

Section 1

Question Papers

Paper

1

SAQ Exam

SAQ 1

- a) Where in the skull is the foramen magnum found? (1 mark)
- b) Name four structures that pass through the foramen magnum (4 marks)
- c) Name three types of brain herniation (3 marks)
- d) Why may ocular features be a false-localising sign in brain injury causing cerebellar herniation? (2 marks)
- e) Describe the pathophysiological changes of tonsillar (cerebellar) herniation (aka coning) (5 marks)
- f) What hormone supplementation may be required in such patients if they are considered for brainstem death organ donation? (5 marks)

SAQ 2

- a) What awake surgical procedures are permitted by the use of an axillary block? (2 marks)
- b) Name the nerves targeted when performing this block and where they are found (4 marks)
- c) Regarding the musculocutaneous nerve:
 - i. Why may it be missed during an axillary brachial plexus block?
 - ii. What does it supply?
 - iii. How can a block of this nerve be supplemented? (3 marks)
- d) What pattern of missed segment(s) is demonstrated in an inadequate axillary block? What areas are most likely to be spared in patients and why? What can be done to remedy this? (5 marks)
- e) Describe a technique for performing an ultrasound-guided axillary brachial plexus block (6 marks)

SAQ 3

- a) Describe the structure of the respiratory tree (10 marks)
- b) Which segment(s) of which lung is most likely to be affected by aspiration of gastric contents (3 marks)

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- c) Describe the pathophysiology of aspiration pneumonitis (3 marks)
- d) How do you manage aspiration in a patient with a supraglottic airway device? (4 marks)

SAQ 4

- a) Describe the boundaries of the epidural space (4 marks)
- b) List the contents of the epidural space (6 marks)
- c) What structures does the Tuohy needle pass through when performing a midline epidural? (5 marks)
- d) What are the benefits of epidural analgesia after laparotomy for malignant disease? (5 marks)

SAQ 5

- a) Describe the boundaries and contents of the femoral triangle (6 marks)
- b) What is a fascia iliaca block? (2 marks)
- c) Describe the borders of the fascia iliaca compartment and nerves affected by the block (6 marks)
- d) Describe how you would perform a fascia iliac block (6 marks)

SAQ 6

- a) Describe the origin, course and termination of the internal jugular vein (IJV). Make specific reference to its relationship with the carotid artery (5 marks)
- b) Describe features that distinguish the jugular venous pulse (JVP) from the carotid pulse (5 marks)
- c) List five indications for cannulating the IJV (5 marks)
- d) List five complications of cannulating the IJV (5 marks)

SAQ 7

- a) Name the tissue layers traversed during insertion of an intercostal (chest) drain (5 marks)
- b) Name and describe the muscles of the intercostal space (6 marks)
- c) With the aid of a diagram, describe the structure of a spinal nerve from the T2–6 level after it has emerged from the vertebral column. State where it lies in the intercostal space (6 marks)
- d) Name three procedures in anaesthesia, other than intercostal drain insertion, which make use of the intercostal space (3 marks)

SAQ 8

- a) Which nerve root contributes to the lumbar plexus, in what muscle is it formed and where is the muscle found? (4 marks)
- b) Name the branches of the lumbar plexus and their respective root values (6 marks)
- c) Name indications and contraindications for a lumbar plexus block (5 marks)
- d) What complications of regional anaesthesia are pertinent to lumbar plexus blockade? (5 marks)

SAQ 9

- a) Describe the neurovascular supply of the oesophagus (9 marks)
- b) List the relations of the thoracic oesophagus (4 marks)
- c) What anaesthetic monitoring devices are placed in the oesophagus and what do they measure? (3 marks)
- d) What features, of the distal oesophagus and surrounding structures, form the 'physiological sphincter' of the lower oesophagus to reduce reflux of gastric contents? (4 marks)

SAQ 10

- a) Describe the anatomy of the pituitary gland and its relations (8 marks)
- b) What is the hypothalamo-hypophyseal portal venous system? (2 marks)
- c) What features of acromegaly are relevant to the conduct of general anaesthesia? (5 marks)
- d) What is the transsphenoidal approach to the pituitary gland? Name the main advantages and complications (5 marks)

