



NSW Fellowship Course
TRIAL FELLOWSHIP EXAMINATION
St George Hospital 2015.2

WRITTEN EXAMINATION
Short Answer Questions

Instructions:

- **30 Questions.**
- **All Questions are worth 10 marks each.**
- **Time Allowed: 3 hours.**
- **No reading time.**
- **Write your name on each page in the space provided.**

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QUESTION 1

A 17 year old man presents after an assault. He has jaw pain.



1. List **3** abnormalities seen on the OPG (3 marks).

- i. _____
- ii. _____
- iii. _____

2. List **6** important physical findings that you should document (3 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____
- vi. _____

3. List **4** aspects of your initial ED management [with specifics] (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

QUESTION 2

A 57 year old male is referred in by his GP with a hot, tender, painful left knee.

His vitals are as follows:

Pulse 96
BP 120/70
Temp 37.6

1. List 5 diagnostic categories and one example of each as a cause for this hot red knee (5 marks)

i. Category: _____

Example: _____

ii. Category: _____

Example: _____

iii. Category: _____

Example: _____

iv. Category: _____

Example: _____

v. Category: _____

Example: _____

2. List **5** investigations you might perform and **1** pro and con for each (5 marks).

i. Investigation: _____

Pro: _____

Con: _____

ii. Investigation: _____

Pro: _____

Con: _____

iii. Investigation: _____

Pro: _____

Con: _____

iv. Investigation: _____

Pro: _____

Con: _____

v. Investigation: _____

Pro: _____

Con: _____

QUESTION 3

A 6 year old boy is brought to the ED after falling from his bunk. He has an isolated leg injury



1. List **2** features of the X-Ray (2 marks).

i. _____

ii. _____

2. Describe **4** ways you would deal with his analgesic requirements. Give specifics (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. Describe in stepwise fashion the details of performing a femoral nerve block. Include doses. (4 marks)

i. _____

ii. _____

iii. _____

iv. _____

v. _____

QUESTION 4

A 45 year old male is hit in the eye with a tennis ball while having a friendly match with his neighbour.



1. Describe the abnormalities in the photo (1 mark).

2. List 3 things that should be examined or assessed (3 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

3. What grade is this hyphema? (1 mark).

4. List **4** complications of this condition (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

Three days after being discharged home with outpatient ophthalmology review, he re-presents with throbbing eye pain, tearing and photophobia.

5. What is the most likely diagnosis? (1 mark).

QUESTION 5

An elderly female presents to the ED after being found on the floor of her bathroom. Her family found her lying on her left side.

On arrival to ED:

GCS 10

HR 85

BP 140/90

Brain CT, axial images



1. Describe the brain CT findings (1 mark).

2. List 3 clinical signs that would be expected based on the CT brain findings (3 marks).

i. _____

ii. _____

iii. _____

3. What would be your management priorities? (4 marks)

4. List 2 features on CT brain that are associated with a poor outcome from thrombolytic therapy (2 marks).

i. _____

ii. _____

QUESTION 6

A 40yo female presents complaining of a one week history of malaise, myalgia, arthralgia and a non-productive cough.

Over the last 4 days she has developed a rash initially commencing on her face and upper body.



1. List 4 important features of the rash that you need to assess for (2 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

2. Give a differential diagnosis listing your most likely differential diagnosis first (3 marks).

3. List 5 important potential complications that need to be identified and managed. (5 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

QUESTION 7

A 55-year old man presents to the ED with sudden onset of severe chest and interscapular back pain with diaphoresis.

Vital signs are as follows:

HR 105 bpm

BP 190/95mmHg

SaO2 95% room air

A CTPA is performed:



1. What is the diagnosis? (0.5 mark).

Diagnosis: _____

2. List 4 signs that you might expect to see on physical examination (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. List and justify 3 investigations for this patient (1.5 marks).

	Investigation	Justification
1.		
2.		
3.		

4. What is the definitive treatment for this condition? (1 mark)

5. List **3** drugs you would administer in ED, along with a therapeutic indication for each.
(3 marks)

	Drug	Indication
1.		
2.		
3.		

QUESTION 8

A 68-year old female presents to the ED following a brief syncopal event at church. She is now asymptomatic.

1. List 5 features on history that would suggest a specific cause of syncope (5 marks).

	Historical Feature	Possible Diagnosis
1.		
2.		
3.		
4.		
5.		

