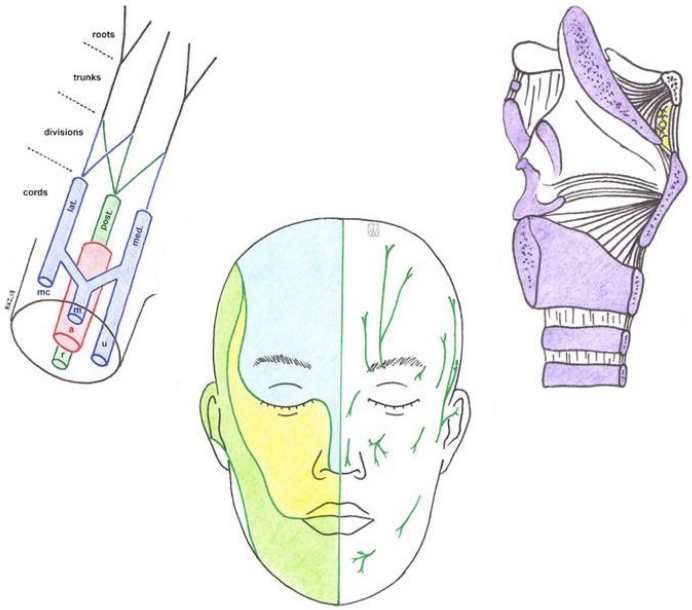
Anatomy for the FRCA Course
6 May 2022

CRQs & MCQs



Constructed Response Question 1

(a) List the contents of the femoral triangle. (2 marks)

1. .....
2. .....
3. .....
4. .....

(b) What are the boundaries of the femoral triangle? (4 marks)

Superior	
Lateral	
Medial	
Roof	
Floor	

(c) What are the borders of the fascia iliaca compartment? (4 marks)

Anterior	
Posterior	
Medial	
Lateral	

(d) What nerves are targeted by a fascia iliac block? (2 marks)

1. .....
2. .....

(e) Why is a large volume of local anaesthetic is required for a fascia iliaca block? (2 marks)

.....

.....

(f) Outline how you would perform an ultrasound-guided fascia iliaca block. (6 marks)

1. ……
2. ……
3. ……
4. ……
5. ……
6. ……
7. ……
8. ……
9. ……
10. ……...
11. ……...
12. ……...

Constructed Response Question 2

(a) Describe the origin, course & termination of the internal jugular vein (IJV). (5 marks)

Origin	
Course (in relation to the carotid artery)	
Termination	

(b) List 5 features of the jugular venous pulse (JVP) which distinguish it from the carotid pulse. (5 marks)

1. .....
2. .....
3. .....
4. .....
5. .....

(c) List 5 indications for cannulation of the internal jugular vein. (5 marks)

1. .....
2. .....
3. .....
4. .....
5. .....

(d) List 5 complications of cannulating the internal jugular vein. (5 marks)

1. .....
2. .....
3. .....
4. .....
5. .....

Constructed Response Question 3

(a) Outline the nerve supply of the oesophagus by completing the table below. (3 marks)

Modality	Origin
Motor	
Sensory	
Secretomotor	

(b) Outline the vascular supply of the oesophagus. (6 marks)

Location	Arterial supply	Venous drainage
Cervical oesophagus		
Thoracic oesophagus		
Abdominal oesophagus		

(c) List eight relations of the thoracic oesophagus. (4 marks)

Anterior

1. .....
2. .....

Posterior

1. .....
2. .....

Right

1. .....
2. .....

Left

1. .....

2……

(d) List 3 anaesthetic devices that are placed in the oesophagus & state their function. (3 marks)

Device	Function

(e) List 4 features of the distal oesophagus and the surrounding structures that form the 'physiological sphincter' of the lower oesophagus. (4 marks)

1	
2	
3	
4	

MCQs (True/False)

The following are true of the internal auditory meatus/canal:

- It transmits the vestibulocochlear nerve and the facial nerve
- It is directed laterally in the petrous bone
- It connects the middle cranial fossa to the external auditory meatus
- It contains only the motor component of CN VII
- The vestibular ganglion lies within the internal auditory meatus

Regarding anterior spinal artery syndrome:

- Proprioception is preserved below the level of the lesion
- Voluntary motor function is lost below the level of the lesion
- An upper motor neuron lesion (spastic paralysis) will develop below the level of the lesion
- Pain and temperature sensation is preserved below the level of the lesion
- The lateral spinothalamic tract is typically affected

The oesophagus:

- Passes through the diaphragm at the level of T12
- Is typically 25cm long in the adult
- Has no outer serosa
- Swings to the right as it descends in the inferior part of the thorax
- Lymphatic drainage travels a relatively large distance before reaching a node

Regarding the trachea:

- The narrowest part of the upper respiratory tract, in the adult, is at the level of the cricoid cartilage
- The narrowest part of the upper respiratory tract, in the child, is at the level of the (open) vocal cords
- The position of the carina moves with respiration