SAQ 11

- a) What are the indications for a popliteal fossa block? (3 marks)
- b) Describe the anatomy of the popliteal fossa (5 marks)
- c) Describe the cutaneous innervation of the sciatic nerve below the knee (6 marks)
- d) Describe a technique for performing a popliteal fossa block (6 marks)

SAQ 12

- a) Briefly describe the anatomy of the trachea (6 marks)
- b) List relations of the trachea in the neck (C6) and thorax (T4) (8 marks)
- c) List immediate/early and late complications of a tracheostomy placed between the second and third tracheal rings (6 marks)

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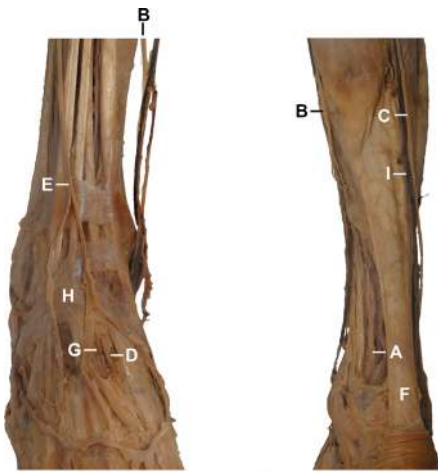
Paper

2

OSCE Exam

Station 1

- Name the nerves labelled A–E. Describe their area of cutaneous innervation (10 marks)
- Identify structures F–I (4 marks)
- Which of these nerves lie superficial to deep fascia at the level blocked? (3 marks)
- From time of injection to onset of block, which of these nerves classically takes the longest and why? Why is it the only nerve for which a nerve stimulator would be useful? (3 marks)



OSCE1 Dissection of dorsum of foot and posterior view of leg.

Station 2

- From the image, name structures 1–5 and the nerves that pass through them (10 marks)
- Name the landmarks labelled A–C and the venous sinus associated with them (3 marks)

Paper 2: OSCE Exam

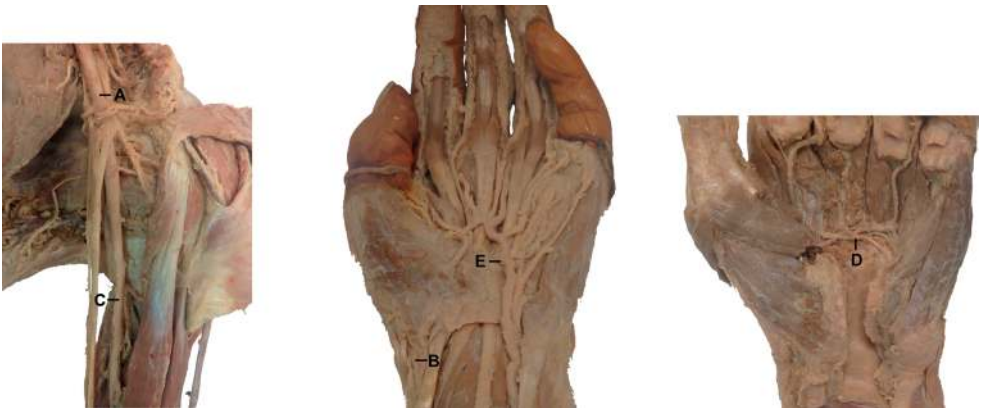
- c) On the image, demonstrate the boundaries of the anterior, middle and posterior cranial fossae. Describe the principal part and function of the brain associated with each (3 marks)
- d) What is the name of the region indicated by D? What clinical condition is associated with trauma in this territory and why? What are the clinical features? (4 marks)



OSCE2

Station 3

- a) Identify structures A–E in these cadaveric images (5 marks)
- b) Name the artery running with the following nerve (3 marks):
- Radial nerve (in the proximal arm)
 - Median nerve (in the cubital fossa)
 - Ulnar nerve (at the wrist)
- c) Describe collateral arterial supply of hand (8 marks)
- d) What is Allen's test? (4 marks)

