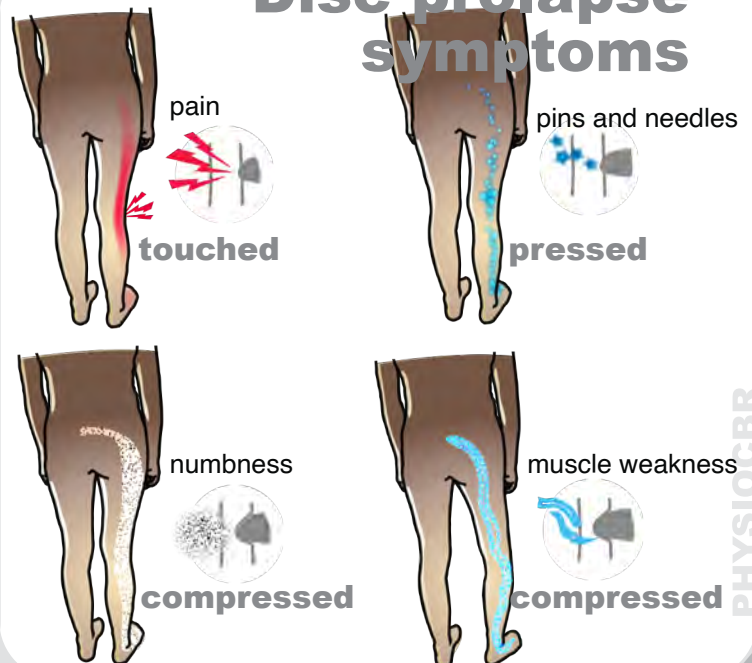
Disc prolapse

PROLAPSED DISC

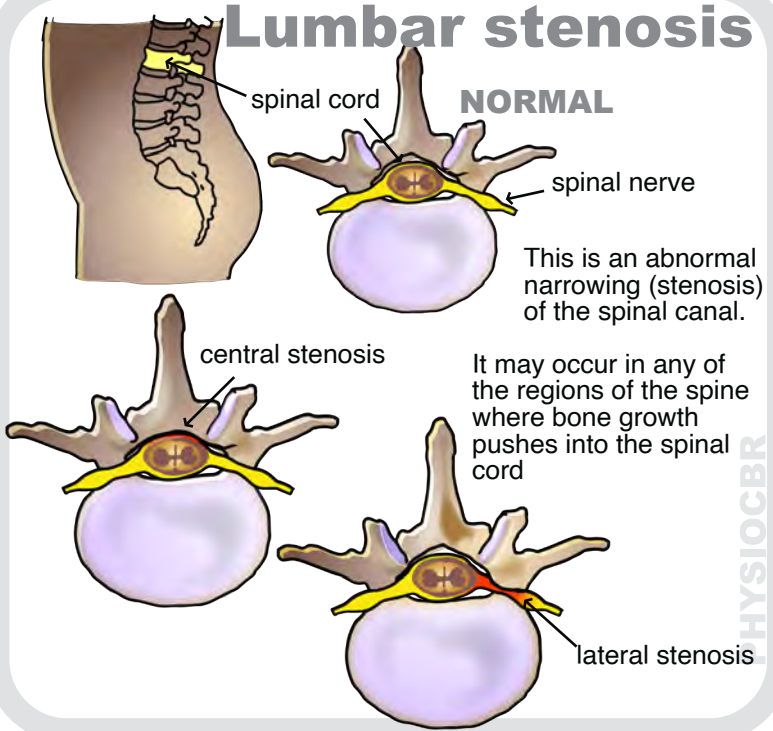


When bending forwards, pressure on the spine forces the disc backwards towards the nerve roots

