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**2019.2**

**South Australia  
&  
Northern Territory  
Trial SAQ Exam**

**Booklet 3**

**SAQs 19 – 27**

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**SAQ 19 (12 marks)**

You are the consultant in a tertiary hospital. A 6-year old girl has been hit by a car and has arrived in your resus room. Estimated weight is **20kg**.

Airway and breathing are adequate, and the C-spine is protected with manual in-line stabilisation.

There is no obvious significant external haemorrhage. She has significant left-sided bruising with chest wall tenderness, abdominal tenderness and abdominal distension.

She has abrasions to her head and limbs but no obvious long bone fractures.

Vital signs are:

RR	34/min,
SpO2	Poor trace
HR	150/min,
BP	75/55 mmHg
Cap refill	5 seconds, cold and mottled extremities,
GCS	13 (E3, V4, M6)

- a) What are your four (4) **immediate** actions regarding circulation? Give details regarding age appropriate equipment and doses. (4 marks)

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b) List four (4) target values for **biochemistry parameters** in a massive transfusion. (2 marks)

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c) Assume thromboelastometry (TEG or ROTEM) is **unavailable**. List four (4) transfusion targets, products AND volumes you would transfuse in this child, if there is ongoing critical bleeding? (4 marks)

Transfusion target	Product	Volume

**SAQ 20 (11 marks)**

You are working in a rural ED. A 6-year-old boy has been sent in by the GP. He has been generally unwell with a recent febrile illness and discoloured urine.

Parents deny any previous episodes of discoloured urine. The child has no relevant previous medical history.

The observations are as follows:

HR 100 bpm

T 37.2 °C

BP 135/85 mmHg

Sats 98% room air

On examination the child looks tired but otherwise well.

His chest is clear, heart sounds normal and ENT examination is unremarkable. The abdomen is soft and non-tender with no masses felt. There is no joint swelling and no rash.

He has some healing skin sores on his leg and he is a little puffy around the eyes.

- a) A urine sample shows dark reddish-brown blood in the urine, which on microscopy appears to be from the upper urinary tract. List three (3) disease entities/conditions which will produce this type of haematuria. (3 marks)

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b) List four (4) specific features from your **history** in this child which would help you narrow down your diagnosis? (4 marks)

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c) What is the most likely diagnosis in this child given the description above? (1 mark)

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d) List three (3) further investigations you would request to help confirm the diagnosis and explain how they might help. (3 marks)

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**SAQ 21 (13 marks)**

A 10-day old baby boy is brought into the ED flat and not feeding for 24 hours. He has been vomiting for 12 hours. On examination he has dry mucous membranes, and is only whimpering when bloods are taken. Estimated weight is **4kg**.

A venous blood gas is shown below:

pH:	7.28	
pCO <sub>2</sub> :	28	mmHg
pO <sub>2</sub> :	76	mmHg
Na :	128	mmol/L
K:	7.1	mmol/L
Chloride:	88	mmol/L
Bicarb :	13	mmol/L
Base Excess:	-6	
Glucose :	2.2	mmol/L

a) List the three (3) most important blood gas abnormalities (3 marks)

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b) Other than congenital adrenal hyperplasia, list five (5) differential diagnoses in this child (5 marks)

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c) You suspect congenital adrenal hyperplasia. List two (2) **SPECIFIC** pathology tests you would request to confirm this diagnosis. (2 marks)

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d) List three (3) treatments you would initiate in this baby **INCLUDING** doses (3 marks)

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**SAQ 22 (11 marks)**

A 78 year old man presents with acute painless visual loss in the R eye an hour ago. He has a history of cataracts and hypertension for which he takes candesartan.

a) List three (3) risk factors for retinal detachment (3 marks)

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b) The posterior chamber is not clearly visible due to a cataract. List six (6) investigations that may help establish a diagnosis, with reasoning (6 marks)

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- c) List two (2) treatments for central retinal artery occlusion that may be used, with rationale. (2 marks)

<b>Treatment:</b>	<b>Rationale:</b>

**SAQ 23 (12 marks)**

A 22-year-old woman presents to your emergency department with right-sided lower abdominal pain. Her last menstrual period was two (2) weeks ago and her pregnancy test is negative.

Her vital signs are

Temp	37.5°C
HR	110 bpm
BP	130/ 80 mmHg
RR	20/min

- a) List three (3) features on history that would favour a diagnosis of PID over acute appendicitis. (3 marks)

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- b) List five (5) gynaecological causes for this patient's pain, other than PID (5 marks)

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- c) List two (2) findings each for the imaging modalities below that would be consistent with the diagnosis of PID in this patient. (4 marks)

USS	i.
	ii.
CT Abdomen	i.
	ii.

**SAQ 24 (14 marks)**

A 42 year old Asian man presents to your ED with onset of acute severe epistaxis.

He is bleeding anteriorly and posteriorly from both nostrils despite good first aid measures for the last 20 minutes. His BP is 170/95 mmHg and HR 105 bpm.

a) List four (4) likely causes of epistaxis in an adult patient? (4 marks)

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b) Outline five (5) treatments of epistaxis in this patient you will consider (5 marks)

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c) List five (5) concerning features on history OR examination for a malignant cause of epistaxis?  
(5 marks)

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**SAQ 25 (16 marks)**

A 21-year old male presents to the Emergency Department with concerns he is being chased by “bikies”. It is his first ED presentation. He is moderately agitated but alert and orientated.

His vital signs are

BP 115/70 mmHg

HR 80 bpm

Temp 36.9 C

- a) List six (6) features of your history and examination which make you more likely to consider primary psychosis as your diagnosis. (6 marks)

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b) The Mental Health Team asks you if you have done a “medical clearance”. List two (2) reasons why it is important to perform a medical assessment of this patient? (2 marks)

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c) The patient is getting increasingly agitated. Attempts at de-escalation are unsuccessful. For safety measures you decide to use further restraint measures. Please fill in the table below (8 marks)

Type of restraint	Advantages	Disadvantages
Chemical	i.  ii.	i.  ii.
Physical	i.  ii.	i.  ii.



**SAQ 26 (17 marks)**

A 50-year old man presents with abrupt involuntary movements of his right arm and leg.

- a) Which two (2) descending pathways are responsible for voluntary skeletal muscle movement of the body and what does each pathway control? (4 marks)

Descending pathway	What does it control?

- b) Which part of the nervous system is responsible for **involuntary** control of movement? (1 mark)

1.

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c) Complete the following table (12 marks)

	<b>Hemiballismus</b>	<b>Chorea</b>	<b>Partial seizure</b>
List two (2) causes	i.  ii.	i.  ii.	i.  ii.
Area of the brain involved			
Typical features of the movements			

**SAQ 27 (12 marks)**

A 85-year-old woman is transferred to your emergency department from her residential care facility. The staff reports that she has been complaining of a headache, is more confused than normal and is unsteady on her feet.

She has a past history of dementia, CRF, IHD and AF.

Her medications include digoxin, warfarin, atenolol, isosorbide mononitrate, lorazepam and aspirin.

Her vital signs are

BP 100/60 mmHg

HR 50bpm, irreg,

GCS 13 (V4,M5,E4)

A CT has been performed (**see image in props booklet**).

a) List four relevant (4) findings on the CT (4 marks)

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b) List four (4) other investigations you would perform and explain why (4 marks)

Investigation	Justification

c) There is an advanced care directive that states she is not for CPR or intubation. Neurosurgery have advised non-operative management. List 4 OTHER management issues you will address. (4 marks).

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