

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (ANAESTHESIOLOGY) FINAL EXAMINATION – MARCH 2017

Date :- 9th March 2017

Time :- 1.00 p.m. – 4.00 p.m.

LONG ESSAY QUESTIONS

Answer any **three (03) questions.**

Answer each question **in a separate book.**

1. You have been asked to see an otherwise healthy young adult admitted to the emergency room with blunt trauma to the chest following an assault. On admission, his GCS is 15/15, pulse rate 100 beats/minute, BP 130/80 mmHg.

1.1. Subsequently, he desaturates to 85% while awaiting a chest X-ray.

1.1.1. List the possible causes. (10%)

1.1.2. What is your immediate management? (30%)

1.1.3. What further investigations would you perform? Give reasons. (15%)

1.2.

1.2.1. What are the advantages and disadvantages of the methods available for pain relief following rib fractures. (35%)

1.2.2. List the factors that predict the outcome following rib fractures (10%)

Contd...../2-

2. A 65 year old lady with a BMI of 35kg/m^2 is scheduled to undergo a total knee replacement (TKR). An Enhanced Recovery Pathway is planned for her.
 - 2.1. What are your concerns during the pre operative assessment? (15%)
 - 2.2. What specific complications would you anticipate in relation to this surgery? (20%)
 - 2.3. How would you ensure an enhanced recovery for this patient? (40%)
 - 2.4. Briefly describe the advantages and disadvantages of the methods available for post operative pain relief. (25%)

3. A 70 year old patient is scheduled for TURP. He has a permanent pacemaker inserted for complete heart block.
 - 3.1. List the main concerns in your pre operative assessment and preparation of this patient. (20%)
 - 3.2. What are the possible intra operative complications that can occur? (15%)
 - 3.3. Enumerate the measures that can be taken to prevent or minimize the above complications. (40%)
 - 3.4. Briefly describe the management of the above mentioned complications. (25%)

4. Continuous renal replacement therapy (CRRT) is an accepted method of solute and water removal in critical care units.
 - 4.1. Describe the mechanisms of solute and water removal in CRRT. (40%)
 - 4.2. What are the advantages of CRRT over intermittent haemodialysis? (20%)
 - 4.3. List the steps involved in initiating CRRT for a patient with acute kidney injury. (30%)
 - 4.4. Outline the complications of CRRT. (10%)

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POSTGRADUATE INSTITUTE OF MEDICINE
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MD (ANAESTHESIOLOGY) FINAL EXAMINATION – MARCH 2017

Date :- 10th March 2017

Time :- 1.00 p.m. – 4.00 p.m.

Short Answer Questions

Candidates are required to answer **all twelve (12)** questions.

Candidates who fail to attempt any **one (01)** question will not pass the examination.

All questions carry equal marks.

Answer each part in a separate book marked **A** and **B**.

PART A

1.

1.1. Mention a type of a thermometer used in multi para monitors for intra operative temperature monitoring. (5%)

1.2. What is the physical principle of the thermometer you mentioned? (25%)

1.3. Outline the complications of intraoperative hypothermia? (40%)

1.4. Briefly describe the methods used to prevent and treat intraoperative hypothermia. (30%)

2. A 9 month old 6 kg infant is admitted for a repair of a cleft palate.

2.1. Identify the likely general and specific preoperative problems in this infant. (20%)

2.2. What are your intraoperative considerations? (60%)

2.3. Outline the postoperative management. (20%)

Contd..../2-

3. A 60 year old patient is admitted for corpectomy of the 2nd thoracic vertebra for a space occupying lesion. The surgery requires one lung ventilation in the lateral decubitus position.
 - 3.1. Indicate the physiological responses that minimize hypoxia during one lung ventilation. (30%)
 - 3.2. If hypoxia develops
 - 3.2.1. What are the possible causes? (30%)
 - 3.2.2. What measures would you take to manage? (40%)

4. A 54 year old hospital inpatient with a malignant ovarian tumour collapses whilst in the toilet.
 - 4.1. What symptoms (20%) and physical signs (20%) might suggest acute pulmonary thrombo-embolism as the cause of this event?
 - 4.2. Which investigations might be of further assistance in establishing the diagnosis? (40%)
 - 4.3. What are the therapeutic options if she remains shocked despite oxygen, fluids and vasoactive agents? (20%)

5. A 60 year old previously healthy lady developed multi organ failure following sepsis. She was ventilated in the ICU for three weeks. She was conscious but difficult to wean off from ventilatory support due to significant motor weakness.
 - 5.1. On what clinical basis, would you consider the diagnosis of ICU Acquired Weakness (ICUAW) in this patient? (50%)
 - 5.2. List the types of ICUAW and indicate how you would differentiate the types using nerve conduction studies. (25%)
 - 5.3. What are the options available for the management of ICUAW? (25%)

6. A 35 year old multi para is found to be pale, hypotensive and tachycardic, thirty minutes after a vaginal delivery. Estimated blood loss is nearly 2000 ml.
- 6.1. How would you resuscitate this patient? (40%)
- 6.2. Outline the pharmacological management. (30%)
- 6.3. List the surgical manoeuvres available to control a post partum haemorrhage. (20%)
- 6.4. List four other causes of post partum collapse. (10%)

PART B

- 7.
- 7.1. What are the indications for ICP monitoring following head injury? (20%)
- 7.2. Graphically illustrate and outline the features of a normal ICP wave form and how it differs in a low compliant brain. (30%)
- 7.3. Outline the currently used treatment methods in controlling intra cranial pressure (ICP). (50%)
8. In an adult patient,
- 8.1. What are the specific indications for Target Controlled Infusion (TCI)? (25%)
- 8.2. How does a TCI device ensure steady state blood concentration? (50%)
- 8.3. What are the advantages of TCI over an inhaled anaesthetic technique? (25%)
- 9.
- 9.1. What are the afferent neural pathways for sensation of pain in labour? (30%)
- 9.2. Name and outline the pathway which process nociceptive information. (20%)
- 9.3. Explain giving reasons, the nature of labour pain. (20%)
- 9.4. Outline how neuraxially administered opioids produce pain relief in labour. (30%)

10. A 4 year old child is admitted to the hospital for magnetic resonance imaging.
- 10.1. What are the facilities you will need in the MRI suite? (40%)
 - 10.2. What anaesthetic options are available for this child? (20%)
Indicate the advantages and disadvantages. (40%)
11. A 48 year old lady, ASA 1, is scheduled for abdominal hysterectomy. She gives a history of severe vomiting after a diagnostic laparoscopy 4 months ago. She is anxious and scared to experience it again.
- 11.1. How do you calculate and predict her risk of developing postoperative nausea and vomiting (PONV) this time? (20%)
 - 11.2. List the consequences of vomiting in the postoperative period. (20%)
 - 11.3. Outline the special precautions you would take in the perioperative period, to minimize PONV in this lady. (30%)
 - 11.4. What postoperative instructions would you write for her? (30%)
12. A 50 year old, 60 kg adult male, having an enterocutaneous fistula with a fistulous output of 1500 ml/day is referred to you from a surgical unit for a prescription for parenteral nutrition.
- 12.1. Give an estimate of the daily calories, carbohydrate, fat and protein requirements for him. (20%)
What other components should be included? (10%)
 - 12.2. Mention the volume of water is required daily for this patient? (10%)
 - 12.3. Outline how you would monitor this patient following commencement of feeding. (30%)
 - 12.4. List the potential complications and disadvantages of administration of parenteral nutrition. (30%)