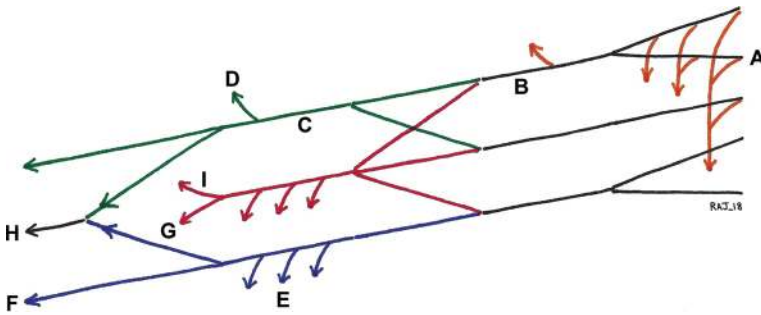


OSCE3 Dissection of anterior shoulder and palm of hand.

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Station 4

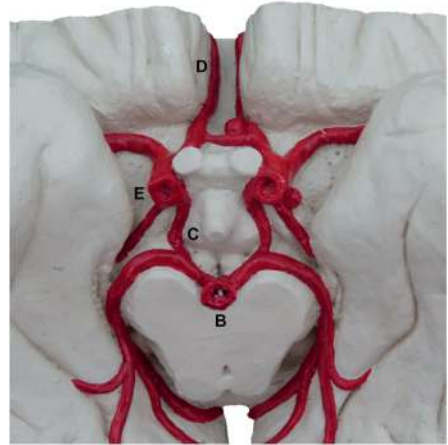
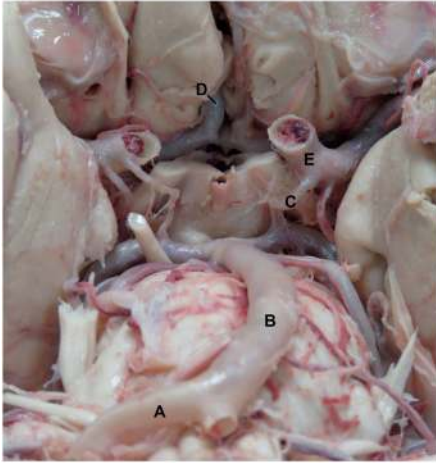
- Name structures A–E on this image of the brachial plexus (5 marks)
- Name the nerve roots that contribute to the nerves labelled F–I (4 marks)
- What motor response is demonstrated on stimulation of the lateral, posterior and medial cords of the brachial plexus? (3 marks)
- Name the part(s) of the brachial plexus targeted by the following blocks (4 marks):
 - interscalene
 - supraclavicular
 - infraclavicular
 - axillary
- What are the benefits of ultrasound-guided (over anatomical landmark or nerve stimulator) brachial plexus blocks? (4 marks)



OSCE4

Station 5

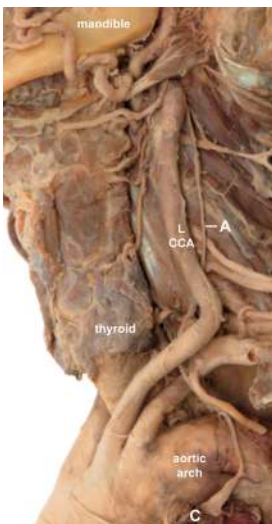
- On the image OSCE5, name structures A–E (5 marks)
- What is the origin of A and E? (2 marks)
- Where are the common locations of intracranial vascular aneurysms and with what frequencies do they occur? (6 marks)
- What is the significance of the circle of Willis? (1 mark)
- Describe the speech deficit that occurs from occlusion of the:
 - dominant hemisphere middle cerebral artery anterior branch
 - dominant hemisphere middle cerebral artery posterior branch
 - dominant hemisphere middle cerebral artery (3 marks)
- Which artery has been affected in a patient suffering from an occlusive stroke presenting with:
 - motor/sensory deficit of the contralateral lower limb
 - contralateral homonymous hemianopia with macular sparing
 - motor/sensory deficit of the contralateral upper limb and face (3 marks)



OSCE5 Cadaveric and model view of base of brain.

