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

Week 7

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 (16 marks)

A 27 year old previously well woman presents to the emergency department with a headache for the last two days.

The patient is noted to have a temperature of 39°C. Following your clinical assessment, you decide that a lumbar puncture is indicated.

	а.	List five (5) contraindications to performing a lumbar before performing a CT Brain. (marks)	5
1.			
2.			
3.			
4.			
5.			

Question 1 (continued)

A lumbar puncture is performed. Refer to the props booklet for CSF results-Page 1.

	b.	State two (2) points of interpretation for the Red blood cell count. (2 marks)
1.		
2.		
	c.	List five (5) MOST LIKELY differential diagnoses for these results. (5 marks)
1.		
2.		
3.		
4.		
5.		
J.		

Question 1 (continued)

d. List two (2) medications that you would commence for the specific treatment of this patient. Provide one (1) justification for each choice. (4 marks)

	Medication	Justification
	(2 marks)	(2 marks)
1.		
2.		

Question 2 (13 marks)

A 60 year old man is brought to the emergency department with confusion, fever and a painful left leg.

A photograph of his left leg is taken- refer to the props booklet- page 2.

a.	State the MOST LIKELY diagnosis. (1 mark)

b. List three (3) KEY investigations that you would perform in this case. Provide one (1) justification for each choice. (6 marks)

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

Question 2 (continued)

Analgesia and fluids are provided.

c. State three (3) KEY treatments that you would consider for this patient. Provide one (1) justification for each choice. (6 marks)

	Treatment (3 marks)	Justification (3 marks)
1.		
2.		
3.		

Question 3 (12 marks)

A 45 year old woman presents with a sudden onset of isolated left facial droop.

	a.	List six (6) MOST LIKELY differential diagnosis for this presentation (each to be from a different pathological process). (6 marks)
1.		
2.		
3.		
<i>J</i> .		
4.		
5.		
5.		

Question 3 (continued)

You assess the patient to have a lower motor neurone, isolated, CN VII palsy.

b. List three (3) KEY medications that you may prescribe for this condition. Provide one (1) justification for each choice. (6 marks)

	Medication (3 marks)	Justification (3 marks)
1.		
2.		
_		
3.		

Question 4 (15 marks)

A 4	mc	onth old boy presents with a suspected non accidental injury.
	a.	List four (4) historical findings that would support your suspicion in this patient. (4 marks)
1		
2		
3		
4		
	b.	List four (4) examination findings that would support your suspicion in this patient. (4 marks)
1.	_	
2.		
3.		
4		
4.		

Question 4 (continued)

	c.	List four (4) radiological findings that would support your suspicion in this patient. (4 marks)
l.		
2.		
3.		
•		
∔.		

Question 5 (12 marks)

A 35 year old man presents to the emergency department following a stated overdose.

An ECG taken on arrival - refer to the props booklet- page 3.

		(0) (0.011)	ormalities sh			,		
b.	List four marks)	(4) poss	ible causativ	ve drugs	(each mus	t be from	a different	drug type).
_								

Question 5 (continued)

He experiences a ventricular fibrillation arrest prior to the initiation of any care.

c. State two (2) modifications for this patient to your standard management of a ventricular fibrillation arrest. State one (1) justification for each modification. (4 marks)

	Modification (2 marks)	Justification (2 marks)
1.		
2.		

Question 6 (12 marks)

An	18	year	old	man	presents	with	chest	pain.
----	----	------	-----	-----	----------	------	-------	-------

	a.	State two (2) abnormal findings shown in this xray. (2 marks)
1.		
2.		

Question 6 (continued)

b. State four (4) MOST LIKELY precipitating causes. For each cause, state the definitive management of the condition. (8 marks)

	Precipitating cause (4 marks)	Definitive management options (4 marks)
1.		
2.		
3.		
4.		

75/40 with HR 170 /min.

	c.	State two (2) immediate steps in the treatment of this patient. (2 marks)
1.		
2.		

Question 7 (11 marks)

A 64 year old woman presents to the emergency department, two days after minor trauma to her right foot.

A photo of her foot is taken- refer to the props booklet- page 5.

	a.	What diagnosis is suggested by this presentation and clinical photograph? (1 mark)
	b.	List five (5) MOST LIKELY underlying diseases that may be associated with this condition. (5 marks)
1.		
า		
2.		
3.		
4.		
5.		
J.		

Question 7 (continued)

	c.	List five (5) KEY steps in the management of this condition. (5 marks)
1.		
2.		
3.	_	
4.		
_		
5 .		