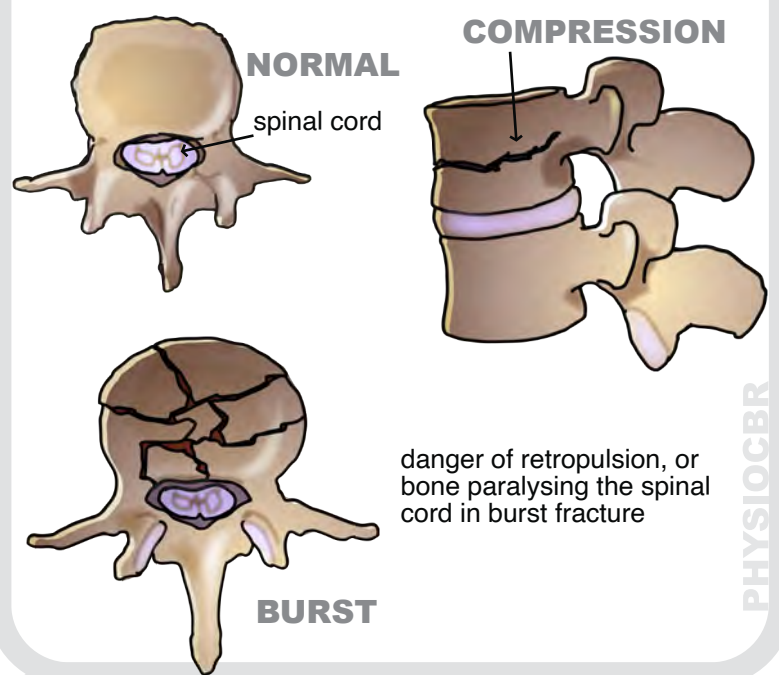
Disc prolapse symptoms



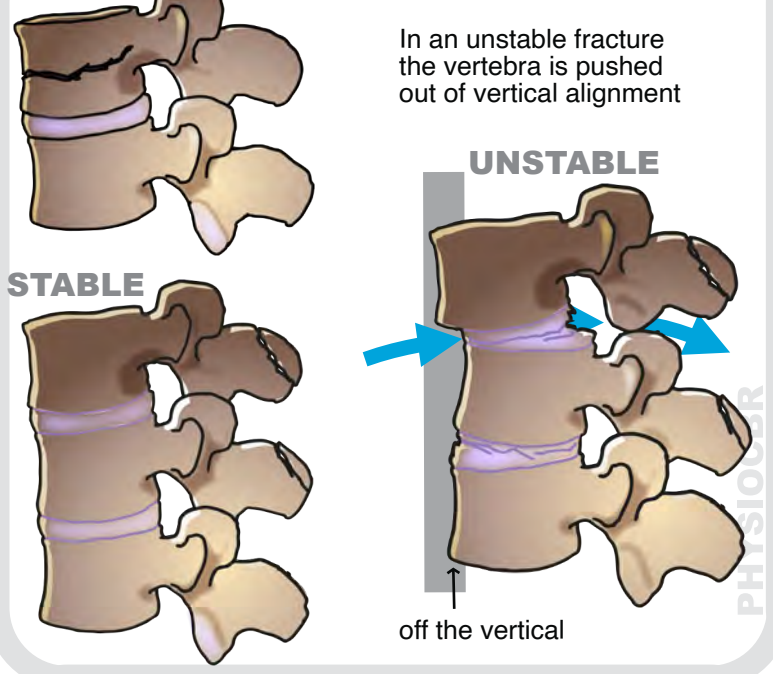
Lumbar stenosis



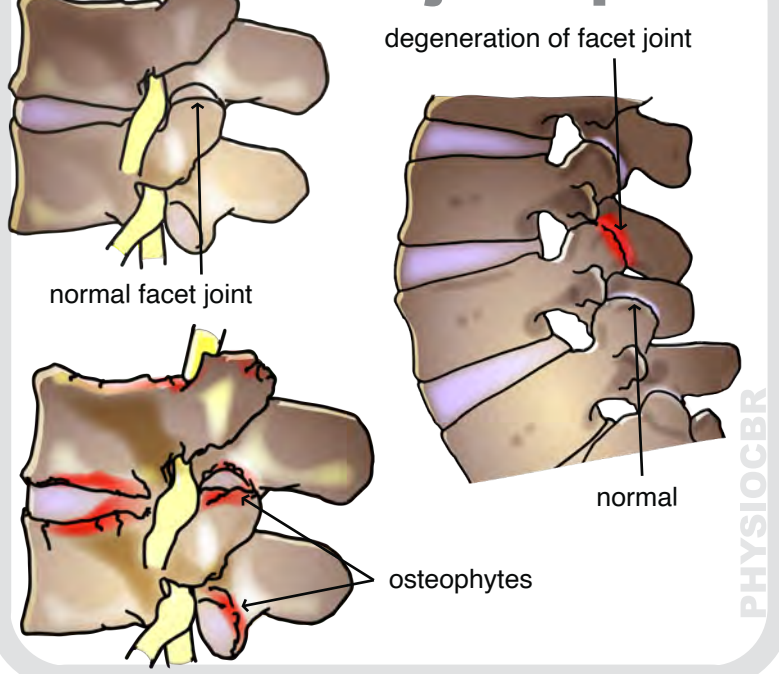
Lumbar fractures



