

Fellowship Exam

Practice paper 8

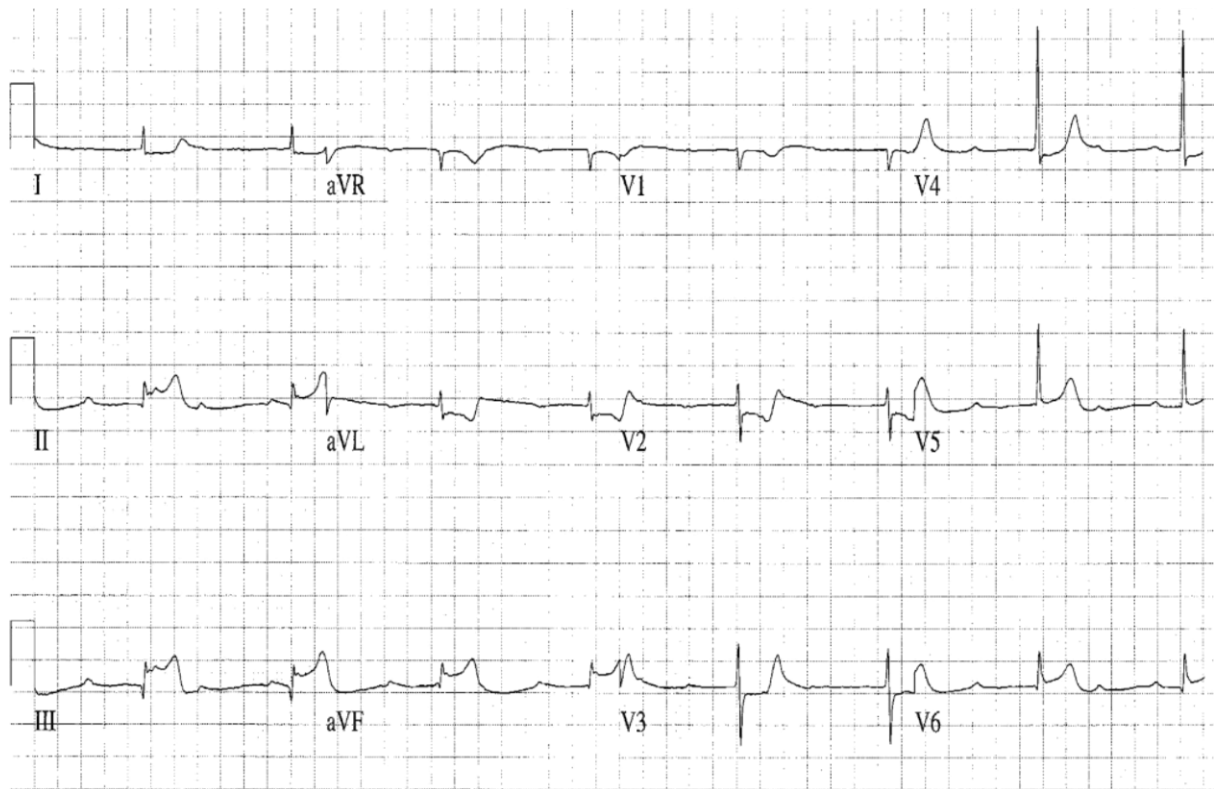
- This is a three hour written examination
- There are 30 questions.
- Write your answers on the exam paper

Candidate name: _____ **Date:** _____

SAQ 1

A 60 year old male presents to you Emergency Department complaining of chest pain for the last 2 hours. He has no known medication history and does not take any regular medications.

His ECG on arrival is below.



a. What is your interpretation of his ECG ? (3 Marks)

- b. The patient's blood pressure is 80mmHg. Outline the key steps in managing his hypotension. (4 Marks)**

- c. You decided to commence the patient on a vasoactive agent to improve his blood pressure. List 3 appropriate inotropes / vasopressors and their dosing below. (3 Marks)**

	Agent	Dose
1.		
2.		
3.		

SAQ 2

A 5 week old boy is brought in by his parents due to 3 days of vomiting. Following a test feed, you make the diagnosis of pyloric stenosis. Here are the results of his blood test:

Na 128 mmol/L, K 2.9mmol/L HCO₃ 35 mmol/L, Cl 2.8 mmol/L,
pH 7.63, BE +10mmol/L

- a. For pyloric stenosis what clinical features do you look for in your assessment? (2 marks)

- b. Interpret the above results (6 marks)

Abnormality	Cause
Na 128	Due to:
K 2.9	
HCO ₃ 35	
Cl	
pH	
Base excess	

c. List your management steps? (2 marks)

SAQ 3

You have been asked by the Head of your Emergency Department to give a presentation on Access Block and the National Emergency Access Target (NEAT).