2. List 5 physical signs that you would examine for (2.5 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

3. List and justify 5 investigations for this patient (2.5 marks)

	Investigation	Justification
1.		
2.		
3.		
4.		
5.		

QUESTION 9

A 7yr girl presents following a fall onto her outstretched hand and is reluctant to bend her elbow due to pain.



1. Describe **4** key features of this x-ray and state diagnosis (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

Diagnosis: _____

2. What are **6** potential complications of this injury? (3 marks).

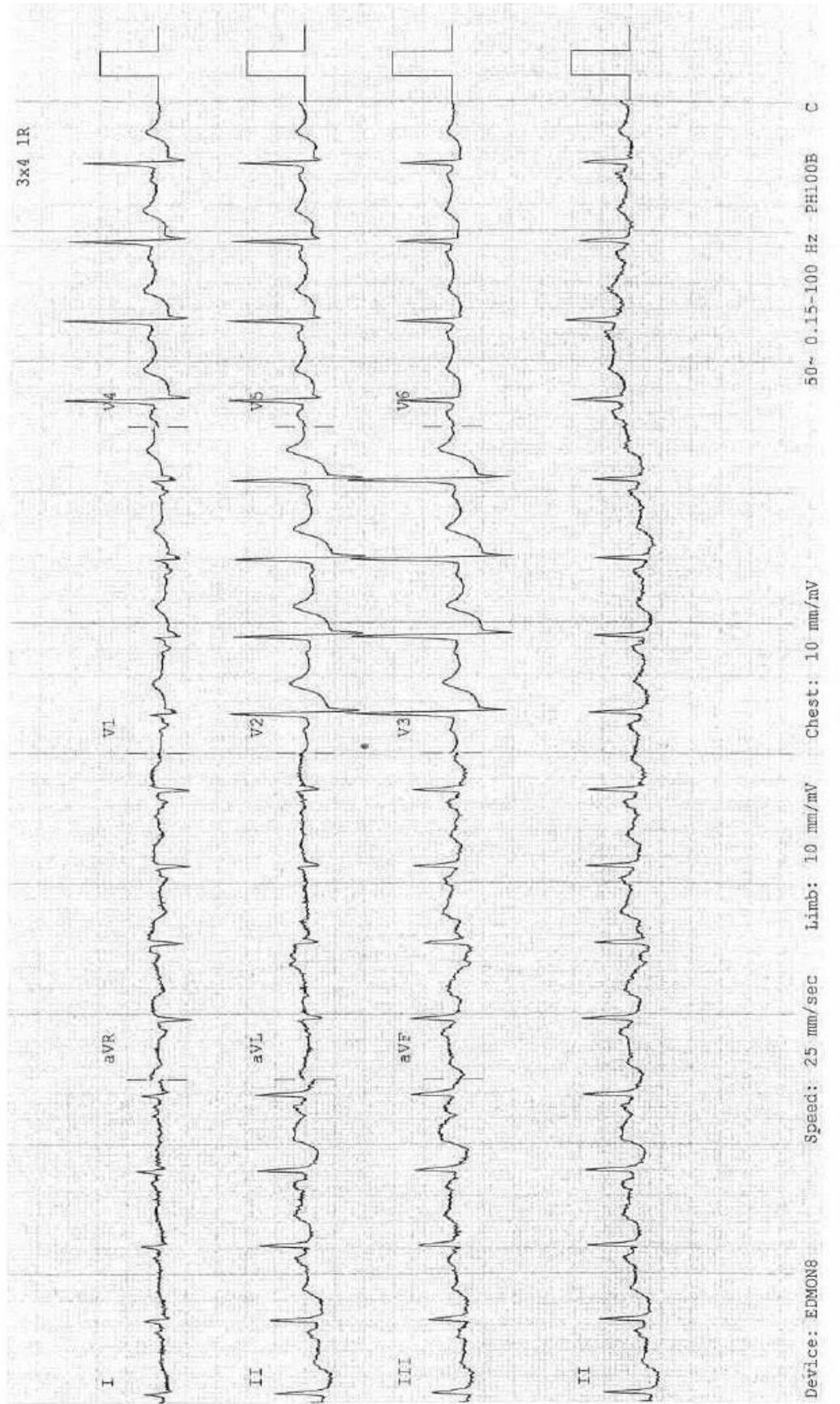
- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____
- vi. _____

3. What are **6** indications for operative reduction of this type of injury? (3 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____
- vi. _____

QUESTION 10

A 62 year old male presents to your small rural Emergency Department with 30 minutes of central heavy chest pain with some radiation into the throat and some belching.