Station 6

- Name the nerve labelled A on the image OSCE6 (1 mark)
- From which nuclei does it arise? (4 marks)
- What is the name of this foramen (B) in the base of the skull? (1 mark)
- Which structures pass through it? (4 marks)
- What is structure C (a branch of A)? To which vascular structure is it most closely related on the left and on the right? (4 marks)
- What stimuli can increase the outflow of the nerve labelled A, and what effects are seen during anaesthesia? (6 marks)

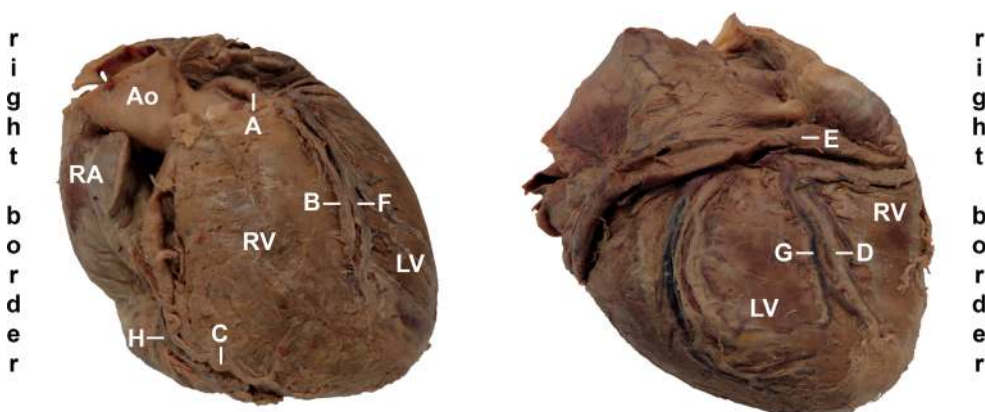


OSCE6 Dissection of left-hand side of neck (left-hand image).

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Station 7

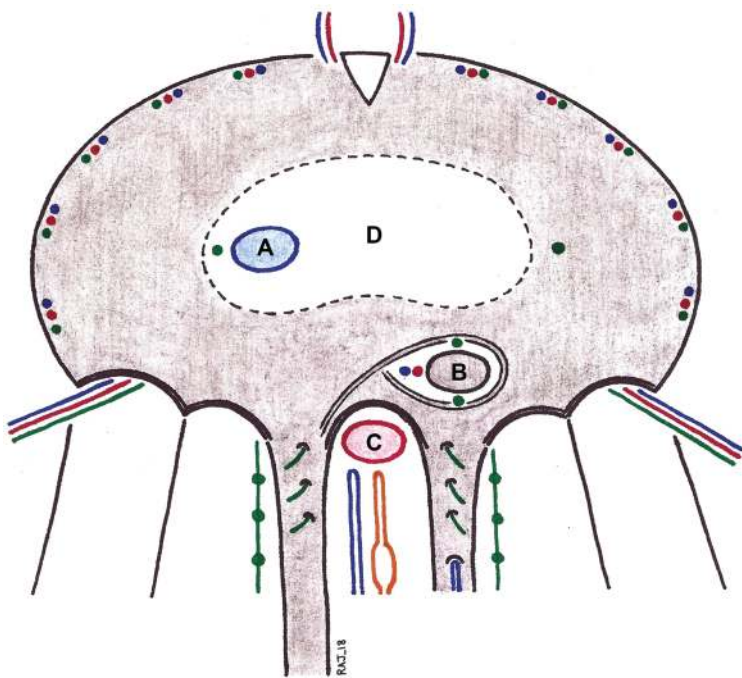
- Name structures A–D on these images of the heart (4 marks)
- Name structures E–H (4 marks)
- From where do the main coronary arteries arise? (2 marks)
- What proportion of the cardiac output is supplied to the myocardium? (1 mark)
- What is meant by coronary arterial dominance? (1 mark)
- Which artery supplies the AV node and where does it arise from? (2 marks)
- Which artery supplies the SA node and where does it arise from? (2 marks)
- What are the ECG features of right coronary artery occlusion? (2 marks)
- Describe the difference between a type I and type II acute myocardial infarction? (2 marks)



OSCE7 Anterior (sternocostal) and inferior (diaphragmatic) surfaces of the heart.