1. List the elements of Access Block ? (2 Marks)

2. What is the National Emergency Access Target ? (2 Marks)

3. Outline potential solutions to improving Access Block & Overcrowding (6 Marks)

SAQ 4

A 50 year with known renal stones presents to the ED, with 3 day history of generally unwell, back pain and rigors. He is febrile at 39, has BP of 80/60 and PR or 130 /min. He has had 1 litre of Hartmans with the Ambulance service

- a. Name and state the composition of fluids you will use to resuscitate this patient (2marks)

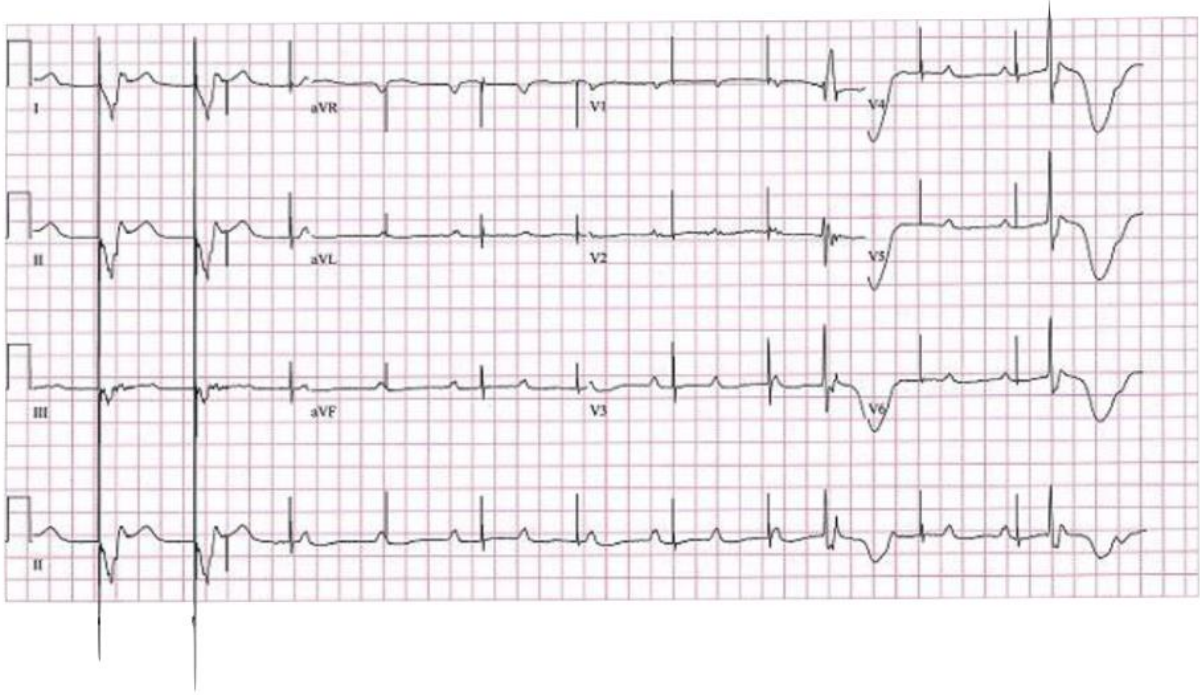
- b. What are the targets to titrate fluid therapy (3marks)

- c. What methods can you use to assess volume status in the ED? (2 marks)

d. What are the complications of fluid therapy (3marks)

SAQ 5

A 16 year old boy with a congenital heart problem presents to ED with episodes of syncope. This is his ECG.



a) Describe the ECG (5 marks)

b) Name 5 possible causes for this ECG (5 marks)

1 _____

2 _____

3 _____

4 _____

5 _____

SAQ 6 and 7 share the same stem

A 4 week old baby is brought to your ED in a rural hospital by her mother. She has been feeding poorly for the last 24 hours. While mum is talking to you, the baby has an episode of apnoea.

