

Candidate name: _____

PAH 2017.1 trial SAQ paper

PART 3

Questions 19 - 27

1 hour

Candidate initials: _____

Q19 (9 min)

A 55 year old woman has presented to the ED with severe dyspnoea.

Her past medical history includes type 2 diabetes mellitus, hypertension and end-stage renal failure.

Her chest x-ray is provided in the **PROPS BOOKLET**.

1. What is the main pathology demonstrated in the chest x-ray? (1 mark)

2. List 3 abnormalities in the chest x-ray that support your answer to Q1. (3 marks)

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Her ECG is provided in the **PROPS BOOKLET**.

3. What is the most likely primary pathology demonstrated in the ECG? (1 mark)

4. List 3 abnormalities in the ECG that support your answer to Q3. (3 marks)

Her vital signs are:

GCS	15	
BP	205/120	mmHg
RR	30	/min
O2 saturation	90%	15L O2 via non-rebreather mask
Temperature	36.5	degrees

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5. State 7 treatment measures you would employ to manage this patient. (7 marks)

- 1) _____

- 2) _____

- 3) _____

- 4) _____

- 5) _____

- 6) _____

- 7) _____

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Q20

A 14 year old girl has been brought to the ED by several police officers.

Her parents called the police after the patient became agitated and aggressive at home.

Her behaviour has been noted to be increasingly erratic over the last few days.

- 1. List 4 features of your history that would be consistent with an organic cause for the patient's abnormal behaviour. (4 marks)**

- 2. List 4 features of your examination that would be consistent with an organic cause for the patient's abnormal behaviour. (4 marks)**

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You have assessed that the patient has impaired judgement and is not competent to make reliable decisions about her ongoing care.

She is attempting to leave.

- 3. List 3 non-pharmacological strategies you would employ to help you keep the patient in the ED for ongoing management. (3 marks)**

- 1) _____

- 2) _____

- 3) _____

Despite your efforts, the patient becomes more agitated and is trying to leave.

- 4. List 3 options for parenteral sedation. (3 marks)**

- _____

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Q21

A 25 year old man has been brought to the ED after being hit to the head while at a party.

Assessment reveals an isolated head injury.

A slice from the CT scan of his head is shown in the **PROPS BOOKLET**.

1. List 6 radiological abnormalities evident on the CT image.

(6 marks)

- 1) _____

- 2) _____

- 3) _____

- 4) _____

- 5) _____

- 6) _____

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The patient's vital signs are:

GCS	10	E2 V3 M5
Pulse	100	/min
BP	110/65	mmHg
RR	20	/min
O2 saturation	99%	room air

2. State 6 important principles of your management.

(6 marks)

- 1) _____

- 2) _____

- 3) _____

- 4) _____

- 5) _____

- 6) _____

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Q22

You are managing a 45 year old man with a spontaneous pneumothorax.

1. List 4 treatment options for this patient. For each, give a clinical indication for its use.
(8 marks)

Treatment option	Clinical indication

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Procedural sedation was performed to facilitate insertion of an intercostal catheter.

Shortly after the procedure, the patient has complained of increasing difficulty breathing.

2. List 4 potential causes of his dyspnoea.

(4 marks)

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Q23

A 25 year old man has presented to ED with 2 days of vomiting associated with progressive weakness and lethargy.

He recently commenced chemotherapy for Non-Hodgkin's Lymphoma.

His vital signs are normal.

His biochemistry profile is shown in the **PROPS BOOKLET**.

1. State the most likely diagnosis from the information available. (1 mark)

2. List 2 acid-base abnormalities present. For each, give a likely cause. (4 marks)

Abnormality	Likely cause

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3. Complete the table by providing a pathophysiological explanation for the given abnormalities. (5 marks)

Abnormality	Explanation
Hyperkalaemia	
Hypocalcaemia	
Hyperphosphataemia	
Raised LDH	
Renal failure	

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Q24

You are managing a 3 year old boy who has presented with a fever and headache.

You are considering performing a lumbar puncture to exclude meningitis.

- 1. List 4 examination findings that would contra-indicate the performance of a lumbar puncture. (4 marks)**

A lumbar puncture has been performed.

- 2. List 5 features of the CSF microscopy result that would support the diagnosis of bacterial meningitis. (5 marks)**

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- 3. List the 3 most common causative organisms of bacterial meningitis in this age group. (3 marks)**

The CSF results are consistent with bacterial meningitis.

- 4. List 4 investigations you would perform to identify the causative organism. (4 marks)**

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Q25 (9 min)

A 75 year old lady has represented to ED from her care facility with decreased mobility. She is normally mobile but has been unable to walk due to pain in her left hip following a fall.

You note she was seen in your ED on a night shift 4 days ago after her initial fall, and discharged with a diagnosis of hip sprain. X-rays at the time were documented as normal by the junior doctor who was treating her, but have since been reported as demonstrating an impacted subcapital fracture of the neck of femur.

1. List 4 key issues present in this case that may have contributed to this missed injury. For each issue, list ONE potential strategy to prevent recurrence of this situation. (8 marks)

ISSUE 1: _____

STRATEGY _____

ISSUE 2: _____

STRATEGY _____

ISSUE 3: _____

STRATEGY _____

ISSUE 4: _____

STRATEGY _____

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The patient's daughter is furious that her mother was sent home "with a broken hip". She wants to know how this happened.

2. List 6 key steps in your response to this situation

(6 marks)

- 1) _____

- 2) _____

- 3) _____

- 4) _____

- 5) _____

- 6) _____

As part of this patient's treatment, you decide to administer a femoral nerve block for analgesia.

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3. Complete the following table for safe doses of local anaesthetic agents for regional use.

(4 marks)

Drug	Max safe dose for this patient (mg/kg)
Bupivacaine	
Ropivacaine	
Lignocaine (without adrenaline)	
Lignocaine (with adrenaline)	

4. List 3 strategies you could use to mitigate the risk of cardiovascular complications of regional nerve blocks.

(3 marks)

1) _____

2) _____

3) _____

Q 26

A 3 year old boy has been brought to ED by the ambulance after a snake bite to his right ankle. The ambulance has applied a Pressure-Immobilisation Bandage (PIB) to his entire right leg.

1. List 3 criteria for removal of PIB in suspected snakebite. (3 marks)

2. Complete the following table for classic clinical features of the following snake bites. For each box, circle the correct response. (12 marks)

SNAKE	COAGULOPATHY	NEUROPATHY	RHABDOMYOLYSIS
Brown	None	None	None
	VICC	Rapid	Mild
	ACC	Delayed	Severe
Tiger	None	None	None
	VICC	Rapid	Mild
	ACC	Delayed	Severe
Black	None	None	None
	VICC	Rapid	Mild
	ACC	Delayed	Severe
Taipan	None	None	None
	VICC	Rapid	Mild
	ACC	Delayed	Severe

VICC = Venom-Induced Consumptive Coagulopathy

ACC = Anticoagulant Coagulopathy

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Q27

A 75 year old man has presented to the ED with abdominal pain and distension.

His abdominal x-ray is shown in the **PROPS BOOKLET**.

1. State the demonstrated pathology. (1 mark)

2. List 3 radiological abnormalities that support your answer for Q1. (3 marks)

3. List 4 possible causes of the pathology demonstrated relevant to this patient. (4 marks)

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4. List 4 possible complications of the pathology demonstrated. (4 marks)