Question 8 (12 marks)

It is 930 am on a Sunday morning. You receive a verbal complaint from an emergency department nurse who reports that an ED registrar was behaving erratically and was been abusive to nursing staff on last nights' night shift. He had previously performed without concern over a 2 year period in this department. The doctor has already departed the department.

	a.	List six (6) MOST LIKELY causes for this complaint. (6 marks)	
1.			
_			
2.			
3.			
4.			
5.			
6.			

Question 8 (continued)

	b.	Under what two (2) circumstances is mandatory reporting of practitioner impairment 'notable conduct' required by the Medical Board? (2 marks)
1.		
2.		
	c.	After undertaking a preliminary assessment of a notification, what further options does the Medical Board have if it decides that a Medical practitioner is impaired? List four (4) options. (4 marks)
1.		_
2.		
3.		
4.		

Question 9 (18 marks)

Э.	List three (3) causes of acute fulminant hepatic failure in a previously well patient (each to be a different pathological aetiology). (3 marks)
ye	ear old man presents with suspected decompensated chronic liver failure.
ο.	List three (3) MOST LIKELY precipitants for this decompensation. (3 marks)
) y•

Question 9 (continued)

c. Complete the table demonstrating two (2) of the neurological features of each of the different stages of hepatic encephalopathy. (8 marks)

Grade	Neurological feature (8 marks)
1.	
2.	
3.	
4.	

Question 9 (continued)

The patient is noted to have ascites.

	d.	List two (2) potential benefits of performing abdominal paracentesis for this patient. (2 marks)
1.		
2.		
	v)	List two (2) common complications of performing abdominal paracentesis in a patient with chronic liver disease. (2 marks)
1.		
•		
2.		

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

Week 7

PROP BOOKLET

Reference Range

(150-500)

No. of tubes 4

Appearance Clear

Supernatant Colourless

Volume 3.5 mL

In tube 3:

WBC

Protein

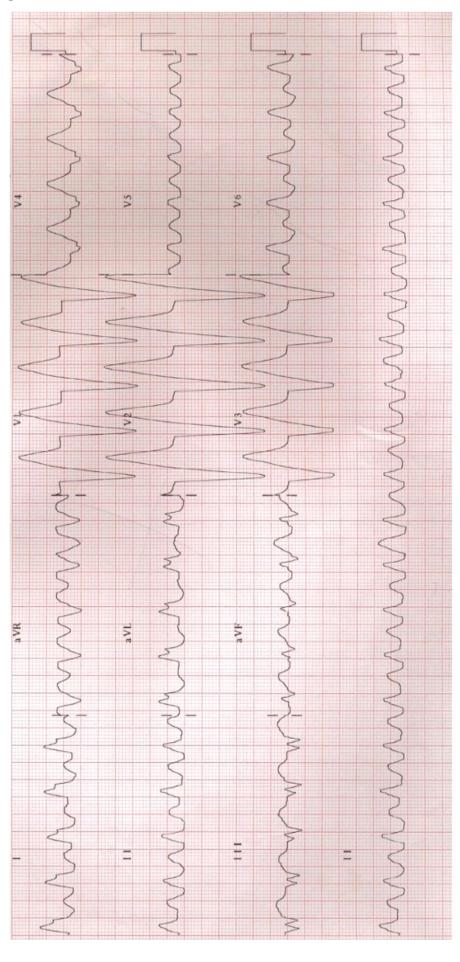
x106/L Neutrophils (<5) 20 x106/L Lymphocytes (<5) 111 x10⁶/L RBC 8 (<5) 3.0 mmol/L (2.8-4.0)Glucose