1. The baby has another 2 episodes within 10 mins. You decide to intubate her.

List the structural features that distinguishes a neonatal airway from an adult airway? (5 marks)

2. A CTB was obtained. List the important features and implications. (5 marks)



SAQ 7

The blood results of the neonate described above returns.

Here are the blood results :

WBC of $20.6 \times 10^9/L$,

Hemoglobin (Hb) 89 g/L,

Platelets $516 \times 10^9/L$

Prothrombin time (PT) >50 s

Activated partial thromboplastin time (aPTT) = 90.6 s.

1. What is your interpretation of these results? (2 marks)

2. You are in a rural hospital. List the steps in your management of this baby. (8 marks)

Supportive treatment	Specific treatment	Disposition

SAQ 8.

A 34 year old woman at 32 weeks gestation presents due to severe vomiting over 2 days. She admits to taking a large amount of alcohol prior to the vomiting. She says she normally drinks alcohol on a daily basis and has done so for a long time. She has not been able to eat or drink alcohol for the last 2 days

Na	132mmol/L	(132-144)	pH	7.17	(7.35-7.45)
K	4.8	(3.5-4.5)	pCO2	14mmHg	(35-45)
Cl	102	(98-108)	pO2	114	(80-110)
HCO ₃	7	(23-33)	lactate	3.0	
Cr	0.13	(0.06-0.12)	Urine Glucose	negative	
Urea	4.9	(3.0-8.0)	Urine ketones	positive	

1. What are the differential diagnoses? (2 marks)

Diagnosis	Reasons supporting diagnosis
1	
2	

2. How do you interpret her ABG? (2 marks)

3. What is management is required for her condition? (6 marks)

Supportive treatment	Specific treatment	Disposition

SAQ 9

A 70 year man presents via ambulance, he has a history of 3 days of increasing SOB. He arrives being given positive pressure support via Bag Valve Mask, on Oxygen, his Saturations are 70 %, his BP 100/70.

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

2) List the actions you would take (4 marks)

3) List reasons you would not intubate this patient (2 marks)

SAQ 10

A 67 year old male was 6 weeks post an inferior myocardial infarction. He presents to ED with 'light headedness' worse on exertion

He has been started on a 'whole lot' of new medications since his heart attack and feels they may not be helping.

Vital signs are:

Temp 37.0 °C

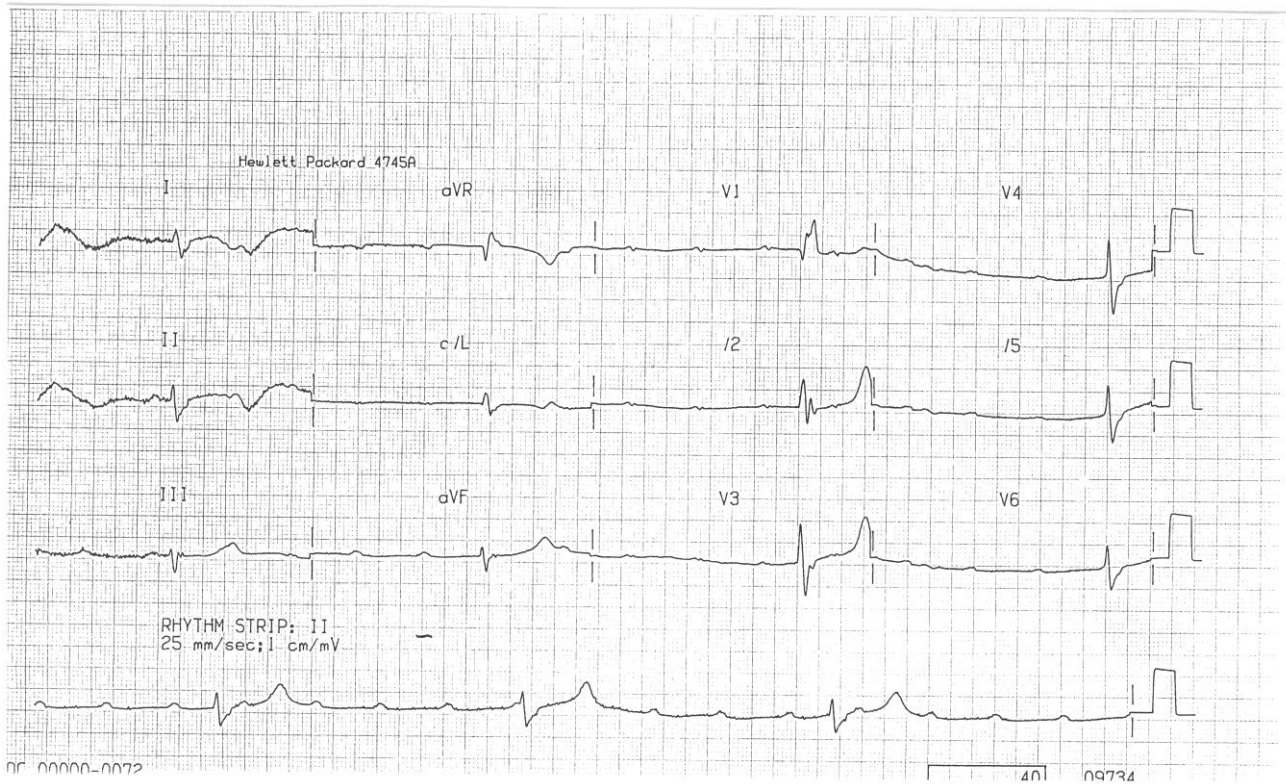
BP 100/55 mmHg

RR 16/min

SaO₂ 97% on air

GCS 15

The following ECG is performed:



1.Outline 4 important features of his ECG (2 marks)

2.Outline you interpretation (2 marks)

3.Outline treatment options (6 marks)

SAQ 11

A 48 year old haemodialysis patient is brought down to the ED as he was complaining of shortness of breath, muscle weakness and nausea while booking in for his 2 weekly dialysis. An ECG was done.

Vital signs are:

Temp 37.2 deg c

BP 100/50 mmHg

RR 20/min

SaO₂ 94% on air

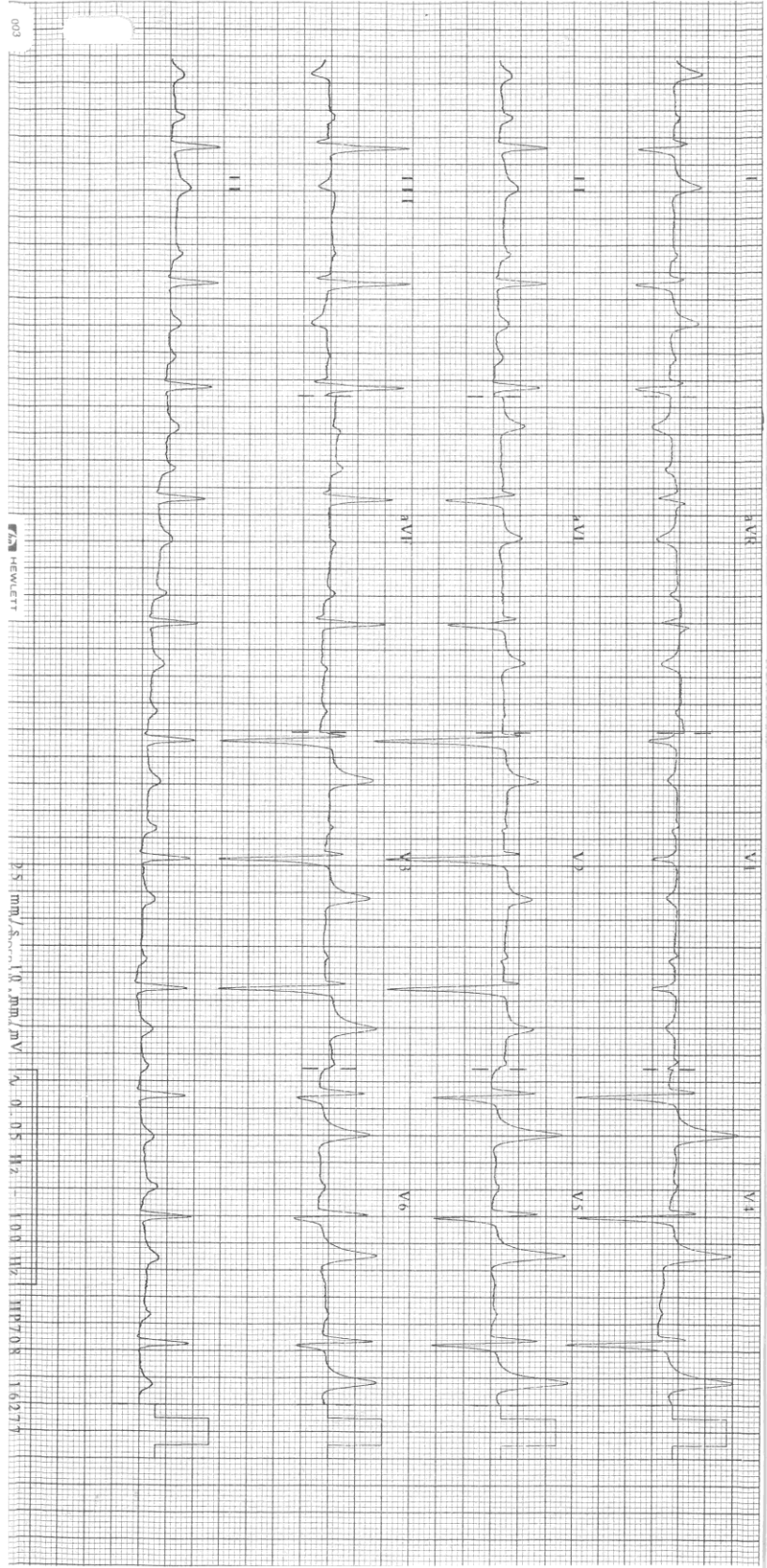
GCS 15

Weight 76kg

The following ECG is obtained (see next page):

a. List 5 potential causes of the most likely condition evident from the ECG (5 marks).

b. List 5 potential treatments for the most likely condition evident from this ECG (5 marks).



SAQ 12

A 14 year old woman is brought in by ambulance distressed and combative. She tells the nurse she has been sexually assaulted by a male relative but doesn't want to involve the police or her family to be informed.

List four potential medical complications (other than HIV) of sexual assault and any prophylactic treatments available that you will need to discuss with her. (4 marks)

Medical complications of sexual assault	Prophylactic treatment

2. List three factors you would take into consideration when considering HIV post-exposure prophylaxis.(3 marks)

3. Give three examples of strategies to preserve potential forensic evidence. (3 marks)

SAQ 13.

A 35- year- old woman presents to the ED with a recent diagnosis of hyperthyroidism. She has not started treatment. Her vital signs are:

BP 110/60; HR 140/min in sinus tachycardia; RR 22/min SaO₂ 98% on Room Air; Temp: 37C

She is anxious and orientated to time place and person.

She has no cardiac failure on examination.

1. What are the 4 cardinal clinical features that distinguish hyperthyroid and thyroid storm? (4 marks)

2. What is the major cause of mortality? (1 Mark)

3. What specific treatments are required and why? (5 Marks)

Treatment	Justification

SAQ 14

A 25 year old woman presents to ED after a large wooden plank fell on her left foot. She describes pain in the mid-foot region.

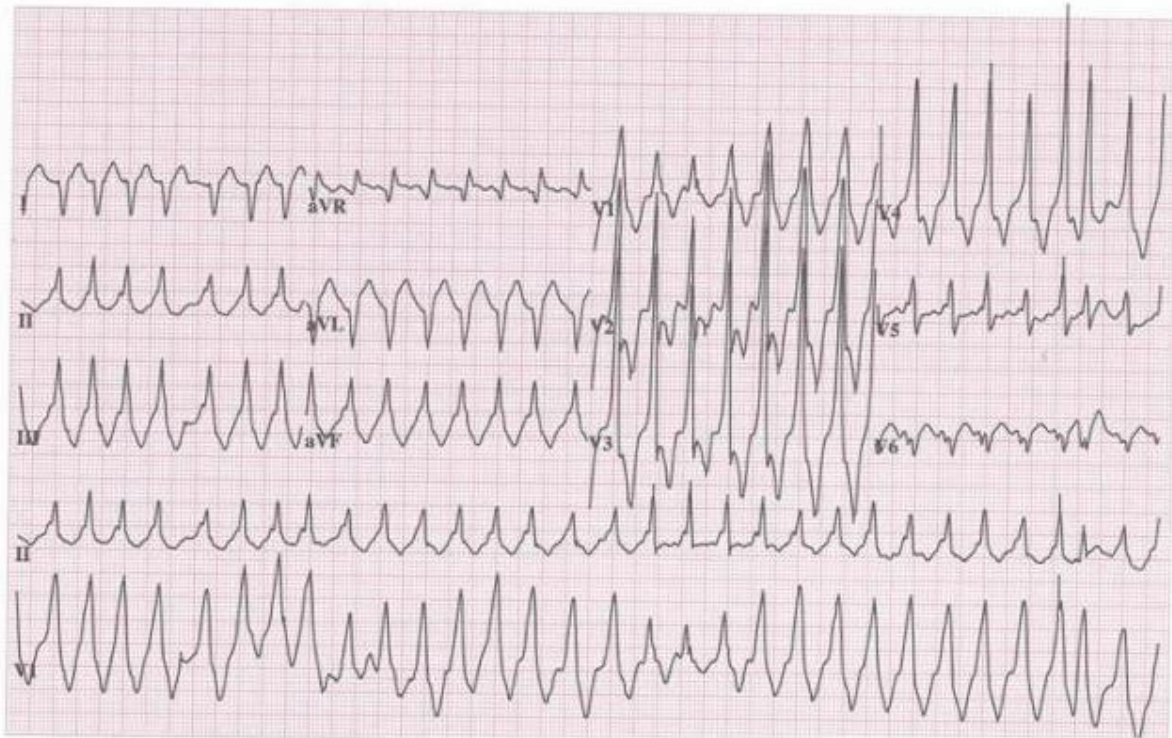
- a) What are the three components of the Ottawa foot rules (OFR's) (3 marks)

