Department of Emergency Medicine Prince of Wales Hospital

ACEM NSW Fellowship Exam Practice (2019.1) 28 February 2019

Short Answer Questions Booklet 3

Questions 19-27

Directions to Candidates

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

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

рН	6.84	(7.35-7.45)	
pCO ₂	8.7	(35-45mmHg)	
pO ₂	80	(95-100mmHg)	
HCO ₃	1.4	(22-24 mmol/L)	

Na	126	(135-145mmol/L)	
К	5.5	(3.5-4.5 mmol/L)	
CI	98	(95-110mmol/L)	
Urea	20	(2.9-7.1 mmol/L)	
Creatinine	150	(45-90 mmol/L)	
Lactate	4.1	< 2.0mmol/L	
Glucose	54	3.5-6.0	

A 58 year old presents with the above results. He is a Diabetic who started insulin 5 years ago. He is confused and combative.

HR 140/min. BP 100/80. RR 32/min. SaO2 95%. Estimated weight – 70kg

1. What reservations do you have of intubating him on arrival? (2 marks)			

2. What are the complications from his condition? (3 marks)			
3. Outline your strategy for managing his hypovolaemia. Indicate the volume, rate and type of fluid and titration point(s) in your answer. (5 marks)			

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4. What electrolyte deficits exist? Include the magnitude of the deficit in your answer. (6 marks)

5. When do you need to start insulin in this man? (1 mark)
6. What dose of insulin would you use? (1 mark)
7. Name 2 potential causes of his condition? (2 marks)
1.
2.

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SAQ 20 (10 marks)
A 65 year old man presents to your ED by ambulance from a hostel after an unwitnessed fall on the road. He is on warfarin. He becomes combative in your ED.
He has a BP of 170/95, HR of 105/min and his RR is difficult to record as he is extremely agitated He has a 5cm laceration over his forehead and profuse epistaxis.
You decide to intubate him for a number of reasons and a cervical Xray (SEE PROPS BOOKLET) is obtained after intubation.
1. What is the abnormality on the Xray and its implications? (2 marks)

	2.	Complet	e the tabl	e below ir	relation to	o his mana	agement.	(8 marks
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Issue	Management	Rationale
Epistaxis		
Cervical fracture		
A discount lating		
Anticoagulation		
Social issue		
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SAQ 21 (total 9 marks)

A 75 year old man is brought into your ED by his daughter. She is concerned that his behaviour has changed over the last 1-2 weeks. She lives close by and visits her father 3 times a week. He lives alone and is normally independent in his self-care.

You are concerned that he may have one of the following.

Fill in the table below to demonstrate how you differentiate between the differential diagnoses. (9 marks)

	Dementia	Delirium	Depression
Historical features			
1. Onset			
2. Course			
3. Sleep			

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Examination findings			
	Dementia	Delirium	Depression
1. Alertness			
2. Orientation &			
Awareness			
3. Memory			
4. Perception			
5. Emotions			
6.5 1.11 1/3			
6. Precipitant(s)			

A 52 year old with known chronic liver disease secondary to alcohol presents with a reduced level of consciousness to your ED. She is not intoxicated. Her sister says she has been increasingly drowsy over the last 24 hours.
1. You decide she has hepatic encephalopathy. What 4 precipitants would you look for? (4 marks)
1.
2.
3.
4.

SAQ 22 (total 10 marks)

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2. What medications can be used to minimise a deterioration in her conscious state? Indicate a rationale in your answer? (6 marks)

<u>Medication</u>	<u>Rationale</u>

SAQ 23 (total 10 marks)
A 80 year old is brought in by ambulance from the local RSL on Anzac Day. He got up from a bar stool and felt dizzy. He was helped by staff to a chair. He did not fall. On arrival: Alert; BP 170/95; RR 18/min. SaO2 95% RA; Temp 37C
An ECG is taken at on arrival (Please refer to PROPS BOOKLET). 1. What does the ECG show? (3 marks)
2. There are no beds in the ED. What resources do you need to manage his condition in the ED? Provide a rationale for your answer. (2 marks)

3. What are the potential causes of the pacing failure in this patient? (3 marks)		
How would you investigate for the cause? (2 marks)		

SAQ 24 (total 10 marks)
An 85 year old woman with a history of CCF and dementia is brought by ambulance from her Aged Care Facility (ACF) in pulmonary oedema. In her records from the ACF, is a signed, dated and witnessed Advance Care Directive (ACD) which states that she would refuse CPR. Her son and daughter are not aware of the ACD and they say they do not agree to it and would like it torn up.
What are the components of a valid advance care directive? (6 marks)

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2. Are you obliged to adhere to the ACD? Explain the reasons for your answer. (2 marks)
3. Her children say that the document is not witnessed. Does that make it invalid? Provide a rationale for your answer. (2 marks)

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SAQ 25 (total 10 marks)
A 16 year old presents with a painful left shoulder. He fell at home 2 days ago. He has been having increasing left shoulder pain.
The Xrays have already been taken at Triage (SEE PROPS BOOKLET). 1. Describe the abnormalities seen. (3 marks)

2. What are the likely mechanisms of this injury? (2 marks)		
3. What clinica	al features are suggestive of this diagnosis? (2 marks)	

4. What is the management of this patient? (3 marks)		

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SAQ 26 (total 10 marks)		
A 45 year old woman was successfully intubated by your Registrar for multifocal pneumonia. Shortly afterwards, several antibiotics were started. While looking at the monitor, you noticed he fall in her BP from 140/70 to 80/40mmHg. Her SaO2 falls from 98% to 90%		
1. What are the likely causes? (3 marks)		

Her HR increases rises from 110 to 180/min. Her ETCO2 falls from 38 to 20mmHg. The peak airway pressure increases to 30. 2. What is the most likely mechanism causing this? (1 mark)	
3 Outline your management (6 marks)	

SAQ 27 (10 Marks)				
A 10 month old child is brought in by her mother. She was being carried to her cot when her mother noted that she stiffened and turned her head to her right and let out a cry. This was followed by a period of floppiness that lasted about 5 mins. She is normally well and not on medications. On arrival, she is responding to you and her mother. HR 110/min. BP 80/45, Temp 39C.				
Her mother is distraught.				
1. What is the most likely diagnosis? (1 mark)				
This condition has 2 types and distinguishing differences? (4 marks)	between the two is important. What are the			
Diagnosis:	Diagnosis:			

On examination, she looks well. However, she has symptoms suggestive of an upper respiratory tract infection. Her catch urine microscopy is not suggestive of a urinary tract infection.		
3. What factors would determine whether you would do any investigations on her? (2 marks)		
She is well and you decide not to do any further investigations. You have explained the discharge plan to her mother. Her mother asks you about potential long term issues with this diagnosis.		
4. What information would you tell her? (3 marks)		

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