- It is in contact with the left vagus nerve in the thorax
- It is in contact with the thoracic duct posteriorly

The internal jugular vein:

- Exits the middle cranial fossa through the jugular foramen
- Lies posterior to the external carotid artery below the base of the skull
- Lies within the carotid sheath
- Lies within the deep investing fascia of the neck
- Continues as the subclavian vein behind the medial end of the clavicle

The radial nerve:

- Is derived from roots C5-T1
- Gives motor innervation to brachialis
- Is at risk of injury in a midhumeral fracture
- Gives motor innervation to the medial and lateral heads of triceps brachii
- Can be reliably blocked using ultrasound at the mid forearm level

The lumbar plexus:

- Receives a contribution from the L5 nerve root in at least half of the population
- Can be seen as a hyperechoic area within the posterior third of the psoas muscle
- Is reliably blocked by the ‘3 in 1’ block
- Stimulation of the hamstrings is an acceptable end point/motor response for correct needle placement when using a peripheral nerve stimulator to guide local anaesthetic injection
- Gives off 5 mixed motor and sensory nerves

Regarding the superior and inferior orbital fissures:

- The inferior orbital fissure transmits the zygomatic branch of the maxillary nerve

- The inferior orbital fissure transmits the inferior division of the occulomotor nerve
- The superior orbital fissure transmits CN VI (abducens) nerve
- The superior orbital fissure transmits the ophthalmic artery
- The superior orbital fissure exists as a cleft between the greater and lesser wings of the sphenoid bone

Regarding the bronchial circulation:

- The bronchial arteries supply air passages with oxygenated blood
- The bronchial arteries arise from the corresponding pulmonary artery
- There are two bronchial arteries on the right
- The bronchial veins return deoxygenated blood to the azygos venous system
- The bronchial and pulmonary circulations allow mixing of oxygenated and deoxygenated blood

Regarding oesophageal pathology:

- Boerhaave's syndrome refers to oesophageal rupture secondary to iatrogenic injury
- Nasogastric tube placement is not contraindicated in the presence of oesophageal varices
- Achalasia refers to failure of the lower oesophageal sphincter to relax
- Adenocarcinoma of the oesophagus occurs most commonly in the distal third
- Approximately 80% of oesophageal cancer occurs in men

The 12th cranial nerve (CN XII):

- Is a paired nerve comprising six cervical roots and one cranial root
- Exits the skull through the hypoglossal canal in the temporal bone
- A unilateral lesion of this nerve will cause the tongue to deviate to the unaffected side
- Carries motor and sensory fibres

- Courses through the carotid sheath

Regarding the axillary brachial plexus block:

- It reliably blocks the intercostal brachial nerve
- Motor innervation to biceps brachii is via the musculocutaneous nerve
- The axillary artery typically lies posterior to the conjoined tendon of teres major and latissimus dorsi
- The musculocutaneous nerve appears as a hypoechoic structure, due to the lack of connective tissue
- The axillary nerve is normally blocked

The anterior triangle of the neck:

- Is bounded by the anterior border of sternocleidomastoid, the lower border of the mandible and the midline
- Contains the carotid sheath
- Contains the external jugular vein
- Is overlain by skin supplied by the transverse cervical nerve(s)
- Contains the accessory nerve

These structures pass through the hilum of the left lung:

- Left pulmonary artery
- Left bronchial arteries
- Left upper lobe bronchus
- Branches of the pulmonary plexus
- Pulmonary lymphatics

Concerning the oesophageal sphincters:

- Atropine reduces lower oesophageal sphincter pressure
- The lower oesophageal sphincter is in a state of tonic contraction
- The upper oesophagus consists of skeletal muscle, but is not under voluntary control

- Upper oesophageal sphincter tone is reduced by all intravenous anaesthetic induction agents
- Upper oesophageal sphincter tone is reduced by both non depolarising and depolarising neuromuscular blocking drugs

Regarding Brown-Séquard syndrome:

- Typically results after complete transection of the spinal cord
- Results in an upper motor neuron lesion (spastic paralysis) below the level of the lesion, on the ipsilateral side
- Results in a lower motor neuron lesion (flaccid paralysis) below the level of the lesion, on the ipsilateral side
- Results in a loss of vibration and proprioception sensation (dorsal column) below the level of the lesion, on the ipsilateral side
- Results in a loss of pain and temperature sensation (spinothalamic tract) below the level of the lesion, on the contralateral side

The ulnar nerve:

- Provides cutaneous innervation to the medial aspect of the forearm
- Clinical signs of ulnar nerve injury include claw hand
- Is derived from roots C8-T1
- Courses with the brachial artery for the upper two thirds of the arm
- Enters the hand via Guyon's canal

The carotid sheath:

- Contains the external carotid artery
- Contains the internal jugular vein
- Contains the recurrent laryngeal nerve
- Contains the ansa cervicalis within its anterior wall
- Lies anterior to the phrenic nerve