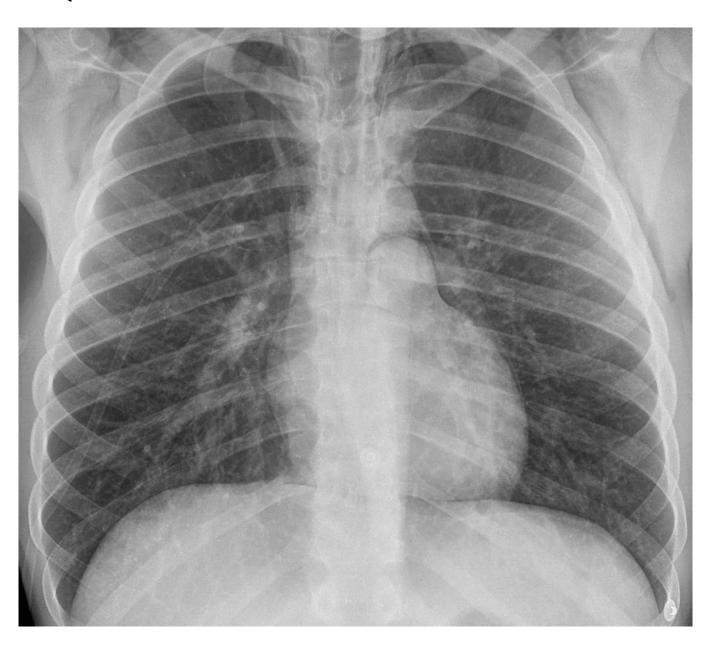
mg/L

Gram stain No organisms seen.

750









"List" = 1-3 words
"State" = short statement/ phrase/ clause

UNIVERSITY HOSPITAL, GEELONG FELLOWSHIP WRITTEN EXAMINATION

WEEK 7- TRIAL SHORT ANSWER QUESTIONS Suggested answers

PLEASE LET TOM KNOW OF ANY ERRORS/ OTHER OPTIONS FOR ANSWERS Please do not simply change this document - it is not the master copy!

Question 1 (16 marks)

A 27 year old previously well woman presents with a headache for the last two days.

The patient is noted to have a temperature of 39°C. Following your clinical assessment, you decide that a lumbar puncture is indicated.

a. List five (5) contraindications to performing a lumbar before performing a CT Brain. (5 marks)

•	Altered conscious state	No. of tubes	4		
•	Focal neurological signs	Appearance	Clear		
•	Signs of raised intracranial pressure	Supernatant	Colourless		
•	Underlying immunocompromise	Volume	3.5	mL	
•	Seizure within 1 week	In tube 3:			
A lumbar punct	ure is performed.	WBC			
•	•	Neutrophils	20	x10 ⁶ /L	(<5)
		Lymphocytes	111	x10 ⁶ /L	(<5)
		RBC	8	x10 ⁶ /L	(<5)
		Glucose	3.0	mmol/L	(2.8-4.0)
		Protein	750	mg/L	(150-500)
		NAME OF THE RESIDENCE O	Name of the Control o		

- b. State two (2) interpretations for the Red blood cell count. (2 ma...,
 - < 1000 suggests traumatic tap
 - Not consistent with SAH Usually > 10,000
- c. List five (5) MOST LIKELY differential diagnoses for these results. (5 marks)
 - Partially Rx bacterial meningitis
 - Viral meningitis
 - Fungal meningitis (eg cryptococcal) (lymphocytosis highly suggestive tb or fungal)
 - Tb meningitis
 - Viral encephalitis
 - Aseptic meningitis e.g. Kawasakis disease
- d. List two (2) KEY medications that you would commence for the specific treatment of this patient. Provide one justification for each choice. (4 marks)

Medication	Justification
(2 marks)	(2 marks)
Antibiotics eg. ceftriaxone 50mg/kg IV BD or 2g IV	Possibility of partially treated bacterial meningitis associated with high morbidity and mortality
Antivirals eg Acyclovir 10mg/kg	Possibility of meningo/ encephalitis- high morbidity/ mortality if untreated
	Needs to be given prior to or with first dose of abs
Steroids eg Dexa 10mg	Evidence shows in children reduced incidence audiologic and neurologic cx and in adults reduced mortality

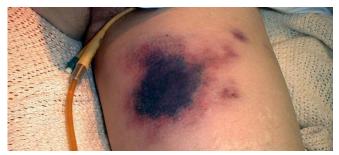
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Question 2 (13 marks)

A 60 year old man is brought to the emergency department with confusion, fever and a painful left leg.