Station 8

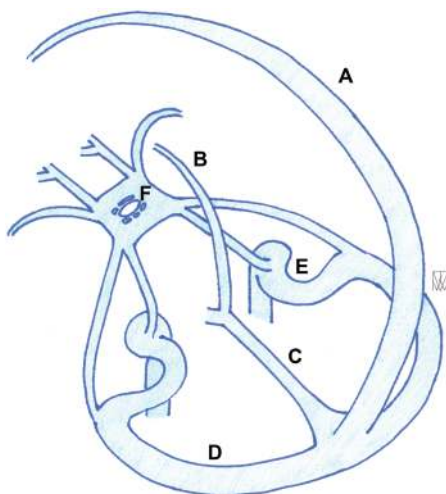
- On the diagram OSCE8, name structures A, B and C. State at what vertebral level they pass through the diaphragm, and name a structure they travel with at this level (9 marks)
- What is structure D, and what is it derived from? (1 mark)
- At which point does the left phrenic nerve pierce the diaphragm? (1 mark)
- Describe the nerve supply of the diaphragm (3 marks)
- What is the normal level of the diaphragm in the midclavicular line? (2 marks)
- What are the potential causes of a raised unilateral or bilateral hemidiaphragm? (4 marks)



OSCE8 Illustration of the diaphragm viewed from below.

Station 9

- Name structures A–E on the image OSCE9 (5 marks)
- What drains to and from structure F? (5 marks)
- What structures lie within structure F? (5 marks)
- What are the clinical features of thrombosis of structure F? (5 marks)

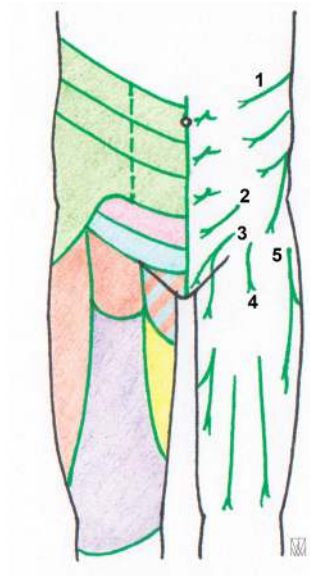
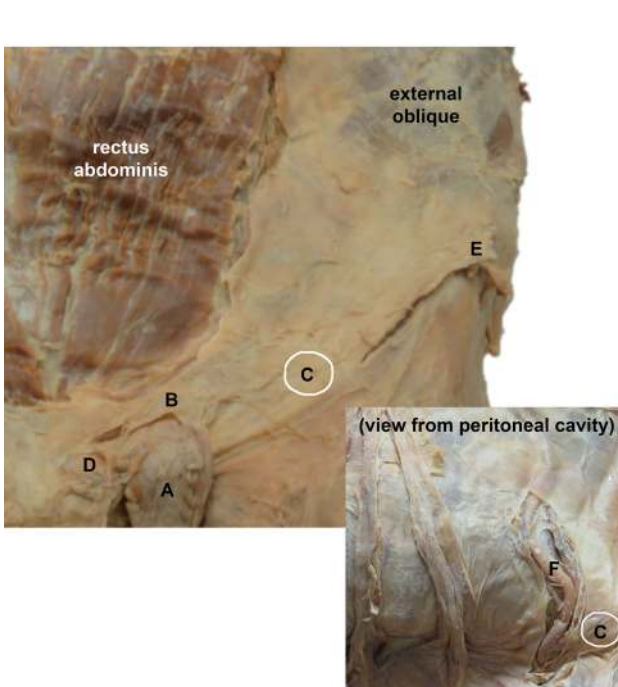


OSCE9

Section 1: Question Papers

Station 10

- Name structures A–F on this image (6 marks)
- On the diagram, identify the areas supplied by the nerves numbered 1–5 (5 marks)
- What methods of anaesthesia may be employed for inguinal hernia repair? (3 marks)
- Describe how you would manage a patient who was having inguinal hernia repair under local anaesthesia infiltration and was beginning to experience discomfort (6 marks)



OSCE10 Dissection of the inguinal region.

Station 11

- Name structures A–D on the diagram OSCE11 (4 marks)
- Names structures E–I (5 marks)
- Describe the innervation of the larynx (3 marks)
- How might injury to the vagus nerve or its branches affect the larynx? (4 marks)
- How can you anaesthetise the larynx for an awake fibre-optic intubation? (4 marks)