

Northern Sydney Hospitals/NSW HETI Network 2

# **FELLOWSHIP EXAMINATION PRACTICE PAPER**

2016.2

## **Short Answer Questions**

Candidate directions:

1. This is a 3 hour examination
2. There are 3 separate books of 9 questions each. Each book should be completed in 1 hour.
3. Props (images, ECGs) are reproduced in the accompanying props book
4. The first question in each book is a double question. Otherwise questions are of similar value
5. Answer each question in the space provided on the examination paper.
6. Write your name on each page

Candidate number \_\_\_\_\_

# **BOOK ONE**

QUESTION 1 (26 marks) - DOUBLE QUESTION

A 42 year old female who is 32 weeks gestation presents to your urban district ED. She has noticed increasing ankle oedema recently. Today, she has complained of blurred vision and a mild headache. She also has some non-specific upper abdominal pain but no PV bleeding or show of fluid. Her vital signs are: RR 18, HR 120, BP 170/115, SaO2 99% R/A. She is conscious and alert.

- i. List 4 differential diagnoses (4 marks)

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- ii. List 4 potential complications of this condition (4 marks)

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- iii. List 5 of the most important investigations you would perform in the ED and provide your reasoning (10 marks)

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- iv. The patient has a generalised seizure lasting 5 minutes that self resolves. The patient is moved to resus, has appropriate IV access, IV fluids and oxygen running. What are your 4 next most important actions (8 marks)

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QUESTION 2 (13 marks)

A 5 year old has fed her 2 year old sister an unknown quantity of 100% eucalyptus oil 30 minutes ago.

- i. Briefly describe 3 of the possible clinical effects of eucalyptus oil poisoning (6 marks)

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- ii. Outline the key aspects of the management of this child including any specific treatments or decontamination requirements (3 marks)

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One of the ED senior nurses mentions that she thinks this is the third paediatric eucalyptus oil ingestion that has presented to your ED in recent weeks.

- iii. List 4 steps that could be taken given this information (4 marks)

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## QUESTION 3 (19 marks)

- i. With regard to blunt abdominal trauma, complete the table with 2 pros and cons of each diagnostic modality (12 marks)

	PROS	CONS
FAST SCAN		
CT SCAN		
DIAGNOSTIC PERITONEAL LAVAGE		

- ii. List two contraindications to performing a FAST exam in trauma. Provide an example for each (4 marks)

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- iii. Bowel and mesenteric injuries are particularly associated with an abdominal “seatbelt sign”. What CT radiographic findings are classically seen in this injury (3 marks)

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QUESTION 4 (17 marks)

A 50 year old man has been bitten by a snake and presents to your ED 6 hours later. He has had no first aid. He is normally well, on no medications and has no pre-existing medical conditions. Initial blood tests demonstrate a marked coagulopathy and low fibrinogen.

- i. Which Australian elapids cause coagulopathy (4 marks)

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- ii. Which of the pathological effects of envenomation are reversed by appropriate anti-venom administration (4 marks)

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It is decided to give Brown Snake antivenom.

- iii. Detail how you will administer the antivenom (4 marks)

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- iv. Outline your actions in the event of an allergic reaction to the antivenom (5 marks)

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QUESTION 5 (17 marks)

You are the consultant in an urban ED, on a busy shift. You receive ambulance pre-notification about a domestic dispute. They are transporting 2 patients both with shotgun wounds. ETA is 10 minutes.

Patient 1: 46 year old male with wounds to his left chest and abdomen  
GCS 12 (E3V4M5)  
P 110  
BP 80/-

Patient 2: 43 year old female with minor wounds to her left forearm  
Vitals are stable

- i. Outline 4 key issues involved in this scenario (4 marks)

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- ii. The male patient is in shock despite 2 litres of normal saline pre-hospital. His GCS has fallen to 8. His chest is hyper-resonant on the right with bilaterally reduced breath sounds. He has an acute abdomen.  
List 4 immediate management priorities (4 marks)

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- iii. List 5 positive findings on the male patient's CXR (5 marks)

**AN XRAY IS SHOWN IN THE PROPS BOOKLET, PAGE 3**

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- iv. The male has been transferred to theatre. While you are reviewing the female, the police ring to advise you of her husband's possible arrival. He is the suspected perpetrator, and may be armed.  
Outline 4 key issues in your immediate response (4 marks)

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## QUESTION 6 (19 marks)

A 30 year old male is brought by ambulance to your urban district ED from a local beach following a SCUBA dive. His dive buddy reports that the patient appeared to be behaving abnormally and possibly had brief seizure-type movements during their dive at a depth of 35 metres.

- i. List 3 diving-related causes of confusion or behaviour change at depth (3 marks)

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Because of the problem at 35 metres, the buddy forced a rapid ascent and omitted a decompression stop at 10 metres. On the dive boat, the patient began to vomit and was very unsteady on his feet.

- ii. List 3 differential diagnoses for this presentation and outline historical or examination features that would support each differential (9 marks)

Differential Diagnosis	Supporting Findings

- iii. Complete the following table of changes in bubble size with change (altitude or depth) from sea level (4 marks)

Altitude	10,000 feet	
	2,000 feet	
	Sea Level	10 ml
Depth	10 metres	
	20 metres	

- iv. List 3 relative contraindications to helicopter retrieval in this patient (3 marks)

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QUESTION 7 (14 marks)

A 14 year old boy presents with a red, painful left eye. He recently had an URTI, but is otherwise well.

- i. List 3 signs or symptoms that distinguish orbital from peri-orbital cellulitis (3 marks)

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- ii. Describe 3 routes of contracting orbital cellulitis (3 marks)

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- iii. What are the 2 most common organisms causing orbital cellulitis (2 marks)

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- iv. List 2 complications of orbital cellulitis (2 marks)

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- v. Complete the table with the standard antibiotics recommended for use in each listed situation. Doses are not required (4 marks)

Situation	Antibiotic
Periorbital cellulitis	
Periorbital cellulitis with immediate penicillin hypersensitivity	
Periorbital cellulitis in unvaccinated child	
Orbital cellulitis	



QUESTION 8 (13 marks)

An 83 year old man presents with a 2 week history of lethargy, anorexia and dehydration. He has a past history of atrial fibrillation.

An ECG is obtained at triage.

- i. Describe the key features of the ECG (3 marks)

**AN ECG IS SHOWN IN THE PROPS BOOKLET, PAGE 4**

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- ii. List 3 possible causes of these ECG abnormalities (3 marks)

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His blood results show

K 6.4 mmol/L

Urea 20 mmol/L

Cr 200 umol/L

Digoxin 3.0 nmol/L

His HR has dropped to 30 with a SBP 100.

- iii. List 5 treatment steps (5 marks)

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- iv. Briefly explain the controversy surrounding the use of intravenous calcium in this setting (2 marks)

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QUESTION 9 (19 marks)

There has been a collision between a passenger train and a goods train. There are a large number of serious casualties and there has possibly been a spill of an unknown industrial chemical.

- i. A standardized protocol is used to convey essential information from the scene of a mass casualty incident or disaster. What initial information should be communicated to central authorities (7 marks)

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- ii. Complete the table describing each disaster “zone” and outlining the roles or tasks typically carried out in the zone (6 marks)

Zone	Description/Roles/Tasks
Hot	
Warm	
Cold	

iii. List 3 advantages of “sieve” triage over “sort” triage (3 marks)

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iv. Describe how “sort” triage is carried out (3 marks)

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