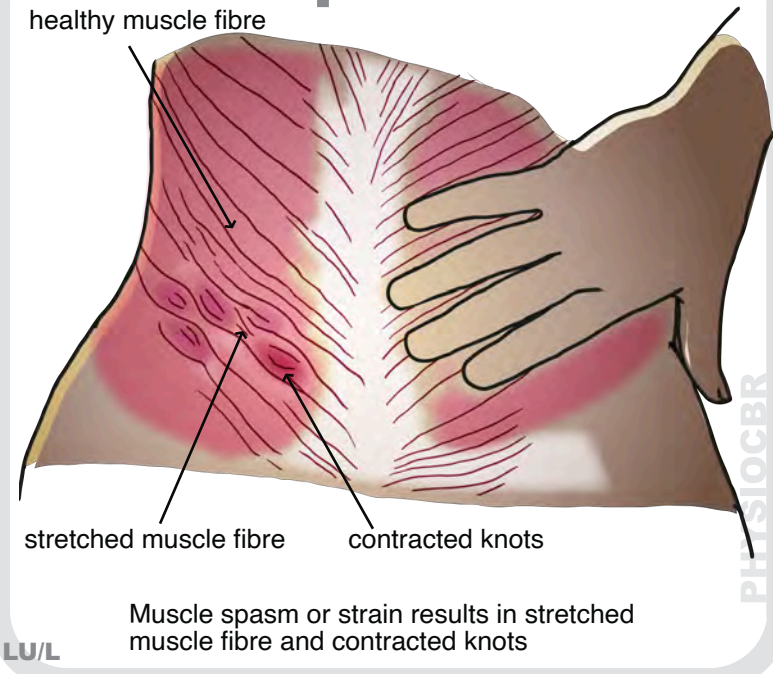
STABLE Lumbar fractures



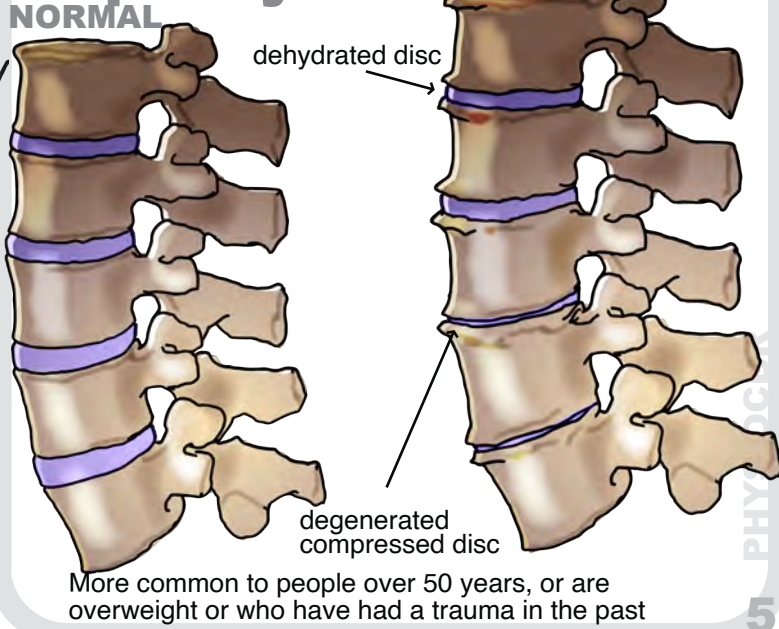
Facet joint pain



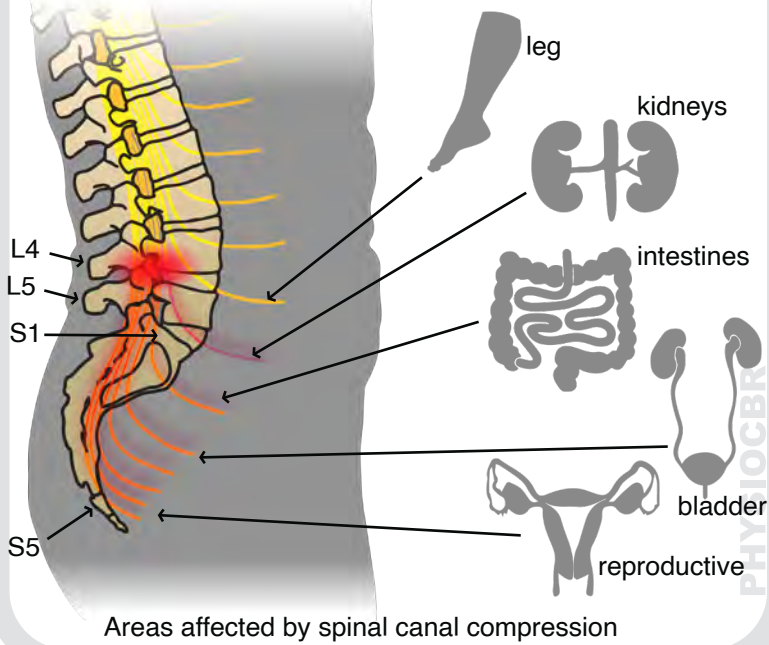
