Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

lifting the foot up (dorsiflexion): **anterior**

turning the sole outwards (eversion): **lateral**

standing on tiptoe (plantarflexion): **superficial posterior**

2.2

$\Delta P = 80 - 55 = \mathbf{25}$ mmHg

below 30 mmHg, so urgent **fasciotomy**

2.3

A nerve, B artery, C vein

feel the pulse at B, the mid-inguinal point, halfway between the front of the iliac crest and the pubic symphysis

2.4

the **upper outer** quadrant

the sciatic nerve runs through the lower part of the buttock

an injection there can injure it, giving weakness below the knee and foot drop

3.1

(a) $75 - 55 = \mathbf{20}$ mmHg; below 30, so urgent fasciotomy

(b) stretching the toes stretches the muscles in the swollen compartment, which are short of blood and already under high pressure

(c) arterial pressure is much higher than compartment pressure, so the big artery stays open, while the small vessels in the muscle are squeezed shut

(d) split the cast and its padding right down to the skin

3.2

(a) the **common fibular** nerve at the neck of the fibula

(b) inversion and plantarflexion; they are supplied by the tibial nerve, which is not pressed

(c) the top of the foot and the side of the lower leg

3.3

(a) the **superior gluteal** nerve on the **right**, the standing side

(b) gluteus medius and minimus of the standing leg pull the pelvis level; when they are weak, the unsupported side drops

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(c) the **left** hand, opposite the weak side; pushing down there helps hold the pelvis level, so the weak muscles do less work

(d) the **femoral** nerve, roots L3–L4