

Q11 Describe the anatomy relevant to the cannulation of the left subclavian vein (Sept 2009, Q18 Sept 2013)

Subclavian vein:

Origin – the continuation of the axillary vein; commences at the lateral border of the first rib

Course – travels posterior to the clavicle, with the anterior scalene muscle posteriorly separating it from the subclavian artery. It travels over the superior surface of the first rib forming a slight groove, then joins the internal jugular vein to form the brachiocephalic.

Terminates – behind the sternoclavicular joint where it joins the internal jugular vein to form the brachiocephalic vein and enter the superior vena cava

Relationships:

- Anterior – posterior border of the clavicle, subclavius muscle
- Posterior – anterior scalene muscle and subclavian artery, phrenic nerve and internal mammary artery (medial)
- Inferior – first rib and apex of lung (medially), first intercostal space (laterally)
- Superior – skin, platysma, superficial aponeurosis
- Median – brachiocephalic trunk, thoracic duct, trachea, vagal trunks
- Lateral – inferior trunk of brachial plexus

Surface anatomy:

- Pertinent landmarks: clavicle, two muscle bellies of SCM, suprasternal notch, deltopectoral groove, manubriosternal junction
- Infraclavicular approach → Insert the needle 2-3cm inferior to the deltopectoral groove, aiming the needle towards the suprasternal notch
- Supraclavicular approach → site of skin puncture is the clavicolosternocleidomastoid angle, just superior to the clavicle and lateral to the insertion of the clavicular head of SCM. Advance the needle towards the contralateral nipple, just under the clavicle. The needle should enter the jugulosubclavian venous bulb after 1-4cm.