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University Hospital, Geelong
Emergency Medicine
Trial Fellowship Exam
Short Answer Questions (SAQ)
Week 5

DIRECTIONS TO CANDIDATE

1. Answer each question in the space provided in this question paper.
2. Do not write your name on this question paper.
3. Enter your examination number in the space below.
4. Cross out any errors completely.
5. Do not begin the exam until instructed to do so.
6. Do not take examination paper or materials from this room.
7. The booklet binder may be removed during the exam.

QUESTION & ANSWER
BOOKLET

Question 1 (20 marks)

A 35 year old woman is brought to the emergency department after skin exposure to a chemical spill at a local petrochemical plant. Hazchem information has identified the substance involved as an organophosphate.

- a. List three (3) potential NON LIFE THREATENING clinical effects that would suggest acute intoxication in this patient. (3 marks)

1. _____

2. _____

3. _____

- b. List three (3) potential early, LIFE THREATENING clinical effects of acute intoxication with an organophosphate. (3 marks)

1. _____

2. _____

3. _____

Question 1 (continued)

- c. State the decontamination required for this patient? (2 marks)

- d. State the personal protective equipment that is required by staff who care for this patient. (1 mark)

Question 1 (continued)

The patient exhibits clinical features of a life threatening exposure. The patient undergoes appropriate decontamination and intubation.

- e. List two (2) KEY medications that you would use. Provide details including route, dose and endpoints of treatment. (8 marks)

	Management (2 marks)	Route (2 marks)	Dose (2 marks)	Endpoint of treatment (2 marks)
1				
2				

Question 2 (12 marks)

A 3 year old boy presents to the emergency department after refusing to weight bear on his right leg for the last 3 days.

a. List four (4) MOST LIKELY differential diagnoses for this presentation. (4 marks)

1. _____
2. _____
3. _____
4. _____

Question 2 (continued)

- b. List four (4) KEY investigations that you may perform in the emergency department.
Provide one (1) justification for each choice. (8 marks)

	Investigation (4 marks)	Justification (4 marks)
1.		
2.		
3.		
4.		

Question 3 (12 marks)

An 80 year old woman presents to the emergency department with palpitations and shortness of breath. She has undergone coronary artery bypass grafting 2 weeks earlier.

An ECG is taken- refer to the props booklet- page 1.

a. State four (4) SIGNIFICANT abnormalities shown on this ECG. (4 marks)

1. _____
2. _____
3. _____
4. _____

b. List four (4) likely causes for her symptoms in the setting of this ECG. (4 marks)

1. _____
2. _____
3. _____
4. _____

Question 3 (continued)

- c. List four (4) KEY investigations that you would perform to assist with your diagnosis.
(4 marks)

1. _____
2. _____
3. _____
4. _____

Question 4 (12 marks)

A 72 year old man presents to the emergency department with ongoing epistaxis. He is taking warfarin and atenolol for atrial fibrillation. He has 2 large bore IV access in situ and non-invasive monitoring applied.

His vital signs on presentation are:

HR	50	bpm (atrial fibrillation)
RR	16	/min
BP	70/30	mmHg
Temp	37	°C
GCS	15	

- a. List four (4) KEY STEPS in your management in the Emergency Department. Provide one (1) detail for each step. (8 marks)

	Management (4 marks)	Detail (4 marks)
1.		
2.		
3.		
4.		

Question 4 (continued)

The bleeding persists despite your management above. You suspect a posterior site for the bleeding.

- b. State two (2) options for control of bleeding in the Emergency Department. List one (1) important pro for each option. (4 marks)

	Option (2 marks)	Pro (2 marks)
1.		
2.		

Question 5 (12 marks)

A 5 year old boy presents to the emergency department after an episode of near drowning. He is intubated on arrival and the Xray below is taken soon after intubation.

