

Candidate name: _____

**SCHHS-METRO NORTH
MOCK FELLOWSHIP SAQ EXAM
2019.1**

BOOKLET THREE

QUESTIONS 19 - 27

Question 19 (18 marks)

A 62-year-old female is brought into the resuscitation area of your department by ambulance. She woke from sleep this morning and felt dizzy and short of breath. She has a past medical history of end-stage renal failure secondary to diabetic nephropathy and has haemodialysis through a vas-cath three times a week. She has a left breast mastectomy for cancer 12 months ago and has a left above knee amputation from complications of her diabetes.

On assessment, her vital signs are:

Temperature 36.5 degrees Celsius

BP 120/80 mm Hg

HR 43 bpm regular

SaO₂ 95% RA

RR 16 breaths/min

a). List 5 potential cause of her shortness of breath given the above history and justify each cause (5 marks)

| Cause | Justification |
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b), List four (4) investigations that may help delineate the diagnosis and justify each (4 marks)

| Investigation | Justification |
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A venous blood gas is taken on room air and the results shown below.

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| FiO2 | 0.21 | |
| pH | 7.31 | (7.32-7.43) |
| PaCO2 | 46 | (38-54) |
| PaO2 | 20 | (30-50) |
| HCO3- | 22 | (22-32) |
| Na | 143 | (135-145) |
| K | 7.9 | (3.5-5.2) |
| Glucose | 24.5 | (3.0 -7.8) |
| Lactate | 6.5 | (0.5-2.2) |

You are about to give the patient calcium resonium when she has a PEA arrest, ALS is commenced.

c). List the specific treatment of hyperkalemic cardiac arrest in this patient. (4 marks)

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ILCOR recommends modification to the ALS algorithm in certain special situations.

d). Give five (5) examples of these special situations and state a recommendation or modification to the ALS algorithm for each example. (5 marks)

| Special situation | Recommendation/Modification to ALS |
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Question 20 (18 marks)

You are the consultant in charge of an urban district emergency department. You have just assessed a 42-year-old male who has sustained an isolated head injury from a bicycle accident.

a). List five (5) acute complications of head injuries (5 marks)

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You decide to electively intubate him.

b). List four (4) indications for intubation in the emergency department, for any patient. (4 marks)

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You successfully intubate this patient.

While securing the tube, you notice he has become hypotensive to 80/50mmHg.

c). Complete the following table for potential causes for post-intubation hypotension in ANY patient and state your immediate management for each cause listed. (5 marks)

| Cause | Immediate Management |
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Post-intubation, he is taken to CT for trauma imaging. CT brain shows an acute subdural haematoma.

d). List the indications for surgery in patients with acute subdural haematomas (4 marks)

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Question 21 (12 marks)

A 34-year-old woman self-presents with fever, headache, body aches and generalised malaise. She takes no regular medications and has a reported penicillin allergy (rash as a child). Her observations are as follows: RR 18 breaths/min, saturations 97% on RA, BP 100/55, HR 115 bpm, temperature 39.5 degrees Celsius. She is GCS 15/15. Weight approximately 60 kg.

A Chest X-ray (CXR) is performed and is shown in the Props Booklet (Figure 7).

a) List two positive and one negative findings on this CXR. (3 marks)

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b) Provide the most likely diagnosis for this patient (1 mark)

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c) List five other criteria required to make a formal diagnosis? (5 marks)

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d) What is the empiric treatment recommended for this patient? (3 marks)

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Question 22 (12 marks)

You are the DEMENT and have received an email from the Head of Internal Medicine which states that one of the inpatient registrars has accused one of your ED registrars of being persistently rude and derogative towards them.

a). State two (2) methods you would use to gather more information prior to talking to the emergency registrar: (2 marks)

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b). List four (4) things to consider when talking about the allegation with the Emergency Registrar. (4 marks)

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After talking to the Emergency Registrar, you discover they are experiencing significant personal stress due to a close family member being diagnosed with a terminal illness.

c). How would you manage this situation? (4 marks)

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You implement the above interventions.

d). List two (2) steps required to finalize this complaint. (2 marks)

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Question 23 (12 marks)

A 48-year-old man presents to your regional Emergency Department with 24 hours of dysphagia and fevers, and new respiratory distress. He has no past medical history and is not on any medications. On arrival, he is sitting upright and is reluctant to lie back on the bed. He is having difficulty swallowing his secretions and also has a mild stridor with a hoarse voice.

