### Department of Emergency Medicine Prince of Wales Hospital

# ACEM NSW Fellowship Exam Practice (2019.1) 28 February 2019

## Short Answer Questions Booklet 1 Questions 1 – 9

**Examination Time: 3 hours** 

### **Directions to Candidates**

- 1. The exam is divided into three question booklets and one props booklet.
- 2. Write your name on the front page of each question booklet and the props booklet.
- 3. Write your initials on each subsequent page of the question paper.
- 4. Answer each question in the space provided.
- 5. Cross out any errors completely.
- 6. Please do not start until you are told to do so.
- 7. No exam papers or materials to leave the room.

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SAQ 1 (this is a double question – total 20 marks)
Scenario:
It is a busy shift on Boxing Day. You note the following Triage note as you go through the waiting room box. This one has caught your eye: "32 year old, dived into water from 10m yesterday. Now has a black eye and says he has blurred vision. O/E Looks well, has black eye, can't open it, not distressed. Cat 5"
1. You pull him out of the pile. What diagnoses are you concerned about and why? (2 marks)

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You bring him in and he looks well. He has a left orbital haematoma. He has subcutaneous emphysema over the left orbital area. His visual acuity is limited – he says he can see the fingers you hold up and he has diploplia in all directions.

2. What are the potential injuries to the following structures? (8 marks)

Structure	Injury
Anterior chamber	
Pupils	
•	
Lens	
Lens	
Vitreous	
Retina	
Globe	
Eye movements	
,	
Optic nerve	
Optic herve	

examination of him. The ophthalmology Registrar is coming in to see him. In the meantime, the CT that you have organised has been done (Please see PROPS Booklet).
3. What are the abnormalities seen? (2 marks)
4. What is the diagnosis that would explain his clinical signs? (1 mark)

5. How does this diagnosis explain the following? a. Reduced visual acuity (3 marks):	
b. Diploplia in all directions of gaze (2 marks)	

6. What temporizing measures can you take in the ED while waiting for the ophthalmology registrar? Include a rationale in your answer (2 marks)

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### SAQ 2 (total 10 marks)

A 78 year old woman is brought into the ED with confusion. She has been taking bowel prep for a colonoscopy due the next day. Her husband says she has been drinking lots of fluid. She has passed copious amounts of urine such that he was concerned that she was overdoing it.

On arrival, she is mumbling but cooperative. She is noted to have increased tone in all her limbs.

Her HR is 80/min. BP 140/90. Temp 37C. RR 20/min. Weight: 70kg

Na	110	135-145mmol/L
K	2.9	3.5-4.5 mmol/L
Cl	62	95-110mmol/L
Urea	3.6	2.9-7.1 mmol/L
Creatinine	50	45-90 umol/L
Glucose	5.0	3.0-6.0 mmol/L

1. Indicate the 3 investigation pertinent to the investigation of hyponatraemia in this patient? (3 mark
1.
2.
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<u>s.                                    </u>

2. Indicate how you would determine the cause of her hyponatraemia from the results of your investigations and the history. (3 marks)
Within 30 mins of arrival, she has a tonic-clonic seizure for 2 mins, which stopped spontaneously. You decide to use 3% hypertonic saline to correct her hyponatraemia because it is readily available
in your ED.
3. Outline your approach (4 marks)

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SAQ 3 (total 10 marks)
A 64 year old man is brought in by ambulance after falling over at the club. He has had 3 beers during the Christmas lunch. He does not appear to be intoxicated. He had a previous admission to your ED 3 months ago after a fall.
On arrival: BP 145/90; HR 75/min; SaO2 98% RA; Temp 37C
His ECG is given in the PROPS Booklet.
<ol> <li>What is your interpretation of the ECG? (1 mark). Please outline the features to support your answer (3 marks)</li> </ol>

2. What are the likely causes of his fall? (2 marks)	
3. What investigations would be warranted? (2 marks)	

You note that his previous ED presentation had an ECG that looked the same as this one. He was discharged with a letter to his GP for removal of sutures. The laceration was to his forehead.
4. What is your management of the patient? (2 marks)

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SAQ 4 (total 10 marks)

27 yo M known presents after using large amounts of intranasal cocaine over past 4 hours with suicidal intent.

On arrival to ED: BP 180/105; HR 160; O2 Sats 98%; RR 24; Temp 40 GCS 15 but very tremulous and agitated.

1. List 3 complications you could expect in this patient and what investigations would you like to perform to investigate for these? (3 marks)

Complication	Investigation
1.	
2.	
3.	