- a. State the MOST LIKELY diagnosis. (1 mark)
 - Necrotising fasciitis
- b. List three (3) KEY investigations that you would perform in this case. Provide one justification for each choice. (6 marks)

Investigation	Justification		
FBE	WCC > 20 or < 5 highly suspicious bacterial infection esp if associated with left shift, thrombocytopenia may be indicative complicating DIC		
СК	High probability muscle rhabdo/ myonecrosis		
CT leg	Looking for extent of soft tissue infection for surgical planning, presence gas, and exclusion ostoemyelitis		
U+E	Check for renal impairment in setting possible septic shock, and/or rhabdo		
Blood cultures	Identify causative organism and guide targeted antibiotic treatment		
Coags	Possibility of DIC		
VBG/ ABG	Acidosis as marker of severity of illness		

Analgesia and fluids are provided.

c. List three (3) specific treatments that you would consider for this patient. Provide one (1) justification for each choice. (6 marks)

Treatment	Justification
Urgent broad spectrum Abs: meropenem 1g IV q8h + clindamycin 600mg IV q8h +/- van 1.5g IV	Early antibiotics within 1/24 presentation improves mortality rates, Limit spread infection
Hyperbaric oxygen	Key to minimise spread
Surgical debridement	Key to prevent ongoing widespread tissue loss

Question 3 (12 marks)

A 45 year old woman presents with a sudden onset of isolated L facial droop.

a. List six (6) MOST LIKELY differential diagnosis for this presentation. (6 marks)

Trauma	Metabolic	latrogenic
Basal skull fractures	Diabetes mellitus	Postimmunization
Facial injuries	Hyperthyroiditis	Parotid surgery
Penetrating injury middle ear	Neoplastic	Mastoid surgery
J , ,	Leukaemia	o ,
Altitude paralysis (haratrayras)		Post-tonsillectomy/
(barotrauma)	Meningioma	adenoidectomy
Scuba diving (baro	Hemangioblastoma	Iontophoresis (local
Infection	• Sarcoma	anaesthesia)
External otitis	Carcinoma (invading or metastatic)	Embolization
Otitis media	Anomalous sigmoid sinus	Dental
Mastoiditis	Carotid artery aneurysm	Environmental
Chickenpox	Hemangioma of tympanum	 Snake bite
 Herpes zoster encephalitis 	 Hydradenoma (external canal) 	Neurologic
(Ramsay Hunt syndrome)	Facial nerve tumour (cylindroma)	 Cortical lesion
Encephalitis	Schwannoma	• MS
Mumps	Teratoma	M Gravis
Mononucleosis	Neurofibromatosis	 Mononeuritis multiplex
Influenza	Benign lesions of parotid	
Coxsackievirus	Cholesteatoma	
Malaria	VII n tumour	
Syphilis		
• Scleroma		
Tuberculosis		
Botulism		
Lyme disease		
Cat scratch		
• AIDS		

You assess the patient to have a lower motor neurone isolated CN VII palsy.

b. List three (3) KEY medications that you may prescribe for this condition. Provide a justification for each choice. (6 marks)

Medication	Justification
Antivirals e.g. famciclovir 250mg PO OD 7d	Majority CN VII palsies thought to be due to HSV 1 may be of some benefit in severe disease if started early (early antivirals do not decrease post herpetic neuralgia)
Steroids e.g. prednisolone 50mg OD 5days	Some evidence to suggest this it improves likelihood of complete recovery by 10% if started within 72hrs onset symptoms Does reduce incidence post herpetic neuralgia
Natural tears	Ectopion is very common- complicated by corneal ulcer/ keratitis

Question 4 (12 marks)

A 4 month old boy presents with a suspected non accidental injury.

NB: answers must reflect a 4 month old patient.

- a. List four (4) historical findings that would support your suspicion in this patient. (4 marks)
 - Stated MOI inconsistent with injury sustained
 - Changing history of events/inconsistent btw care givers
 - Delayed presentation
 - Past presentation suspicious NAI
 - Injury not consistent with developmental age
 - Previous inv. with DHS with other children/siblings
 - Domestic violence, drug and alcohol, low SES
 - Irritable baby, prematurity, congenital condition
- b. List four (4) examination findings that would support your suspicion in this patient. (4 marks)
 - Oral injuries e.g. torn frenulum, palatal petechiae
 - Eyes: retinal haemorrhages
 - Burns: cigarette, immersion, splash, branding
 - HI: altered conscious state
 - Abdo: tenderness
 - Skin: bruising multiple ages and multiple sites, e.g. torso, ears, face, neck e.g. pinching, slap mark, restraint, grab marks
 - FTT, growth and developmental delay
 - General: malnutrition, poor hygiene
 - Genital injury
- c. List four (4) radiological findings that would support your suspicion in this patient. (4 marks)
 - Practically any fracture in this age group
 - Healing #s different ages
 - Metaphysical chip # long bones
 - Spiral # long bones e.g. humerus
 - CTB: subdural hematoma, acceleration-deceleration injury, diffuse axonal injury
 - Posterior rib #
 - Avulsion # thoracic/lumbar spine
 - Torsional injury, bucket handle injury

