

**Department of Emergency Medicine
Prince of Wales Hospital**

**ACEM NSW
Fellowship Exam Practice
(2019.2)
27 August 2019**

**Short Answer Questions
Booklet 3**

Questions 19-27

Directions to Candidates

1. Write your name on the front page of each question booklet and on each subsequent page.
2. Answer each question in the space provided.
3. No exam papers or materials to leave the room.

Candidate name: _____

Name: _____

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Name: _____

SAQ 19 (this is a double question – total 20 marks)

A 23yo man presents to with seven days of diarrhoea and intermittent abdominal pain. The diarrhoea was initially profuse and watery. Currently, it has blood and mucus evident. He complains of weakness.

He is previously well with no co-morbidity and he has not been travelling or had any exposure to vector transmitted disease. He has an accompanying GP referral letter advising that E. Coli has been identified in a culture of his stool.

His vital signs are: BP 120/70 mmHg, HR 100 bpm, RR 20, Temperature 37.8°C.
On examination he has a soft non tender abdomen with hepatosplenomegaly.

Na	144 mmol/L (135 - 145)	Hb	94 g/L (135 - 175)
K	1.5 mmol/L (3.2 - 5.2)	WCC	$16 \times 10^9/L$ (3.6 - 11.0)
Cl	110 mmol/L (95 - 110)	Plt	$80 \times 10^9/L$ (140 – 400)
HCO ₃	12 mmol/L (22 - 32)	Blood film:	some schistocytes seen
Urea	24 mmol/L (2.5 -7.1)	Urine SG	1010
Creatinine	480 micromol/L (60 – 110)		

Q1. Describe and analyse four (4) of the results provided. (8 marks)

<i>Describe the finding</i>	<i>Interpret/analyse the finding</i>

Name: _____

Q2. What is the MOST LIKELY one underlying diagnosis that explains all his results. (2 marks)

Q3. What is his single immediately life threatening problem. (1 mark)

Q4. List three ECG changes that he is likely to have. (3 marks)

1. _____

2. _____

3. _____

Q5. State the initial drug treatment for the immediately life threatening problem you have identified in Q3. Please include the route, dose, risks and benefits. (5 marks)

Name: _____

Q6. List the two most important specialty services required for his immediate care. (1 mark)

1. _____

2. _____

Name: _____

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Name: _____

SAQ 20 (10 marks)

A 20 yr old male presents with pleuritic chest pain after a motocross accident.

Vital signs are as follows:

RR 35

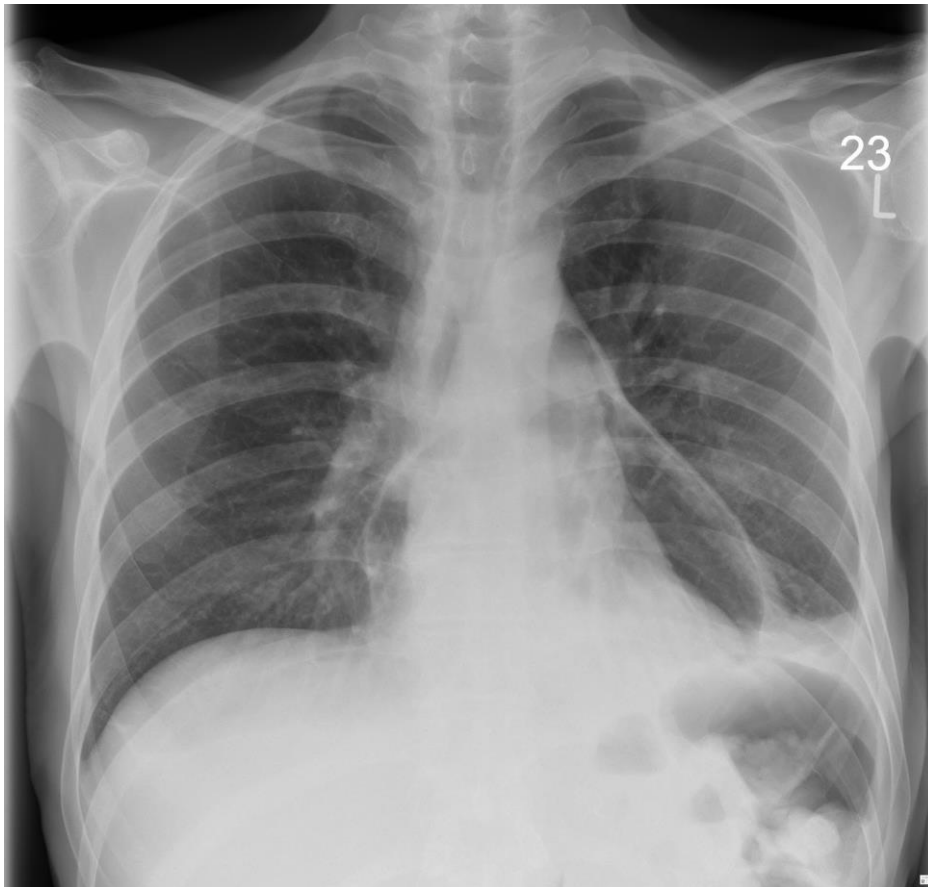
SpO2 97% RA

HR 110

BP 120/75

Temp 37.4`

CXR is reproduced below.



Q1. Identify the two most important Xray findings that has a bearing on his outcome. (2 marks)

1. _____

2. _____

Name: _____

Shortly after his CXR he becomes acutely more dyspnoeic, hypotensive and tachycardic, although still has equal air entry bilaterally.

Q2. What is the cause? (1 mark)

Q3. What procedure does he require? (1 mark)

Q4. Outline the steps in performing this procedure. (6 marks)

Name: _____

SAQ 21 (total 10 marks)

It is a busy winter evening in the ED. A 38 year old woman with sickle cell disease present to your ED with chest pain. She is not on regular medications. She has had her pneumovax. The chest pain started 2 days ago. She has been taking regular paracetamol with no relief. She thinks she might have picked up a virus from her daughter.

On examination: HR 100/min, BP 128/80, RR 20, SaO2 98% RA, Temp 37C.

Q1. What are your management priorities at this stage? (3 marks)

She apologies for wasting your time and wants to self-discharge. You are unable to persuade her to stay.

She returns the next day. Her pain is much worse and not manageable with the Panadeine Forte she has at home.

Her vital signs: HR 100/min, BP 110/60, RR 24/min., SaO2 92% RA, Temp 38C.

Q2. What are your management priorities now? Please provide a rationale for your answers. (4 marks)

Name: _____

Within 20 mins of seeing her, the nurse calls you back to the bedside as her SaO₂ now drops to 90% despite being placed on a non-rebreather mask. Her RR has increased to 28/min. She complains of severe chest pain and the endone is not working.

Q3. What is your management? (3 marks)

SAQ 22 (total 10 marks)

You are the consultant in charge of an evening shift at the ED of a small urban district hospital. There is no anaesthetist or anaesthetic registrar on-site. A 47 year old man is brought in by ambulance after he was found drowsy and stumbling by a road. Triage category was 3, and at triage observations were in normal range, GCS was 14, and he was mildly combative.

A resident asks you to urgently review the patient about 25 minutes later because his GCS has fallen to 4. The electronic medical record indicates a history of schizophrenia treated with olanzapine, and no other relevant history. The only other feature of note in the presentation is the presence of two empty boxes in the patient's belongings of a combined paracetamol 500mg & ibuprofen 150mg per tablet preparation. There are 60 tablets missing from those boxes. No-one has been able to contact family, friends or next-of-kin.

Observations are:

T 36.2HR 106 BP 120/70 RR 24 SpO2 97% on room air

Examination reveals man of normal BMI, approximately 75kg, with:

- Clear airway with nothing to suggest a difficult intubation
- Equal air entry with no added sounds
- Dual heart sounds and normal signs of perfusion
- Pupils equal and reactive at 4mm, normal tone, a flicker of movement only to pain, and no vocalization or eye opening. You confirm GCS is 4.
- Normal skin warmth and moisture. Present bowel sounds
- No sign of injury aside from the reduced GCS.