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2. Outline 3 treatment priorities in this patient including clinical	endpoints of treatment. (	3 marks
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Treatment	Clinical Endpoint

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3.	List 2 specific treatment,	drug dose and	l endpoint y	ou would	initiate b	pased on	this E	ECG (	see
ΡF	OPS Booklet) (total 4 ma	rks)							

Treatment	Dose	Endpoint

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### SAQ 5 (total 10 marks)

A 78 year old woman presents from home. She is combative on arrival. Her neighbour found her lying on the floor of her ground floor unit. She is known to have diabetes on metformin. She is normally well.

рН	7.30	(7.35-7.45)
pCO <sub>2</sub>	31	(35-45mmHg)
pO <sub>2</sub>	90	(95-100mmHg)
HCO <sub>3</sub>	20	( 22-28 mmol/L)

Na	140	(135-145mmol/L)
K	3.9	( 3.5-4.5 mmol/L)
Cl	105	( 95-110mmol/L)
Urea	21.8	(2.9-7.1 mmol/L)
Creatinine	220	( 45-90 mmol/L)
Glucose	40	3.0-7.8 mmol/L
Lactate	4.8	<2 mmol/L

1. What is the most likely diagnosis? Explain your answer using the results. (2 marks)

2. What complications of this diagnosis is this patient showing? (3 marks)
3. Name one of the causes of her high lactate? (1 mark)

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The orthopaedic team ask you to perform a Fascia Iliaca Block on an 80yo with a fractured neck of femur. She is cognitively normal, lives alone and her only comorbidities are hypertension and atrial fibrillation.
1. List the 4 generic legal requirements of consent. (4 marks)
1.
2.
3.
4.

SAQ 6 (total 10 marks)

2. Describe the types of additional generic information required for informed consent. (3 marks)
3. List 3 major risks of this procedure. (3 marks)
1.
<u>2.</u>
3.

A 32 year old man is brought in by ambulance after a fall at home. He tripped and fell down 4 steps. He landed on his right knee which swelled up immediately. He was unable to stand. The ambulance officer was able to straighten his right knee after giving him analgesia. On examination, his right knee is swollen. He is still in pain. He has already had morphine 10mg IV. He weighs 129kg.
1. You examine his right knee after giving him more analgesia. What 4 potential injuries are you looking for and why? (4 marks)
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2.
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3.
4.
2. You examine him under nitrous oxide. You notice his knee is giving way in all directions despite the knee effusion. What diagnosis do you need to rule out? (1 mark)

SAQ 7 (total 10 marks)

3. What investigations would you do and why? (2 marks)	
4. What is your management of his knee injury (3 marks)	

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### SAQ 8 (total 10 marks)

A 28 year old soldier from the army barracks is transferred to your hospital. He feels lethargic and has generalised myalgia. He has passed dark urine. On arrival, he is alert. HR 100/min. BP 128/70. RR 20 Temp 37.5C.

### These are his initial results:

Na	130	(135-145mmol/L)
K	6.5	( 3.5-4.5 mmol/L)
Cl	95	( 95-110mmol/L)
Urea	15	(2.9-7.1 mmol/L)
Creatinine	320	( 45-90 mmol/L)
Bilirubin	20	(0-25mmol/L)
ALP	110	(30-110 U/L)
GGT	25	( 0-30 U/L)
ALT	100	(<45 U/L)
AST	510	(< 45 U/L)
WCC	20	( 3-11 x 10 <sup>9</sup> /L)
Hb	150	( 115-165 g/L)
Platelets	400	(150-450 x 10 <sup>9</sup> /L)

1. What is the most likely diagnosis? Indicate your reasons. (2 marks)

2. What other investigations would you do? (2 marks)
3. What is your initial management of this patient? (3 marks)

. What are the manage	ement options for th	ne acute kidney	injury? (3 marks)	
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### SAQ 9 (total 10 marks)

A 72 year old woman presents to the ED due to lethargy, anorexia and some confusion. Your medical oncology team knows her.

The triage nurse has taken her bloods an hour ago.

Na	141	(135-145mmol/L)
K	3.8	( 3.5-4.5 mmol/L)
Cl	100	( 95-110mmol/L)
Urea	11.5	(2.9-7.1 mmol/L)
Creatinine	150	( 45-90 umol/L)
Ca	4.69	2.10-2.60 mmol/L
Phosphate	0.4	0.8-1.5 mmol/L
Albumin	44	38-48g/L

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

2. Assuming the hyperCalcaemia is due to her underlying malignancy, what is the pathogenesis of the hyperCalcaemia? (3 marks)
3. Besides the symptoms mentioned above, name 2 other clinical findings that are likely to be present? (2 marks)
1.
<del>4.</del>
2.

4. What are the priorities in the treatment of her hyperCalcaemia? (3 marks)

-End of Booklet 1-