- b) What are the three exclusion criteria for the application of the OFR's (3 marks)

- c) Foot x-rays are taken and reveal an isolated un-displaced fracture of tuberosity of the navicular bone. What are the important features of your subsequent management? (5 marks)

SAQ 15

A 35 year old woman presents with palpitations and shortness of breath. On arrival her BP is 70/40. An ECG is taken.



a) What are the important features of the ECG (2 marks)

b) List three possible differential diagnoses (3 marks)

c) List important steps in your immediate management (5 marks)

SAQ 16

A 23-year-old man with known asthma is brought to ED by ambulance with an acute exacerbation. He has a RR of 36 /min, he is barely able to talk. His saturations are 99% on 15 litres by non rebreather mask

- a) What features on history would concern you that his attack might be severe (2 marks)

- b) What features on examination would suggest he had a severe exacerbation (2 marks)

- c) Clinical examination confirms he has a severe episode. List and justify the investigations you would perform (1 marks)

d) List your immediate treatment priorities (5 marks)

SAQ 17

A 15 year old girl is BIBA to the ED. She has severe abdominal pain. She states she lives in shared accommodation with friends and has not seen her parents in 6 months. Her birthday is tomorrow. She may require an operation.

- 1. List the elements of consent. (3 marks)

- 2. List 3 groups of patients who cannot consent (3 marks)

i _____

ii _____

iii _____

- 3. What is the legal age of consent in Australia? (1 mark)

- 4. She needs an operation for appendicitis. How would you obtain consent? (3 marks)

SAQ 18

A 72 year old diabetic female is brought to your Emergency Department by ambulance. She complains of feeling 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

1. 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 is intubated for respiratory failure. Fill in the table for the ventilation strategy for this patient? (3 Marks)

	Starting point	Titration criteria
FiO ₂	0.50	To SaO ₂ > 95%
Tidal Volume		
Peak plateau pressure		
PEEP		

SAQ 19

A 49 year old male presents following taking 9.6 g verapamil 2 hours ago. On presentation, he has a HR 60, SBP 100.

- a) Outline your risk assessment and initial management of this patient. (4 Marks)

Two hours later, patient dropped his HR to 40 and SBP 60.

- b) Outline your key management for this patient now (6 Marks)

SAQ 20

A 30 year old woman (45 kg) has been unwell for the past week with generalised fever, myalgia and arthralgia. She presents to ED because her symptoms have not improved and she now has nausea and abdominal pain. She admits to taking 1g of paracetamol every 4 hrs for her symptoms in the last week.