A Chest X-ray is taken- refer to the props booklet- page 2.

a. State three (3) abnormal findings in this Chest X-ray. (3 marks)

1. _____
2. _____
3. _____

His weight is 20 kg.

b. List the initial ventilator settings that you would commence. (5 marks)

Mode (1 mark)	
Tidal volume (1 mark)	
Respiratory rate (1 mark)	
I:E (1 mark)	
PEEP (1 mark)	

Question 5 (continued)

45 minutes after instituting these settings, his Peak Inspiratory pressures are 50 cm H₂O.

c. State four (4) KEY STEPS that you would perform to rectify this problem. (4 marks)

1. _____
2. _____
3. _____
4. _____

Question 6 (12 marks)

A 35 year old woman presents to the emergency department with a suspected Red Back spider bite.

a. List three (3) clinical features that you may expect with this bite. (3 marks)

1. _____

2. _____

3. _____

b. State three (3) current controversies in the management of a red back spider bite. (3 marks)

1. _____

2. _____

3. _____

Question 6 (continued)

Following your review, the features are more suggestive of Funnel Web spider bite.

c. List three (3) clinical features that you may expect with this bite. (3 marks)

1. _____
2. _____
3. _____

d. List three (3) agents that you may use for supportive care or specific treatment of a suspected severe Funnel Web spider bite. (3 marks)

1. _____
2. _____
3. _____

Question 7 (12 marks)

A 3 year old boy presents with right elbow pain following a fall from monkey bars.

An X-ray is taken soon after arrival- refer to the props booklet- page 3.

a. State four (4) abnormal findings shown on this X-ray. (4 marks)

1. _____

2. _____

3. _____

4. _____

b. Assuming that there is neurovascular compromise, list five (5) KEY STEPS to correct this problem. (5 marks)

1. _____

2. _____

3. _____

4. _____

5. _____

Question 7 (continued)

c. List three (3) KEY complications of this injury in the first 1 week post injury. (3 marks)

1. _____

2. _____

3. _____

Question 8 (7 marks)

A 25 year old man presents to the emergency department after a 2 day illness of fever and vomiting.

Initial blood tests taken soon after arrival- refer to the props booklet- page 3.

- a. List two (2) calculations to help you to interpret these results. (2 marks)

Derived value 1: _____

Derived value 2: _____

- b. Using the scenario and the derived values, define the primary abnormality/s. (2 marks)

Question 8 (continued)

- c. Using the scenario and the derived values, define the secondary abnormality/s. (1 mark)

- d. Provide a unifying explanation for these results. (2 marks)

Question 9 (18 marks)

A 35 year old man presents to the emergency department with swelling to both his left knee and right elbow joints.

a. List four (4) MOST LIKELY differential diagnoses for this presentation. (4 marks)

1. _____

2. _____

3. _____

4. _____

b. List four (4) features on history that may assist with obtaining a diagnosis. (4 marks)

1. _____

2. _____

3. _____

4. _____

Question 9 (continued)

- c. State two (2) KEY REASONS to perform a knee joint aspiration for this patient. (2 marks)

1. _____

2. _____

- d. List four (4) contraindications to performing a knee aspiration in this patient. (4 marks)

1. _____

2. _____

3. _____

4. _____

Question 9 (continued)

- e. List four (4) KEY LIKELY diagnoses that you would consider if the patient was a 5 year old female. (4 marks)