His vital signs are:

BP 140/80 mmHg
HR 90 bpm
SpO2 99% room air
Temp 37.8 degrees Celsius
RR 24 breaths/min

The nearest tertiary centre is a 2 hour drive away by road. You obtain a lateral neck x-ray, shown in the Props Booklet (Figure 8).

a). State the likely diagnosis and name the relevant positive finding on this radiograph (2 marks)

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b). What is the most common causative organism for this patient's diagnosis? (1 mark)

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c). What would be your anti-microbial of choice for this patient? (1 mark)

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The patient develops worsening stridor and distress within 20 minutes of arrival at your department. He is becoming increasingly agitated and his oxygen saturations start to drop. You make the decision to intubate the patient in the ED. There is no anaesthetist available.

d). Complete the following table, listing the issues you might face during the intubation of this patient and how you would address these problems. (8 marks)

| Factor | Anticipated problem | Proposed solution |
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Question 24 (12 marks)

A 60-year-old woman presents to your Emergency Department complaining of a severe gradual onset headache, blurring of her vision and new onset confusion.

Her vital signs are:

GCS 13 (E3V4M6)
RR 20/min
SaO₂ 96% in room air
HR 60
BP 190/130mmHg
Temp 37.0C

You diagnose her with Hypertensive Encephalopathy.

- a) List 4 differential diagnoses, other than Hypertensive Encephalopathy, you would consider for this woman's presentation (4 marks)

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- b) What is the definition of a Hypertensive Emergency? (1 mark)

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- c) What is the definition of a Hypertensive Urgency? (1 mark)

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- d) Complete the following table with 4 drugs you could use to treat this woman's hypertension including a pro and a con for each drug chosen (4 marks)

| Drug | Pro | Con |
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- e) State your treatment goal for this woman's hypertension (2 marks)

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Question 25 (12 marks)

You are the consultant in charge of the paediatric section of a rural emergency department. A 5-year-old boy presents via the ambulance following an accident with a home barbecue, thirty minutes ago. The ambulance reports the family was cooking lunch on the barbecue which was set up inside the house due to rainy weather when the gas bottle exploded and started a fire.

On assessment the boy has considerable soot on his face and there is severe swelling to his cheeks, lips, and eyelids.

His vital signs are:

SaO₂ 89% on 15L oxygen via non-rebreather
 Pulse 120 bpm
 Cap refill 3 seconds
 Resp rate 28 breaths/min

You decide to intubate the patient for airway protection. You perform a rapid-sequence induction but are unable to visualise the cords using video laryngoscopy. You are unable to ventilate the child with a bag-valve mask or a laryngeal mask airway. The on-call anaesthetist is on the way but is still more than ten minutes away.

a). State your immediate management. (5 marks)

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b). List three (3) causes of impaired oxygenation in this patient, and their causes. (3 marks)

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The anaesthetist arrives and successfully intubates the patient.

c). List your ventilator settings with a justification for this patient. (4marks)

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Question 26 (12 marks)

You have been tasked to retrieve a 42-year-old female from a rural base hospital to a tertiary referral centre 400km away. The estimated flight time is 75 minutes.

She was brought into ED after a polypharmacy overdose 90 minutes ago and is presumed to have ingested:

- Paracetamol 15 tablets x 500mg (7.5 grams)
- Olanzapine 25 tablets x 10mg (250mg)
- Diazepam 5 tablets x 5mg (25)

Her observations are:

SaO₂ 92%RA
 BP 100/60 mmHg
 Pulse 110 bpm
 RR 22breaths/min
 GCS 10 E2V4M4

a). State how you would manage this patient to enable safe transportation. For each decision provide a justification. (8 marks)

| Decision | Justification |
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b). Complete the following table for the dose-related clinical effects that you would anticipate from an Olanzapine overdose. (4 marks)

| Dose | Clinical features |
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Question 27 (12 marks)

A 62-year-old man is brought in by ambulance to your tertiary hospital after a low-speed dirt bike accident. He was riding up a hill, hit a mound, and fell backwards onto his left chest and shoulder. He did not lose consciousness and mobilised at the scene.

On assessment, he is alert and talking. His respiratory rate is 20 breaths/minute with shallow respirations, his SaO₂ is 92% on room air; BP is 130/80, his heart rate is 95 bpm, his GCS is 15 and his temperature is 36.2 degrees Celsius. His abdomen is soft and non-tender.

A chest x-ray is performed and is shown in the Props Booklet (Figure 9)

- a. List three positive and two negative findings on this Chest x-ray.(5 marks)

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- b. List and justify two further investigations you would request for this patient. (4 marks)

| Investigation | Justification |
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You decide he needs admission for analgesia and observation, however he refuses to stay.

- c. List the medico-legal requirements necessary for him to be declared competent to make this decision (4 marks)

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THE END

TIME FOR LUNCH.....