



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain
Reg No 1955/000003/08

Final Examination for the Fellowship of the
College of Emergency Medicine of South Africa

18 August 2009

Paper 1

(3 hours)

All questions to be answered. Each question is to be answered in a separate book (or books if more than one is required for the answer)

- 1 a) A 23-year-old female patient presents with lower abdominal pain and amenorrhoea. Discuss in detail the suspected sonographic findings, hormonal assays and management of this patient. (13)
- b) A 16-year-old male presents with an acute scrotum. How would you differentiate between epididymo-orchitis and torsion of the testis? (12)
- [25]
- 2 The management of your metropolitan hospital is concerned about your emergency department's preparedness for potentially dangerous infectious diseases. Write short notes on:
- a) the management and investigation of patient's with pyrexia of unknown origin (10)
- b) how the emergency department is prepared to deal with a possible anthrax exposure (5)
- c) how to manage a patient who requires quarantine for possible features of H1N1 influenza (5)
- d) management protocols to protect emergency department personnel from possible infectious disease exposure. (5)
- [25]
- 3 A young adult male patient presents to a regional hospital having recently sustained a penetrating stab wound to the head. He has a BP of 90/40; pulse of 50/minute; GCS 11/15.
- a) Discuss your initial resuscitation, describing your fluid and pharmacological management in detail. (15)
- b) Describe how you prepare the patient for an aero-medical evacuation. (10)
- [25]
- 4 a) Write short notes on the major adverse effects of INH (Isoniazid) and the clinical effects of common drug interactions for this medication. (7)
- b) A 42-year-old female presents 1 hour following overdose of her Rifampicin tablets. Discuss the likely clinical signs and symptoms, and your management of the patient. (8)
- c) What are the major clinical effects of cyanide poisoning? Detail the management of a patient who is symptomatic following exposure to cyanide. (7)
- d) What are the current indications for multi-dose Activated Charcoal? (3)
- [25]

- 5 A 27-year-old carpenter presents with a large laceration over the palmar surface of his right hand following a fall at work.
- a) With the aid of a diagram, illustrate the sensory supply of the palmar and dorsal surfaces of the hand. (5)
 - b) Indicate the technique and landmarks to perform a local anaesthetic wrist block in this patient. (5)
 - c) Write short notes on Bennett's fractures, including mechanism of injury, radiological appearance and clinical management. (5)
 - d) Discuss the procedure for performing a Bier's Block. (5)
 - e) During the procedure, the patient complains of peri-oral tingling and dizziness. What are the clinical features of local anaesthetic toxicity? How should it be managed? (5)
- [25]
- 6 a) Besides myocardial infarction, list possible causes of the following ECG abnormalities
- i) Inverted P waves. (3)
 - ii) Short PR interval (< 0,12 seconds). (2)
 - iii) Prolonged PR interval (> 0,2 seconds). (4)
 - iv) Short QT interval (< 0,32 seconds). (2)
 - v) ST segment depression (> 0,5 mm). (4)
- b) Describe the ECG criteria which would make you suspect the presence of the following
- i) Right atrial enlargement. (2)
 - ii) Left atrial enlargement. (2)
 - iii) Right ventricular hypertrophy. (3)
 - iv) Left ventricular hypertrophy. (3)
- [25]



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Paper II

(3 hours)

All questions to be answered. Each question is to be answered in a separate book (or books if more than one is required for the answer)

- 1 a) Describe the following important clinical signs
- a. Kernig's sign.
 - b. Brudzinski's sign.
 - c. Rovsing's sign.
 - d. The psoas sign.
 - e. The obturator sign.
 - f. Murphy's sign.
 - g. Grey Turner's sign.
 - h. Cullen's sign. (4)
1. Discuss the emergency department management of a patient in septic shock due to bacterial meningitis. (10)
2. A 68-year-old gentleman presents to your emergency department with flank, back and abdominal pain. He had two previous episodes of renal colic a few years back. He has 3+ blood on his urine dipstick test. He is a smoker (20 per day) and drinks moderately. He has been on treatment for hypertension for 24 years. What is the most important diagnosis in this case from an emergency medical point of view, and what is the management thereof, including diagnostic tests? (11)
[25]
- 2 Discuss disaster management under the following headings
- a) The geographical effect. (3)
 - b) Hospital lockdown. (3)
 - c) Decontamination procedures. (3)
 - d) Triage procedures. (5)
 - e) Surge capacity. (2)
 - f) Surge capability. (2)
 - g) Minimal acceptable care. (2)
 - h) Damage control surgery. (2)
 - i) Alternative communication procedures. (3)
- [25]
- 3 You are called to manage an ultra-marathon runner who has collapsed immediately after an event

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- a) Describe 3 possible underlying metabolic abnormalities that could be responsible. Discuss how they might have been diagnosed prior to the event. (9)
- b) Discuss fluid management in such a patient. (4)
- c) Describe 3 possible performance enhancing agents that could be responsible, and how they would affect your management. (6)
- d) Describe your management of this patient should he be hyperthermic, and the possible causes for the raised body temperature. (6)
- [25]
- 4 a) Which pathogens are likely to cause infection in a patient within the first month following a solid organ transplant? (3)
- b) Write short notes on organ rejection. (4)
- c) Discuss the common and important drug interactions which the emergency medicine specialist needs to be aware of with regard to Cyclosporin treatment. (3)
- d) Draw a cross section of the spinal cord, and label the major tracts. Indicate the pathway of pain stimuli to the brain. (5)
- e) Write short notes on COX-2 inhibitors. (5)
- f) Discuss the options available for reducing the pain of intravenous line placement in a 14-year-old female. (5)
- [25]
- 5 Compare and contrast the following clinical conditions in children with respect to epidemiology, age of presentation, diagnosis and emergency management in the emergency department (including relevant drug dosages)
- a) Croup vs Epiglottitis. (13)
- b) Bronchiolitis vs Asthma. (12)
- [25]
- 6 a) On examining a patient in your emergency department, you notice that the patient has a pacemaker in situ. It is after hours, and no cardiac technicians are immediately available.
- i) How would you determine that the device is functioning appropriately? (2)
- ii) The patient is concerned that his pacemaker battery might be going flat. Is there a way you could assess this clinically? (2)
- iii) What lifestyle precautions would you warn the patient of? (2)
- iv) Explain the meaning of the 3 letters normally used to describe the functions of a pacemaker. (6)
1. Discuss the current role of the following external pacing techniques
- i) Fixed vs demand pacing. (2)
- ii) Overdrive pacing. (2)
- iii) Thump (fist) pacing. (2)
2. Describe the modifications required in the management of a witnessed cardiac arrest in a patient with an implanted automated cardioverter-defibrillator (AICD). (7)
- [25]