



Mock Paediatric Anaesthetic Short-Answer Question Paper 1
April 2016
3 Hour Paper

All 12 questions are scored out of 20. However, the mark required to pass each question may vary. Where there are indications of the way marks are allocated, candidates are advised to spend their time accordingly.

Question 1.

A 3-year-old with suspected meningococcal septicaemia requires urgent transfer to the regional specialist Paediatric Intensive Care Unit (PICU) for on-going management.

- a) Outline the critical steps required to arrange safe and timely inter-hospital transfer for this child by road (9 marks)
- b) What particular information should be exchanged with the receiving hospital prior to departure from the base hospital? (6 marks)
- c) List the specific complications you might anticipate occurring in a ventilated child requiring inter-hospital transfer by road? (5 marks)

- Dr Zoe Burton

Question 2.

- a) List the common causes of status epilepticus in children. (6 marks)
- b) What is your management plan for a child in status epilepticus? (8 marks)
- c) List the potential complications of prolonged convulsions. (4 marks)

- Dr Tom Woodward

Question 3.

Near Infra-Red Spectroscopy (NIRS) can be used to monitor the pre-term neonate during anaesthesia.

- a) How does NIRS work (4 marks) and where specifically can it be placed? (2 marks)
- b) List intra-operative factors known to cause a reduction in NIRS (7 marks)
- c) What are the potential post-operative complications of a severe and prolonged reduction in NIRS. (7 marks)

- Dr Mark Worrell

Question 4.

Congenital heart defects can be cyanotic or acyanotic.

- a) What do these terms refer to? (4 marks)
- b) Give 4 examples of each (8 marks)
- c) What is Eisenmenger's syndrome? Describe the cardiac abnormality (8 marks)

- Dr Alastair Keith

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Question 5.

- a) Describe the anatomical features of the normal paediatric airway (7 marks)
- b) What are the advantages (5 marks) and disadvantages (3 marks) of using cuffed endotracheal tubes in the paediatric population?
- c) Compare the characteristic airway complications of Downs Syndrome with Piere Robin syndrome (5 marks)

- Dr Will Gauntlett

Question 6.

You are pre-assessing a 3 year old child with Down's syndrome for dental extractions under general anaesthesia on the day of surgery. On examination, you find a systolic murmur which has not previously been described.

- a) How would you evaluate the significance of the murmur? (8 marks)
- b) What, if any, are your specific anaesthetic considerations when caring for a child with Down's syndrome? (10 marks)
- c) Would you provide antibiotic prophylaxis for this child when you proceed to surgery? If so, what? (2 marks)

- Dr Hannah Gibson-Lapsley

Question 7.

A 3-year-old boy has a history of intermittent episodes of stridor. He is booked for a microlaryngoscopy and bronchoscopy on your ENT list.

- a) List potential causes of intermittent stridor in this boy. (5 marks)
- b) Describe different methods of maintaining oxygenation for ENT airway surgery and their relative merits (15 marks)

- Dr Patrick Cowie/Dr David Newby

Question 8.

A 6-year-old boy, normally fit and well, presents for emergency appendicectomy. He has been vomiting and unable to tolerate oral fluids for the last day. He has a temperature of 38.5°C.

- a) What are the clinical features of dehydration in children? (6 marks)
- b) Calculate an initial resuscitative intravenous fluid bolus and ongoing maintenance fluids for this child, showing your working. (6 marks)
- c) State what monitoring and clinical assessments are required if this child remains on intravenous fluids. (4 marks)
- d) List the symptoms of hyponatraemia. (4 marks)

- Dr Laura McLoughlin

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Question 9.

- a) Define 'sedation' and outline the different stages (3 marks)
- b) Name 3 diagnostic and 3 therapeutic procedures that would be suitable for conscious sedation in an otherwise healthy child. (6 marks)
- c) What issues may contradict sedation in children? (6 marks)
- d) What are the minimum standards of monitoring required for conscious sedation? (5 marks)

- Dr Janis Ferns

Question 10.

- a) Describe the blood supply and venous drainage of the tonsils. (5 marks)
- b) What are the anaesthetic considerations in bleeding tonsil? (5 marks)
- c) Before induction, in addition to the standard equipment, what other equipment should be immediately available? (3 marks)
- d) Describe two techniques for induction of anaesthesia for post tonsillectomy haemorrhage (4 marks), and briefly outline steps to be taken prior to extubation? (3 marks)

- Dr Victoria Ferrier

Question 11.

A 4 year old child who had a blow from a cricket bat arrives at the emergency department. He briefly lost consciousness at the time. His GCS was 15 on arrival to hospital and during triage. You are asked to review him prior to a head CT scan. He has since become sleepy and agitated.

- a) Describe your immediate management (6 marks)
- b) What signs might indicate a basal skull fracture? (4 marks)
- c) You decide that general anaesthesia is warranted for transfer to CT. How would you conduct anaesthetic to try and minimise secondary brain injury? What physiological parameters would aim for whilst under anaesthetic? (10 marks)

- Dr Somerville/Dr Jones

Question 12.

A 15-year old girl is in agreement with her medical team for life-saving corrective heart surgery, who wish to perform the procedure imminently.

- (a) Who can give consent for this procedure? (8 marks)
- (b) List the Fraser-competence criteria (5 marks)
- (c) The patient changes her mind. Can she refuse treatment? (8 marks)

- Dr David Newby

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