Question 5 (12 marks)

A 35 year old man presents following a stat



- a. State five (5) abnormalities shown in this ECG. (5 marks)
 - Absent P waves
 - QRS 160- 180
 - Rate ~110- 120 regular BCT
 - Poor R wave progression
 - ST segment blurring in V1-4, V6
 - Peaked T waves V1-V3
 - Prolonged QT
- b. List three (3) MOST LIKELY causative drugs (each must be from a different drug type). (3 marks)
 - TCA- Amitriptyline
 - Carbamazepine or phenytoin
 - Sedating Antihistamines
 - Digoxin
 - Quinidine
 - KCI

He experiences a ventricular fibrillation arrest prior to the initiation of any care.

c. State two (2) modifications for this patient to your standard management of a ventricular fibrillation arrest. State one (1) justification for each modification. (4 marks)

NB: Amiodarone CI as prolonged QT DCR doesn't work

Modification	Justification						
NaHCO3 8.4% 100ml IV every 2-4 minutes until ROSC	Indicated in Rx of suspected Na Channel blockade- source of concentrated Na Ionises the drug in urine, preventing resorption						
Prolonged efforts	Numerous reports of intact neurological outcome in toxic OD cardiac arrest patients						
Digibind Key to Mx if Dig toxic							
Calcium gluconate	Options above are better						
Hyperventilate							
ECMO							

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Question 6 (12 marks)

An 18 year old man presents with chest pain.



- a. State two (2) abnormal findings shown in this xray. (2 marks)
 - Pneumomediastinum
 - Laxilliary subcutaneous emphysema/ Neck subcutaneous emphysema
- b. State four (4) MOST LIKELY precipitating causes. For each cause, state the definitive management of the condition. (8 marks)

NB: Oxygen Rx - not supported by evidence (in contrast to PTX)

No limitation of intake- provided condition is improving

Abs are to minimise complications, not to provide definitive care

Precipitating cause	Definitive management options
(4 marks)	(4 marks)
Valsalva eg bong smoking, coughing, sneezing, inhalation of illegal drugs that need forceful breath holding eg ecstasy	Conservative- analgesia and rest
Asthma exacerbation	Rx underlying asthma, careful observation
Vomiting (Boerhaaves syndrome)	Theatre
Diving related	Conservative- analgesia and rest (NOT- recompression)
	(4 marks) Valsalva eg bong smoking, coughing, sneezing, inhalation of illegal drugs that need forceful breath holding eg ecstasy Asthma exacerbation Vomiting (Boerhaaves syndrome)

Soon after this xray is taken, the patient becomes distressed and is noted to have a BP of 75/40 with HR 170 bpm.

c. State two (2) immediate steps in the treatment of this patient. (2 marks)

Evidence of tension:

- incise sternal notch
- insert finger into pretracheal space to decompress

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Question 7 (11 marks)

A 64 year old woman presents to the emergency department two days after minor trauma to her right foot.



- a. What diagnosis is suggested by this presentation and clinical photograph? (1 mark)
 - Pyoderma gangrenosum
- b. List five (5) MOST LIKELY underlying diseases that may be associated with this process. (5 marks)
 - IBD
 - RA
 - Lymphoma
 - Leukaemia
 - Myeloma
- c. List five (5) KEY steps in the management of this condition. (5 marks)
 - Dressings
 - Elevation
 - Steroids-topical/intralesional
 - Steroids- systematic
 - Sulfasalazine
 - HBO₂

Question 8 (12 marks)

It is 930 am on a Sunday morning. You receive a verbal complaint from an emergency department nurse who reports that an emergency department registrar was behaving erratically and was been abusive to nursing staff on last nights' night shift. He had previously performed without concern over a 2 year period in this department. The doctor has already departed the department.

- a. List six (6) MOST LIKELY causes for this complaint. (6 marks)
 - interpersonal clash
 - stress with workplace
 - significant personal stress
 - lack of sleep
 - medical problem
 - psychiatric problem
 - drug use
- b. Under what two (2) circumstances is mandatory reporting of practitioner impairment 'notable conduct' required by the Medical Board? (2 marks)
 - Practiced their profession while intoxicated by alcohol or drugs
 - Placed the public at risk of substantial harm because of an impairment
- c. After undertaking a preliminary assessment of a notification, what further options does the Medical Board have if it decides that a Medical practitioner is impaired? List four (4) options. (4 marks)
 - Immediate suspension
 - Impose conditions
 - Accept undertakings
 - Accept the surrender of registration
 - Require the practitioner to undergo a health assessment
 - Refer the matter to a health panel

This resource is produced for the use of University Hospital, Geelong Emergency staff for preparation for the Emergency Medicine Fellowship written exam. All care has been taken to ensure accurate and up to date content. Please contact me with any suggestions, concerns or questions.