Muscle spasm/ strain



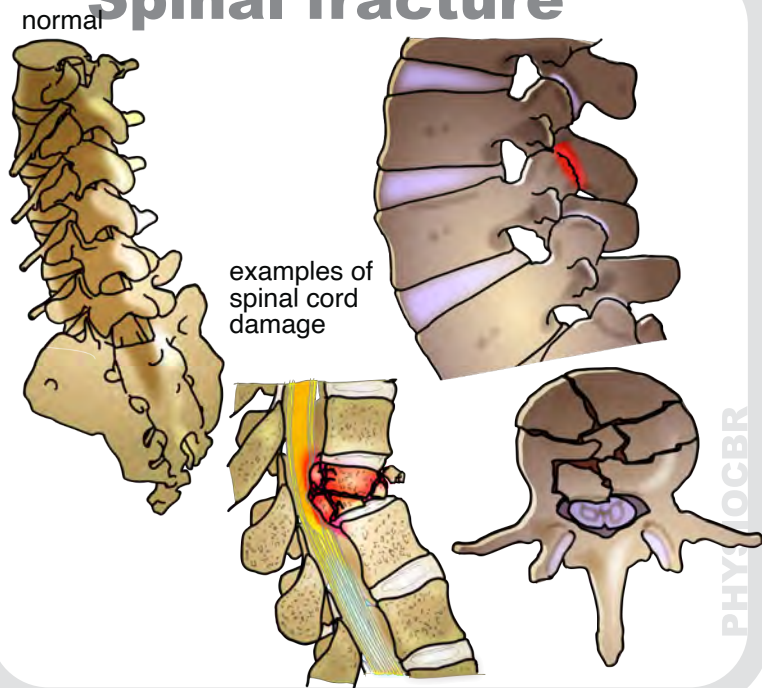
Osteo-arthritis/ spondylosis



Cauda Equina



Spinal fracture



PHYSIOCBR

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