1. Identify the abnormalities on the ECG (4 marks).

2. Where are the most likely areas of concern in the coronary arteries? (2 marks).

3. What are the 4 priorities in managing this case? (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

QUESTION 11

A 32yo female is brought into ED by her husband in the third stage of labour. Her husband advises you that she is 40 weeks pregnant and that this is her third pregnancy.

Whilst in the ED she delivers a baby boy.

Your colleague is assessing the mother.

1. Briefly describe your initial management and assessment of the baby boy (2 marks).

The baby has not yet established adequate respiratory efforts and you commence face mask rescue breathing.

2. What initial rate of face-mask ventilations should you be administering (1 mark).

3. What are the two most important indications for commencing chest compressions in a newborn child? (2 marks).

i. _____

ii. _____

4. List two methods for determining the heart rate of newborns (2 marks).

i. _____

ii. _____

Despite your initial management and face mask ventilations you need to commence cardiac compressions.

5. What is the ratio of and frequency of chest compressions to ventilations in the newborn? (1 mark).

You need to get vascular access and you decide to cannulate the umbilical vein.

6. Describe how you determine which vessel is the umbilical vein (2 marks).

QUESTION 12

A 32 year old female presents 6 hours after ingesting 20 x 240mg SR verapamil tablets.

She is vomiting and listless.

GCS 14

HR 40

BP 75/40

1. What is your risk assessment of this patient? (1 mark).

2. What are the pathotoxicological mechanisms of this agent? (2 marks).

3. Her BSL is 12, what is the significance of this? (1 mark)

[question continues on the following page]

As you assess her, she deteriorates further, has a poorly palpable pulse. GCS drops to 9/15.

Repeat ECG shows a junctional rhythm at 30 bmp.

4. Outline your management steps. Give doses of any medications used. (6 marks).

QUESTION 13

A 45-year old African man presents to a rural ED with priapism of 2 hours duration. He is extremely distressed with severe penile pain.

1. List **4** possible causes of priapism in this patient (2 marks).

i. _____

ii. _____

iii. _____

iv. _____

2. Outline **5** key management steps for this patient (5 marks).

i. _____

ii. _____

iii. _____

iv. _____

v. _____

3. What is the most significant complication of priapism? (0.5 mark).

4. What are **2** important factors in determining prognosis? (1 mark).

i. _____

ii. _____

[question continues on the following page]

5. List and justify **3** investigations for this patient (1.5 marks).

	Investigation	Justification
1.		
2.		
3.		

QUESTION 14

A 2 month old boy is brought in by his parents from the GP with increased Work of breathing. You are concerned he has bronchiolitis.

1. List **6** factors which would categorises him as having moderate bronchiolitis (3 marks).

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. _____

2. List **4** potential factors which would increase his risk of apnoeas (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. List and justify **2** investigations you could undertake (2 marks).

i. _____

ii. _____

4. List **2** causes of Bronchiolitis (1 mark).

i. _____

ii. _____

QUESTION 15

A 60 year female presents to your ED with a clinical history and examination suggesting acute pancreatitis.

1) List **6** potential aetiologies of this condition (3 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____
- vi. _____

2) List **1** biochemical severity scoring systems used to predict this condition with **4** criteria (4 marks).

Scoring System: _____

Criteria:

- i. _____
- ii. _____
- iii. _____
- iv. _____

3) List **3 local** and **3 systemic** complications of this condition (3 marks).

LOCAL	SYSTEMIC

QUESTION 16

A 48 year old woman with a history of thyrotoxicosis presents with fever and confusion.

You are concerned she may have thyroid storm.

1. What are **3** diagnostic criteria for thyroid storm? (3 marks).

i. _____

ii. _____

iii. _____

2. What factors may have precipitated this episode? Give **6** examples (3 marks).

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. _____

3. Describe **4** specific treatments for thyroid storm and their mechanism of action (4 marks)

i. _____

ii. _____

iii. _____

iv. _____

QUESTION 17

A 30-year old recreational diver is brought by ambulance to a small coastal ED. He collapsed shortly after emerging from the water and suffered a generalised seizure lasting 2-3 minutes. On examination, he is drowsy with a right-sided hemiparesis. The nearest tertiary hospital is 300km away by road.