Dr Tom Reade (Staff Specialist, University Hospital, Geelong Emergency Department

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Information on the management of impaired practitioners and students

20 January 2012

The Medical Board of Australia (the Board), via the Australian Health Practitioner Regulation Agency (AHPRA) receives notifications about medical practitioners and medical students. Under the *Health Practitioner Regulation National Law Act (National Law)*, as in force in each state and territory, impairment is one of the grounds for both voluntary and mandatory notifications, in specific circumstances. This document describes how the Board deals with impaired practitioners under the National Law.

What is impairment?

Impairment is defined in the National Law as follows:

impairment, in relation to a person, means the person has a physical or mental impairment, disability, condition or disorder (including substance abuse or dependence) that detrimentally affects or is likely to detrimentally affect—

- (a) for a registered health practitioner or an applicant for registration in a health profession, the person's capacity to practise the profession; or
- (b) for a student, the student's capacity to undertake clinical training-
 - as part of the approved program of study in which the student is enrolled;
 or
 - (ii) arranged by an education provider.

As such, the term "impairment" has a specific meaning under the National Law. It refers to a physical or mental impairment, disability, condition or disorder that is linked to a practitioner's capacity to practise medicine or a student's capacity to undertake clinical training. That is, a person's physical or mental impairment, disability, condition or disorder is only of interest to the Board if it detrimentally affects or is likely to detrimentally affect a practitioner's capacity to practise medicine or a student's capacity to undertake clinical training.

Notification about impairment

Anyone can make a notification about a medical practitioner or medical student who they believe may be impaired. Typically, notifications about impairment are made by treating doctors, employers, education providers, statutory bodies and by the practitioners themselves.

Question 9 (18 marks)

Viral	
0	Нер А
0	Hep B esp if assoc with D
0	Hep C
0	Hep E
Drugs	•
0	Halothane
0	Isoniazid
0	Paracetamol
0	Nitrofurantoin
0	Allopurinol
0	Amanita phalloides
Others	-
0	Budd Chiari
0	Wilson's
0	Reyes
0	AI CAH
	Viral O O O Drugs O O O O O O O O O O O O O O O O O O O

a. List three (3) causes of acute fulminant hepatic failure (each to be a different pathological aetiology) (3

A 50 year old man presents with suspected decompensated liver failure.

- b. List three (3) MOST LIKELY precipitants for this decompensation. (3 marks)

 NB: Try to pick answers from different pathological subgroups- listing 6 different infections, does not demonstrate breadth of knowledge and is unlikely to get full marks.
 - · Gastrointestinal bleeding
 - Infection (including spontaneous bacterial peritonitis and urinary tract infections)
 - Hypokalemia and/or metabolic alkalosis
 - Renal failure
 - Hypovolemia
 - Hypoxia
 - Sedatives or tranquilizers
 - Hypoglycemia
 - Constipation
 - Alcohol binge
 - Rarely, hepatocellular carcinoma and/or vascular occlusion (hepatic vein or portal vein thrombosis)
 - Any secondary liver insult different to initial cause
- c. Complete the table demonstrating two (2) of the neurological features of each of the different stages of hepatic encephalopathy. (8 marks)

Grade	Clinical features
1.	Drowsy, but coherent. Mild confusion. Mood change. Slurred speech
2.	Drowsy. Moderate confusion. Inappropriate behaviour
3.	Very drowsy/ but rousable. Marked confusion (stupor)
	Incoherent speech. Agitation/ restless/ screaming
4.	Comatose. Unresponsive to pain. Increased reflexes. Upgoing plantars

The patient is noted to have ascites.

- d. List two (2) potential benefits of performing abdominal paracentesis for this patient. (2 marks)
 - Investigation of new onset ascites
 - Relieve pain
 - Fluid for MC+S
 - Unexplained acidosis in pt with ascites
 - Mortality benefit if being admitted in some studies
- e. List two (2) potential complications of performing abdominal paracentesis for this patient. (2 marks)
 - Ascitic fluid leak
 - Bleeding
 - Bowel perforation/infection

NB: Death is very uncommon