

SAQ 1

A 23-year-old man with known asthma is brought to ED by ambulance with an acute exacerbation.

- a) What features on history would concern you that his attack might be severe? (5 marks)

- b) What features on examination would suggest he had a severe exacerbation?

- c) Clinical examination confirms he has a severe episode. List and justify the 2 investigations you would perform (4 marks)

d) List your immediate treatment priorities (4 marks)

SAQ 2

a. Name composition of normal saline and Ringer's lactate (2marks)

b. What are the targets to titrate fluid therapy (4 marks)

c. What are the complications of fluid therapy (4 marks)

SAQ 3

1) List 4 indications for endotracheal intubation (4 marks)

2) List 2 indications for non-invasive ventilation (1 marks)

3) List 4 contra-indications to NIV (2 marks)

4) What is the mechanism of action of NIV? (3 marks)

SAQ 4

A 72 year old diabetic female is brought to your Emergency Department by ambulance. She complains of feel generally unwell for the last 2 days with abdominal pain, cough and fevers.

Vitals signs:	Pulse	121
	BP	89/58
	RR	28
	Sats	89% Room Air
	Temp	39.8 °C

a. List the key steps in this patients management ? (3 Marks)

b. List your resuscitation goals for the first 6 hours ? (4 Marks)

c. The patient requires inotropic haemodynamic support. Which inotrope should be used ? (1 Mark)

d. The patient is intubated for respiratory failure. List the four key components of your ventilation strategy for this patient? (2 Marks)

SAQ 5

A 55-year-old woman presents by ambulance. This is her appearance upon arrival in ED



a) List three differential diagnoses

b) List 5 features of her medical history that are particularly important to enquire about

c) State your first 5 management steps

SAQ 6

An 84 year old man is brought to your emergency department following a high speed car accident. He has signs of multiple left rib fractures. Two hours after arriving in the emergency department he becomes more breathless and distressed.

His observations are:

- GCS 14
- HR 75 bpm
- BP 100/60
- RR 24

An arterial blood gas is performed

			Reference Range
pH	7.14		(7.35-7.45)
pCO ₂	60	mmHg	(35-45)
pO ₂	114		
HCO ₃ ⁻	17	mmol/L	(21-28)
Lactate	1.4	mmol/L	(< 2.0)
FiO ₂	50	%	
Na ⁺	139	mmol/L	(135-145)
K ⁺	4.8	mmol/L	(3.2-4.3)
Cl ⁻	116	mmol/L	(99-109)
Glucose	11.3	mmol/L	(3.0-6.0)

a. Calculate the patient's A-a gradient and show the formula/s used in the calculation (3 Marks)

b. Calculate the patient's expected $p\text{CO}_2$ and show the formula/s used (2 Marks)

c. Calculate the patient's expected HCO_3^- increase assuming all changes are acute, show the formula/s used (2 Marks)

d. List 6 potential causes of the patient's ABG results (3 Marks)

SAQ 7

You are at a major city hospital and notified that you will be receiving casualties from a major flood. The event has been called a Statewide Disaster by the media. You are the Emergency Physician on duty that day
At this stage the death toll is unknown.

a. What triage system will you use for incoming casualties? 3 mark

b. What 5 common disease patterns will you see following this disaster? 5 marks

c. What are 4 commonly neglected disaster response medications and supplies that you will need to ensure you have plenty of? 2 marks

SAQ 8

A 17 year old woman presented to ED after taking an overdose. She weights 50kg and has taken 60 tablets of 300mg aspirin.

Vital signs

HR 110/min

RR 28/min

BP 100/60

Sats 100% room air

Temp 36.5

a) What features stratify her as high risk? 2 marks

b) What investigations (apart from ecg and paracetamol level) would you request? 2 marks

c) She deteriorates further and requires intubation.

What are specific considerations when intubating patients having taken an OD of aspirin? 2 marks

d) What are the indications for haemodialysis? 4 marks

SAQ 9

A 40 yr old female is brought to your Emergency Department following a 2.5g propranolol overdose taken 3 hours ago.

Vital signs:

Pulse 45

BP 82/45

RR 16

Temp 36.8 °C

GCS 13 (E=3, V=4, M=6)

BSL 6.7 mmol/L

a. Outline a step-wise approach to the patient's bradycardia & hypotension? (4 Marks)

b. Clinical toxicology have been consulted and advised you to commence HDI therapy. How is HDI administered ? (4 Marks)

c. What are the potential complications associated with HDI therapy ? (2 Marks)

SAQ 10

A two month old infant has been brought in following a brief seizure. She has had coryzal symptoms and high fevers for two days. She has no relevant past history and no allergies. On examination: HR 110, BP 80/45, Temp 39.7. There is no rash & no clear focus of infection but the child is ill-appearing and drowsy.

(1) What investigations are required?

Investigation	Justification

A lumbar puncture is performed

CSF white cell count

 Neutrophils 120 (nil)

 Lymphocytes 25 (<5)

CSF red cell count 200

CSF Protein 1.2 (< 0.4 g/L)

CSF glucose 0.4 (> 2.5 mmol/L)

(2) Interpret these results

(3) List and justify the medications you would use to treat this child

Medication	Justification	Dose