Core Surgical Anatomy – Learning outcomes

Limbs overview – plexuses, nerves, blood supply, lymph drainage

Lower Limb

Describe the anatomy of the lumbosacral plexus and its terminal branches.

Describe the anatomical bases (nerve root or peripheral nerve) for loss of movements and reflexes at the knee and ankle resulting from spinal injuries, disc lesions and common peripheral nerve injuries.

Describe the dermatomes of the lower limb and perineum that can be used to assess spinal and peripheral nerve injuries.

Describe the origin, course and distribution of the major arteries of the lower limb. Explain the importance of anastomoses between their branches.

Demonstrate the locations at which the femoral, popliteal, posterior tibial and dorsalis pedis arterial pulses can be palpated.

Describe the role of the perforator veins between the superficial and deep veins and the function of the 'muscle pump' for venous return to the heart.

Describe the surface landmarks for sites of venous access that can be

Describe the fascial compartments enclosing the major muscle groups of the lower limb and explain the functional importance of these compartments and their contents in relation to compartment syndrome.

Interpret standard diagnostic images e.g. CT, MRI, X-ray and ultrasound of the lower limb and be able to recognise common abnormalities.

Upper Limb

Describe the anatomy of the brachial plexus from its origin in the neck to its terminal branches. Recognise brachial plexus injuries and explain their clinical presentation.

Name the major muscles and muscle groups that the axillary, radial, musculocutaneous, median and ulnar nerves supply, together with their sensory distribution. Predict the consequences of injury to these nerves and describe how to test their functional integrity.

Describe the anatomical basis of assessment of: cutaneous sensation in the dermatomes of the upper limb, motor function, tendon reflexes, and muscle power in the upper limb.

Describe the origin, course and distribution of the major arteries and their branches that supply the shoulder, arm, forearm and hand in relation to common sites of injury. Explain the importance of anastomoses between the branches. Identify those sites where neurovascular structures are at particular risk of damage from musculoskeletal injuries.

Demonstrate the sites at which pulses of the brachial, radial and ulnar arteries may be located.

Describe the course of the main veins of the upper limb and contrast the functions of the deep and superficial veins. Identify the common sites of venous access and describe their key anatomical relations.

Describe the fascial compartments enclosing the major muscle groups of the upper limb; explain the functional and clinical importance of those compartments and their contents.

Describe the neurovascular structures lying in close relation to the bones and joints of the upper limb, which are at risk of injury following fracture or dislocation. Predict what the functional effects of such injury might be.

Interpret standard diagnostic images, e.g. CT, MRI, X-ray and ultrasound of the upper limb and recognise common abnormalities.