Vital signs are as follows:

HR 110/min

BP 90/50mmHg

GCS 11

E4, V2, M5 (not moving right arm)

SaO₂ 89% room air

His chest x-ray:



1. List **2** diagnoses for this patient and a unifying aetiology (2 marks).

Diagnosis 1: _____

Diagnosis 2: _____

Unifying aetiology: _____

2. Outline your management of this patient (5 marks).

3. Complete the table below, listing **3** possible methods of retrieval for this patient.
Give **1** advantage and **1** disadvantage of each method (3 marks).

Mode of transport	Advantage	Disadvantage
1.		
2.		
3.		

QUESTION 18

You are the duty consultant in charge of an urban ED. A 55 year old gentleman is brought to your resuscitation bay after being rescued after the gas from a barbeque exploded in his face. His estimated weight is 80 kg.



1. List 5 clinical signs and symptoms would you actively look for in this patient (2.5 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

2. List 5 investigations you would perform in this patient (2.5 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

On exposure of the patient you estimate he has sustained **10%** deep dermal burns.

3. Calculate this patient's fluid requirements in the first 8 hours. Show working. (1 mark)

4. List **8** criteria requiring transfer to a specialised burns unit (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. _____

vii. _____

viii. _____

QUESTION 19

A 30 year old man presents to the emergency department with fever of 38.5 and chest pain and SOB. He reports that he is an IVDU. On examination, he has bibasal crepitations and a murmur which was not present on previous presentations.

1. What is the most likely diagnosis? (1 mark).

2. List 4 components of Dukes Criteria (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. Name 2 of the most common organisms which cause this pathology in the IVDU population (2 marks).

i. _____

ii. _____

4. What antibiotics would you use to treat it? (3 marks).

QUESTION 20

A 17 year old girl is brought to the Emergency Department by her parents as they are concerned she isn't eating enough. On examination she is extremely pale and thin. Her weight is 42 kg and her height is 173 cm.

1. What are **4** of the diagnostic criteria for anorexia nervosa? (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

2. Give **4** medical indications for admission of patients with severe eating disorders (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

3. Give **2** long term complications of eating disorders (2 marks).

- i. _____
- ii. _____

QUESTION 21

A 31-year old male with a history of alcoholism and IVDU is found collapsed on the street during winter. He is brought to ED by ambulance.

His vital signs are:

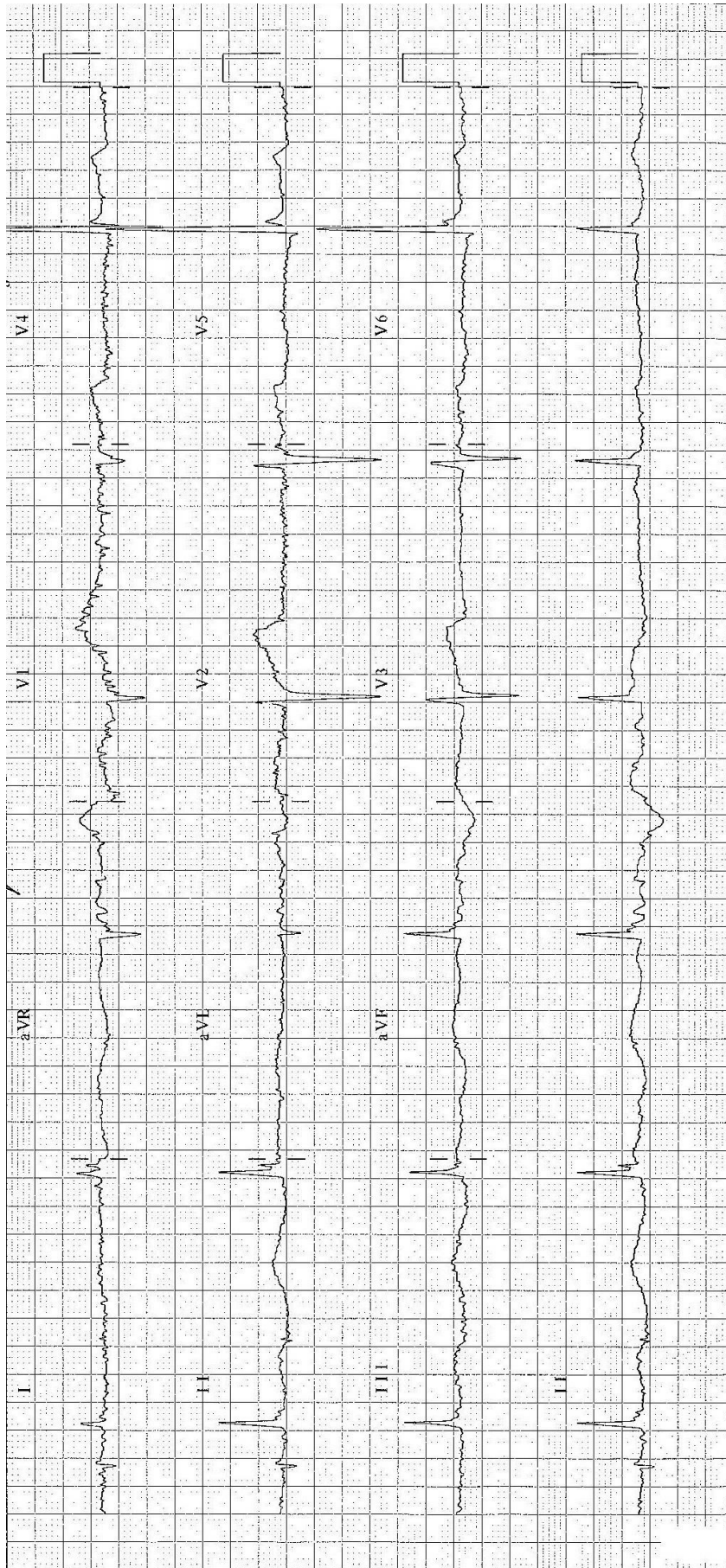
GCS 7

E2, V1, M4

BP 90/50mmHg

Temperature 29°C

His ECG is on the following page.



1. List **4** abnormal ECG findings that are consistent with a diagnosis of hypothermia (2 marks).

i. _____

ii. _____

iii. _____

iv. _____

2. List **4** methods of rewarming this patient (2 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. List **3** elements of supportive care for this patient (3 marks).

i. _____

ii. _____

iii. _____

[question continues on the following page]

The patient suffers a sudden VF arrest.

4. List **3** modifications to the standard *advanced* life support algorithm, with rationale for each modification (3 marks).

	Modification to ALS protocol	Rationale
1.		
2.		
3.		

QUESTION 22

Your registrar brings you the ECG of a 46 year old man who has presented with palpitations. He is in a Resus bay, being monitored. His condition is stable with BP 120/80, Sats 99% RA, RR18, and GCS 15.

1. What are **4** ECG features of VT that you look for in making a diagnosis? (2 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

The ECG shows a wide complex tachyarrhythmia.

2. What else could this be (apart from VT)? (2 marks).

3. What are **3** treatment options for this man with pros and cons of each? (6 marks).

- i. _____

- ii. _____

- iii. _____

QUESTION 23

A 16 year old male presents after falling from his push-bike. He has a sore shoulder but no other injuries.



1. Describe the injury seen in the X-Ray (1 mark).

2. List 4 complications for each of the types of clavicular injury in the table (4 marks).

Posterior sterno-clavicular dislocation	Mid-shaft clavicle fracture

3. List **3 absolute** & **3 relative** indications for operative fixation of mid-shaft clavicle fractures. (3 marks)

Absolute	Relative

4. List **4** complications of ORIF for a displaced mid-shaft clavicle fracture (2 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

QUESTION 24

A 4 year old girl presents with her parents with a limp and not wanting to run as usual over the last 2 days. Her initial observations are:

Temp 38.0°C

HR 105bpm

SaO2 99%RA

On examination, she has pain on internal rotation and abduction, and has a noticeable limp on walking.

1. List **4** potential causes for her limp (2 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

2. Justify **3** potential investigations which would aid your diagnosis (3 marks).

- i. _____
- ii. _____
- iii. _____

You are concerned that she may have partially treated septic arthritis as her parents state that she is just finishing a course of Amoxicillin for a febrile illness prescribed by the GP.

3. List **3** causative organisms for Septic Arthritis (3 marks).

- i. _____
- ii. _____
- iii. _____

4. What is/are the most appropriate empiric IV antibiotic(s) for septic arthritis? (2 marks)

QUESTION 25

A 48 year old female presents with GCS 15 complaining of rapid onset pain, initially in the back of the neck then escalating in intensity over 15 minutes and becoming bilateral and frontal. She is otherwise well.