1. _____

2. _____

3. _____

4. _____

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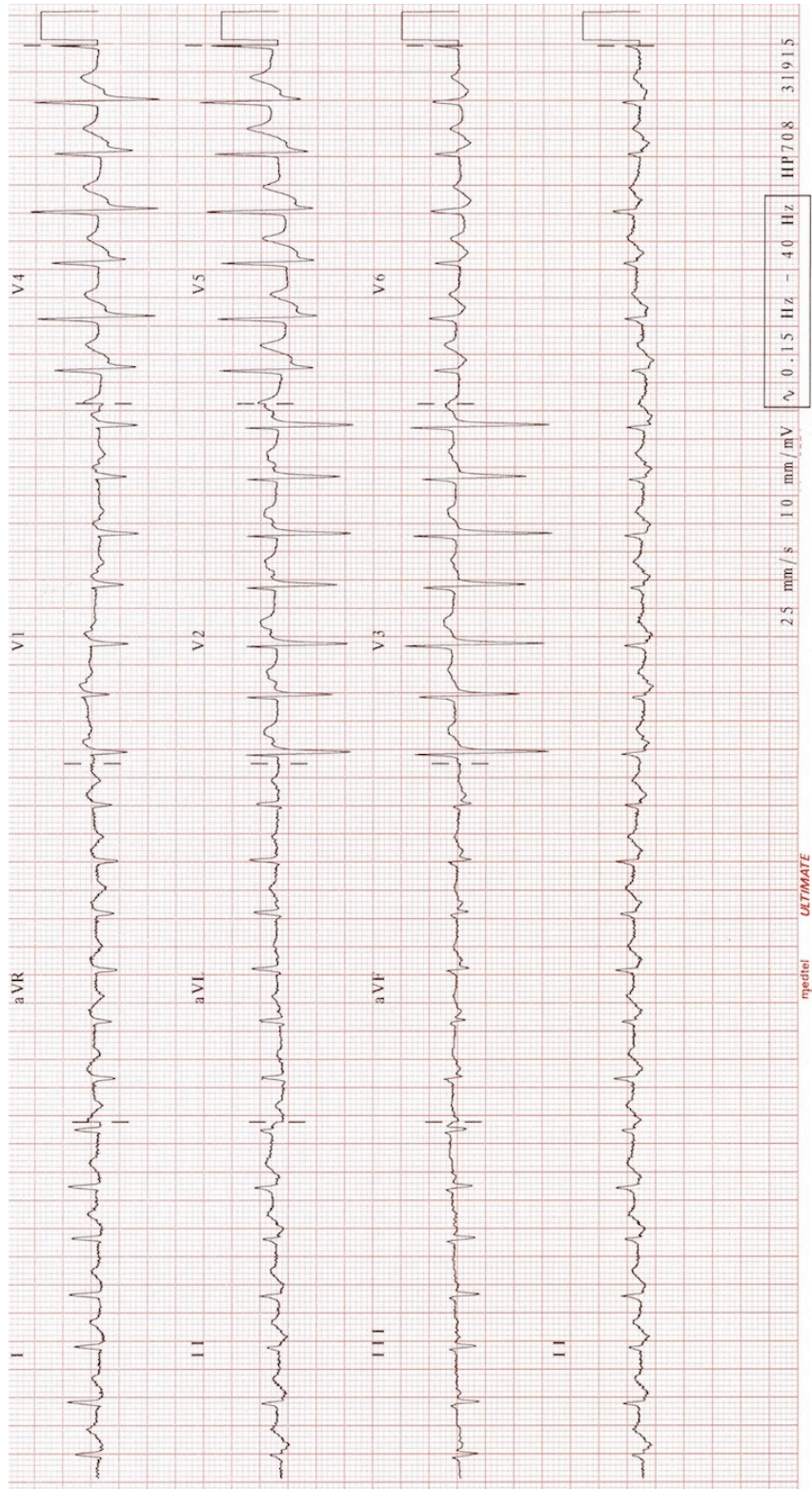
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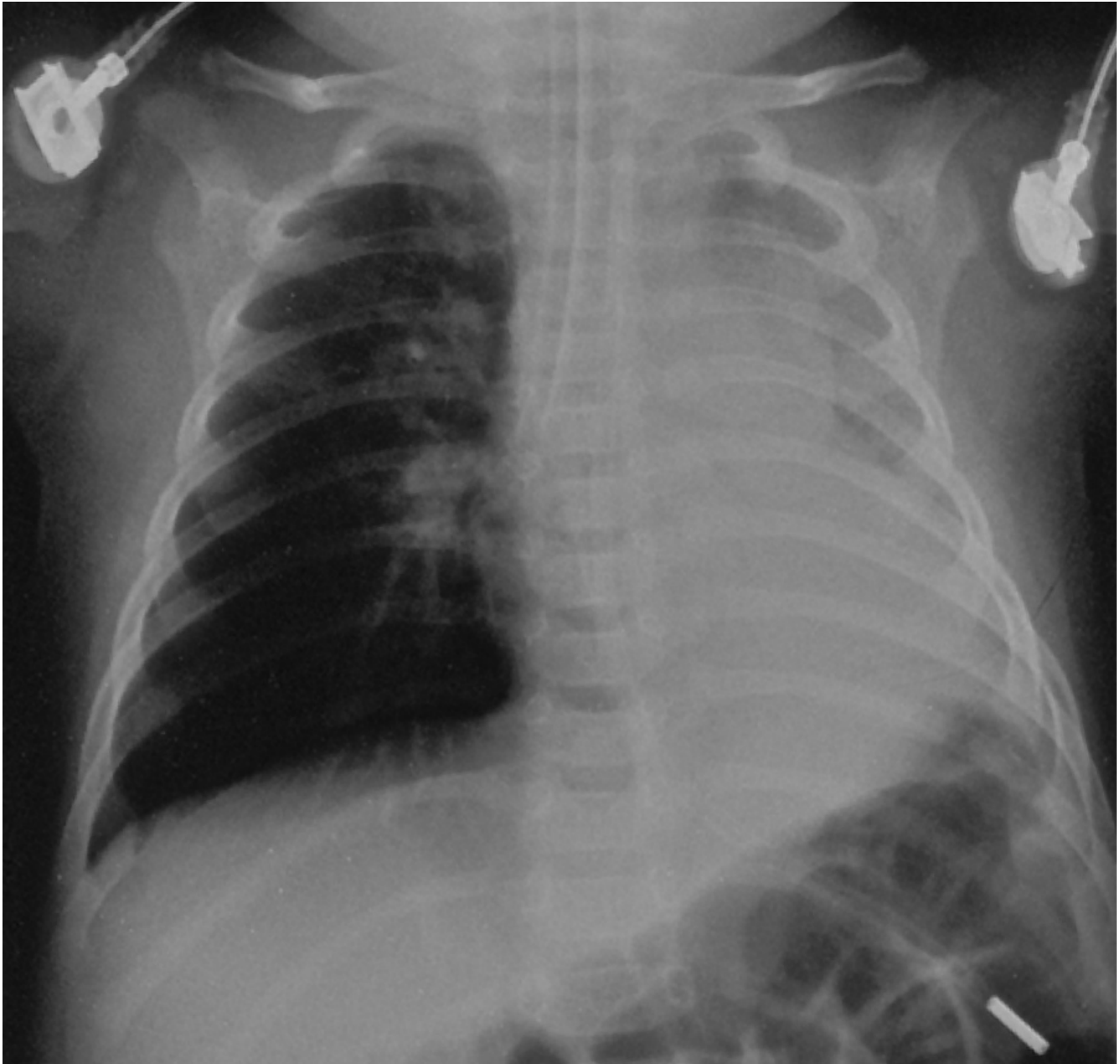
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PROP BOOKLET

Question 3



Question 5



Question 7



Question 8

Taken on room air

FIO ₂	0.4	
pH	7.80	(7.35-7.45)
PCO ₂	15mmHg	(35-45)
PO ₂	192mmHg	(75-100)
HCO ₃	23mmHg	(22-33)
Base excess	10.1	(-3.0 - +3.0)
O ₂ sat	99.7%	(95-98%)
Na ⁺	119mmol/L	(135-145)
K ⁺	2.5mmol/L	(3.2-4.5)
Cl ⁻	65mmol/L	(100-110)
Urea	10.3mmol/L	(3.0-8.0)
Creatinine	0.187mmol/L	(0.07-0.12)
Glucose	4.5mmol/L	(3.0-7.8)