Her LFTs:

BSL = 5.6

Bilirubin = 15 μ mol/L (0-25)

Gamma GT= 36 U/L (0-56)

ALP = 82 U/L (38-126)

ALT = 175 U/L (< 45)

AST = 215 U/L (<45)

Paracetamol = 188micromol/L

INR = 1.1

a) Outline your risk assessment of this patient. (5 marks)

b) Outline the key management of this patient (2 marks)

c) Outline key features when you would contact the liver unit for a possible liver transplant. (3 marks)

SAQ 21 and 22 refers to the same stem

A 77 year old woman is brought in by ambulance. She was found on the floor of her home. She has been lying there for at least 36 hours On arrival :

Temp: 34.5C

HR 130/min Bedside dextrostix 6.2

BP 113/80

RR 24/min

SaO₂ - unable to obtain

Her VBG:

pH 7.32

pCO₂ 39

HCO₃ 19.5

BE -5.5

Lactate 3.9

Her EUC

Na 140

K 6.6

HCO₃ 15

Urea 29.6

Cr 368

CK 6886

FBC

W 17.5

Hb 146

Plat 365

1. Interpret her vBG (2 marks)

2. Interpret her EUC (2 marks)

3 Interpret her FBC (2marks)

4 Interpret her CK (1 mark)

5 What is your overall assessment of these results? That is, what do they mean to you?(3 marks)

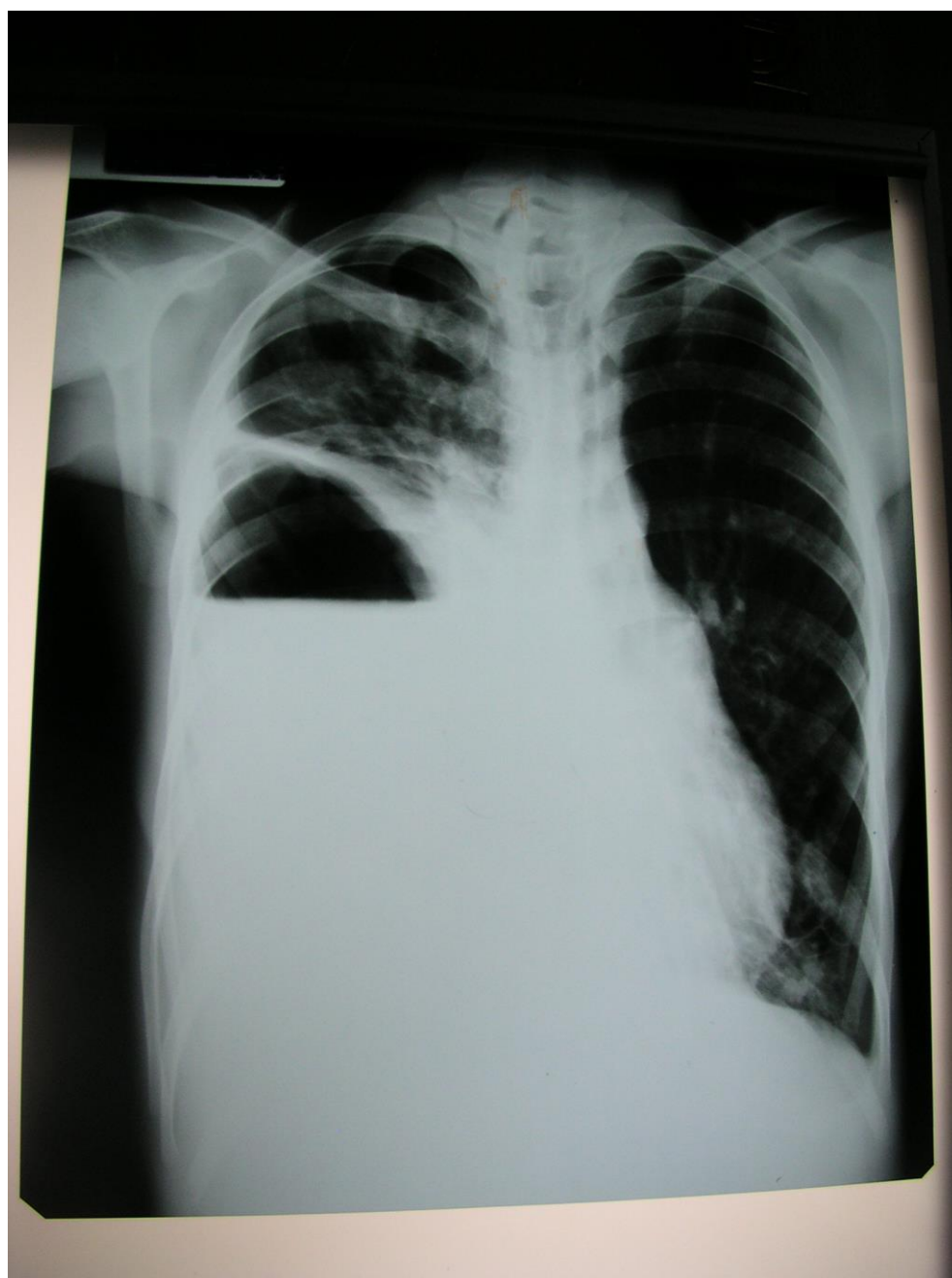
SAQ 22

On further examination , she doesn't know the date but is able to tell you the year and month.

