

## DIPLOMA OF FELLOW OF THE ROYAL COLLEGE OF ANAESTHETISTS FINAL EXAMINATION

Tuesday 7<sup>th</sup> March 2017  
9:30 am to 12:30 pm

### Question 1 (Blue Book)

You are asked to review a 27-year-old male who is a known epileptic in convulsive status epilepticus.

- Define convulsive status epilepticus. (1 mark)
- Outline your initial management of this patient including the use of emergency antiepileptic drug therapy. (7 marks)
- 60 minutes after your initial management the patient continues in status epilepticus. What would be your further management? (5 marks)
- What are the complications associated with refractory convulsive status epilepticus? (7 marks)

### Question 2 (Blue Book)

- List the implications for the patient of an inadvertent wrong-sided peripheral nerve block. (5 marks)
- Summarise the recommendations of the "Stop Before You Block" campaign, (4 marks) and list factors that have been identified as contributing to the performance of a wrong side block. (5 marks)
- Define the term "never event" (2 marks) and list four drug related never events. (4 marks)

### Question 3 (Pink Book)

A patient scheduled for primary elective total knee replacement is found to be anaemic, with a haemoglobin level of 90 g/ litre.

- What perioperative consequences may be associated with preoperative anaemia? (5 marks)
- What physiological adaptations occur to offset the effects of anaemia? (6 marks)
- Describe perioperative events that may worsen the effects of the anaemia. (4 marks)
- What further blood tests may help in the classification of this anaemia? (5 marks)

### Question 4 (Pink Book)

- What are the theoretical advantages of "off pump" coronary artery bypass grafting (OPCAB) compared to an "on bypass" technique? (7 marks)
- What are the potential causes of haemodynamic instability during OPCAB? (5 marks)
- Which strategies help to minimise this haemodynamic instability? (8 marks)

### Question 5 (Green Book)

You are asked to assess a 24-year-old male who has been admitted to the Emergency Department with 30% burns from a house fire.

- What clinical features would lead you to suspect significant inhalational injury? (10 marks)
- List the indications for early tracheal intubation to secure the airway. (4 marks)
- Which investigations would you use to assess the severity of the inhalational injury (3 marks) and what are the likely findings? (3 marks)

### Question 6 (Green Book)

The obstetric team tell you about a patient who is 2 days post-partum with what they suspect is a post-dural puncture headache (PDPH).

- What is the differential diagnosis of post-partum headache? (8 marks)
- What features, in this patient, would lead you to consider a serious underlying cause? (7 marks)
- You diagnose a PDPH and arrange treatment by epidural blood patch (EBP). What are the described risks of EBP? (5 marks)

**Question 7 (Yellow Book)**

A patient is to receive a cadaveric renal transplant.

- Detail the aspects of your pre-operative assessment specific to chronic kidney disease (CKD). (11 marks)
- How can the function of the transplanted kidney be optimised intraoperatively? (3 marks)
- How may this patient's postoperative pain be optimally managed? (3 marks)
- Explain why some common post-operative analgesic drugs should be avoided or used with caution. (3 marks)

**Question 8 (Yellow Book)**

- List the patient related (7 marks) and anaesthetic related (3 marks) risk factors for postoperative nausea and vomiting (PONV) in adult patients.
- What are the unwanted effects of PONV in adults? (6 marks)
- Which non-pharmacological interventions have been shown to be effective in reducing PONV in adults? (2 marks)
- Briefly explain the proposed mechanisms of action of 5HT<sub>3</sub> antagonists such as ondansetron when used as anti-emetics. (2 marks)

**Question 9 (Orange Book)**

- Define persistent postoperative pain. (Also known as chronic or persistent post-surgical pain) (3 marks)
- Which surgical procedures are most commonly associated with persistent postoperative pain? (5 marks)
- What are the risk factors for development of persistent postoperative pain? (8 marks)
- What pathophysiological changes occur at spinal cord level during the transition from acute to persistent postoperative pain? (4 marks)

**Question 10 (Orange Book)**

- List criteria for a diagnosis of acute respiratory distress syndrome (ARDS)? (3 marks)
- Which clinical indices are used to quantify oxygenation in ARDS. (3 marks)
- What tidal volume would you select for a patient that meets the criteria for ARDS, using the ARDSNet protocol? (2 marks)
- What are the ventilatory (6 marks) and non-ventilatory, (6 marks) measures that can be taken to improve oxygenation or prevent further deterioration in a patient with ARDS.

**Question 11 (Grey Book)**

A 12-week-old male baby presents for a unilateral inguinal hernia repair. He was born at 30 weeks gestation (30/40).

- What are the specific perioperative concerns in this baby? (11 marks)
- What are the options for anaesthesia? (4 marks)
- Discuss the advantages and disadvantages of general anaesthesia for this baby. (5 marks)

**Question 12 (Grey Book)**

An 80-year-old woman is admitted to your hospital having sustained a proximal femoral (neck of femur) fracture in a fall.

- How would you optimise this patient's pain preoperatively? (5 marks)
- You decide to perform a fascia iliaca compartment block for analgesia. What are the borders of the fascia iliaca compartment (4 marks) and which nerves are you attempting to block? (1 mark)
- Describe how you would perform this block using an ultrasound-guided technique. (10 marks)  
NB consent has already been obtained; you also have adequate assistance, emergency equipment, monitoring and venous access.