You obtain:

- An ECG, which shows sinus tachycardia with marginally prolonged QTc and no other concerning features
- His VBG is below:

Venous Blood Gas

pH	6.82 (7.3 – 7.4)
PO2	36 mmHg
pCO2	22 mmHg (40 – 50)
O2 Saturation	32%
Actual bicarbonate	4 mmol/L (22 – 32)
Base Excess	< -30 mmol/L (-3 – 0.3)
Blood Gas Sodium	138 mmol/L (136 – 146)
Blood Gas Potassium	2.9 mmol/L (3.7 – 4.7)
Blood Gas Chloride	118 mmol/L (101 – 110)
Blood Gas Ionized Ca	1.28 mmol/L (1.15 – 1.30)
Blood Gas Lactate	1.68 mmol/L (0.0 – 2.0)
Blood Gas Glucose	6.8 mmol/L (3.5 – 5.4)
Blood Gas Haemoglobin	139g/L (130 – 170)

Name: _____

Q1. Interpret this blood gas (3 marks)

Q2. Describe your four most serious concerns with regard to support of the airway and breathing of this patient (2 marks).

1. _____

2. _____

3. _____

4. _____

Name: _____

Q3. Outline your approach to the management of the airway and breathing of this patient?
(5 marks)

Name: _____

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Name: _____

SAQ 23 (total 10 marks)

A 48 year old woman presents to your ED due to a swollen foot. Her left foot was entangled in a pile of rubbish in the garden. Immediately after the fall, she noted the foot swelling up and she has not been able to weight-bear since. On examination, she has bruising on the sole of her foot with marked swelling of her midfoot.

Here is her Xray.



Name: _____

Q1. What is the diagnosis and what radiological features support your answer? (3 marks)

Q2. What limb threatening complication may occur acutely? (1 mark)

Q3. What management would you initiate in the ED? (2 marks)

Q4. What are the admission criteria for this injury? (4 marks)

Name: _____

SAQ 24 (total 10 marks)

A 17-year-old female presents following an overdose of venlafaxine and moclobemide. She presents 3 hours after ingesting 20 x 37.5 mg venlafaxine (Efexor) and 10 x 300 mg of moclobemide (Aurorix). She has previously taken an overdose of fluoxetine, but has no other medical history.

She is very anxious and agitated with an obvious fine tremor. She is diaphoretic with the following observations: HR 125; BP 140/90; Temp 37.3.

Q1. What is the most likely diagnosis? (1 mark)

Q2. In order to recognise this condition, what 3 body systems are likely to be involved? (3 marks)
Provide at least 2 clinical features of each system mentioned (6 marks).

Systems	Clinical Features

Name: _____

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Name: _____

SAQ 25 (total 10 marks)

A 13 month old boy has been brought to your district ED with burns to his feet. Mum reports that he was attempting to get into the bath with his older sister and burnt himself. The only injuries found are shown below.



Q1 Describe the abnormalities seen in the photograph (2 marks), estimating % TBSA (1 mark) (Total 3 marks).

Name: _____

Q2. List 6 indications for a Burns Centre referral (3 marks).

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Q3. What features about this child's injury are concerning? (4 marks)

Name: _____

SAQ 26 (total 10 marks)

A 65 year old NESB woman is brought in by ambulance. She complains of increasing dyspnoea.

These are her findings on arrival:

HR 175 – Atrial fibrillation

BP 82 on palpation

RR 21 SaO₂ 88% RA

Temp: 37C

You find sildenafil and apixiban in her medications. You suspect she may have underlying pulmonary hypertension.

On examination, she has signs of right heart failure. Her lungfields are clear. She is peripherally shut-down.

Q1. What are the common causes of pulmonary hypertension? Name 3 causes (3 marks)

1. _____

2. _____

3. _____

She is alert and cooperative. She is able to speak to you.

Q2. What is your immediate management? Please provide an explanation for your actions. (2 marks)

Name: _____

SAQ 27 (10 Marks)

You receive a bat-call that you are about to receive a 17yo male who has been stabbed in the neck.

His vital signs are: RR 26, HR 125, BP 120/75, GCS 13. He is combative. He has subcutaneous emphysema overlying a wound on the left side of his neck.

Q1. What are the anatomic landmarks for the zones of the neck? (3 marks)

Q2. List 3 hard signs of major aerodigestive or neurovascular injury. (3 marks)

1. _____

2. _____

3. _____

Q3. What is the significance of the hard signs in terms of need for disposition +/- imaging?
(1 mark)

Name: _____

Q4. The surgical team wants some form of imaging prior to a definitive surgical plan. What imaging modalities are appropriate for this injury? Provide a rationale for each as you are concerned that he may deteriorate rapidly as his injury is time-critical. (3 marks)

Imaging Modality	Rationale

-End of Booklet 3-