

Exercise walk-through

3.3

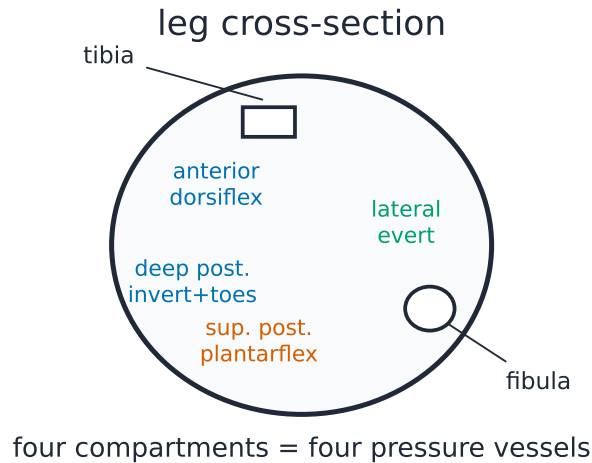
Lower limb

University Medicine

Lower limb - four compartments

- 1 **Thigh** Femoral (extension), obturator (adduction), sciatic (posterior → tibial + common peroneal).
- 2 **Leg** Four compartments: anterior dorsiflex, lateral evert, superficial posterior plantarflex, deep posterior invert + toes.
- 3 **Syndrome** Fascia does not stretch: pressure above ~30 mmHg shuts the capillary bed - pain on passive stretch is the sign.

Cross-section compartments plus the four pulse check



the four pulse checkpoints

femoral	hip fold, mid-point quads/knee extension
popliteal	knee crease, deep behind the knee
posterior tibial	behind medial malleolus ankle, medial
dorsalis pedis	foot dorsum foot

Cross-section compartments plus the four pulse checkpoints.

Exercises 2.1-2.3

2.1 Which nerve serves eversion, and in which compartment? [3]

2.2 Name the four palpable lower-limb pulses. [3]

2.3 Why does compartment pain worsen on PASSIVE stretch? [3]

Exercises 2.1-2.3

2.1 Which nerve serves eversion, and in which compartment? [3]

2.1

- Superficial peroneal, lateral compartment.

2.2 Name the four palpable lower-limb pulses. [3]

2.2

- Femoral, popliteal, posterior tibial, dorsalis pedis ✓.

2.3 Why does compartment pain worsen on PASSIVE stretch? [3]

2.3

- Stretching the ischaemic muscle tensions it further inside an already pressurised sleeve.

Exercise 3.1

3.1 A runner has a tense, painful calf after a fracture; toes paraesthetic; pain on passive toe extension.

Explain the mechanism (closed fascial sleeve, swelling, capillary shutdown > 30 mmHg). State what is NOT yet lost and why (distal pulses often preserved). State the treatment principle.

Exercise 3.1

3.1 A runner has a tense, painful calf after a fracture; toes paraesthetic; pain on passive toe extension.

Explain the mechanism (closed fascial sleeve, swelling, capillary shutdown > 30 mmHg). State what is NOT yet lost and why (distal pulses often preserved). State the treatment principle. [7]

3.1

- Fracture haematoma + swelling in an unyielding sleeve; pressure above capillary pressure (~ 30 mmHg) stops perfusion.
- Distal pulses persist until late – the obstruction is capillary, not large-artery.
- Treatment: open the sleeve (fasciotomy) – pressure relief, not observation.

Exercise 3.2

3.2 A patient cannot dorsiflex or evert after sitting cross-legged; inversion and reflexes are intact.

Localise the lesion (common peroneal at the fibular neck). Explain the sensory loss pattern (dorsum of foot). Explain why inversion being intact excludes a deep posterior/L5 lesion.

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3.2

- Common peroneal nerve at the fibular neck (compressed by position).
- Sensory loss on the dorsum of the foot (superficial peroneal territory).
- Inversion is tibial/deep posterior: intact inversion places the lesion outside that compartment – precisely at the subcutaneous fibular neck.