1. What are the important features to look for in your examination? (5 marks)

2. List the steps in your management of this patient? (5 marks)

SAQ 23



SAQ 23

This 42 year old man presents with fever and anorexia for the last 3 weeks. He has had a dry cough for the last month. His RR is 28/min. SaO₂ 94% RA. HR 105/min. Temp 38.5C.

1. List the main features in his CXR (3 marks)

2. What is your management of his problem? (7 marks)

Supportive treatment	Specific treatment	Disposition



SAQ 24

A 25 year old man is an unrestrained driver of a car involved in a single vehicle accident 30 mins ago. He hit a tree. He was out of the car at the scene and the front airbag was triggered. He initially complained of chest pain.

On arrival to the ED, he is uncooperative. On a Hudson mask at 10L/min, his SaO₂ 90%. His HR is 117/min with a BP of 85/50mmHg. He has a RR of 32/min. A mobile CXR is performed during the primary survey. An urgent bedside procedure is performed. Subsequently, his HR is 105/min, BP 100/70, RR 24/min and SaO₂ 100% on 10L/min via Hudson mask.

1. What is shown in the CXR?(2 marks)

2. A needle decompression was performed. A chest tube insertion followed. List the important steps in the insertion of a chest tube in this patient. (5 marks)

3. How do you explain his rapid response to the needle thoracostomy? (2 marks)

SAQ 25

A55 year old woman presents by ambulance. This is her appearance upon arrival in ED



a) List three differential diagnoses (3marks)

b) List 4 features of her medical history that are particularly important to enquire about (2 marks)

c) State your first 5 management steps (5 marks)

SAQ 26

A 50-year-old inmate from the prison is brought to the ED.

Name three of the commonest presentations for these patients? (3 marks)

List the challenges you expect to encounter in treating these patients together with the strategies you would use to overcome them.

NB: Marks are given for both the challenges and strategies identified. (7 marks.)

SAQ 27

A 40 year old male presents with swelling and pain in his right ankle. There is no history of recent trauma. He is usually fit and well on no medications.

a) What are 4 major differential diagnoses (2 marks)

b) What are 4 important features you would enquire about on history (2 marks)

c) List and justify 4 investigations you would you order (2 marks)

d) Following full assessment you are confident your patient has an Sexually Transmitted Infection (STI). What are your 4 management priorities (4 marks)

SAQ 28

The triage nurse rings you regarding a 32 year old with diabetes and bipolar disorder who is a frequent presenter to your emergency department. She often presents with disruptive behaviour but the nurse is concerned that today she appears disorientated, ataxic and complains of nausea and vomiting for the last two weeks.

Temp 37.4
HR 110
BP 90/60
RR 22
sats 97% OA

Her lithium level is 3 mmol/L

- 1. List four potential causes you would consider in this patient that may have resulted in lithium toxicity? (2 marks)

2. Your 4th year student asks you about the role of charcoal in lithium overdose. You explain that charcoal does not bind lithium. Name 3 classes of drugs seen in overdose that are not bound by charcoal and give two examples of each.(3 marks)

i. _____

ii. _____

iii. _____

3. What alternative enhanced elimination technique may have a role in lithium toxicity? (1 mark)

4. You find on questioning that it is likely she is 16/40 pregnant, homeless and with no regular medical care. List and expand briefly on 4 issues that should be discussed with this woman, include other services that may need to be involved. (4 marks)

SAQ 29

A 47 year old male who has a mitral valve replacement on rivaroxaban presents after repeatedly taking extra doses of his rivaroxaban for the past 10 days. He has fallen and presents with a scalp haematoma.

On examination: GCS=10, HR = 90, BP= 115/70

His INR is 10.

a) Outline your risk management of this patient. (4 marks)

b) Outline your key management for this patient. (6 marks)



SAQ 30

A 59 year old man presents with this rash of 10 days. His main complaint is pain. He is the father of 3 children under the age of 5 years and his wife is currently pregnant.

- 1. What are the main features of this rash? (2 mark)