1. Beyond a careful and thorough history and physical examination, list the **3** most efficient investigations indicated in this case (1.5 marks).

i. _____

ii. _____

iii. _____

You are discussing lumbar puncture with the patient.

2. What **4** risks must be highlighted in the consent process? (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. List **3** evidence based strategies to minimise post LP headache (1.5 marks).

i. _____

ii. _____

iii. _____

4. Complete the table below with **3** options of different classes for analgesia in this case and include a pro and a con for each (3 marks).

Medication	Pros	Cons

QUESTION 26

A 26 year old male presents after a domestic dispute with this injury. He is confused and agitated. Vital signs are:

BP 85/-40
PR 130
Sats 94% on RA
GCS 13
RR 28.

He looks grey and sweaty.



1. List **3** possible life threatening injuries (2 marks).

- i. _____
- ii. _____
- iii. _____

After the placement of 2 x16G IVC and 500ml of IV crystalloid he becomes progressively more hypotensive and has a PEA arrest.

2. List **2** indications of emergency thoracotomy (1 mark).

i. _____

ii. _____

3. List **4** contraindications to performing an emergency thoracotomy (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

4. List **3** procedures that can be performed once the chest is opened (3 marks).

i. _____

ii. _____

iii. _____

QUESTION 27

An 89 year old lady presents with generalised weakness, nausea and diarrhoea. She had a fall 3 days earlier and had broken her humerus. She was discharged for orthopaedic follow up as an outpatient. She appears dehydrated, BP 140/80, pulse 80 regular, and is afebrile.

Her venous blood gas is below :

Venous Blood pH POCT	7.073
Venous Blood pO ₂ POCT	23.8 mmHg
Venous Blood pCO ₂ POCT	48.2 mmHg
Venous Blood O ₂ Saturation POCT	33.2 %
Venous Blood HCO ₃ POCT	13.4 mmol/L
Venous Blood Base Excess POCT	-14.8 mmol/L
Venous Blood Oxyhaemoglobin POCT	32.8 %
Venous Blood Inspired Oxygen POCT	21 %
Venous Blood Haemoglobin POCT	97 g/L
Venous Blood Reduced Haemoglobin POCT	66.0 %
Venous Blood Methaemoglobin POCT	0.4 %
Venous Blood Carboxyhaemoglobin POCT	0.8 %
Venous Blood Creatinine POCT	179 umol/L
Venous Blood Sodium POCT	126 mmol/L
Venous Blood Potassium POCT	3.2 mmol/L
Venous Blood Chloride POCT	100 mmol/L
Venous Blood Calcium Ionised POCT	1.25 mmol/L
Venous Blood Glucose POCT	5.6 mmol/L
Venous Blood Lactate POCT	1.1 mmol/L

1. Interpret the blood gas results - what are the likely causes of her acidosis? (5 marks).

2. List 5 further investigations you feel are indicated. Justify your responses (5 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

QUESTION 28

A 23 year old woman presents having fallen 5m off a balcony. She has landed on her feet and is complaining of ankle pain.

1. What are the **3** indications for an ankle X-Ray as described by the Ottawa ankle rules?
(2 marks)
 - i. _____
 - ii. _____
 - iii. _____

2. What are the **3** indications for a foot X-Ray as described by the Ottawa foot rules?
(2 marks)
 - i. _____
 - ii. _____
 - iii. _____





3. Describe **2** abnormalities in the X-Rays above (2 marks).

- i. _____
- ii. _____

4. List **4** other injuries associated with falls from a height if landing on the feet (4 marks).

- i. _____
- ii. _____
- iii. _____
- iv. _____

QUESTION 29

A 30 year old female who is 30 weeks pregnant, presents to the ED with PV bleeding for the previous 6 hours. It is her second pregnancy. Her observations are pulse 110 bpm, BP 100/50mmHg, and RR 24.

1. What are the **2** common causes of vaginal bleeding in later pregnancy? (1 mark).

i. _____

ii. _____

2. Give **4** clinical features which would help distinguish between the two causes you gave above (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. What examination must be avoided and why? (1 mark).

4. Give **4** important early management steps in the ED (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

QUESTION 30

A 55 year old man is brought to ED by ambulance after being found collapsed on a golf course. He received bystander CPR for 5-10 minutes at the scene. On arrival to ED, he is haemodynamically stable, spontaneously ventilating and alert but slightly confused.

Vital signs:

HR 120/min

BP 190/100mmHg

GCS 14

E4, V4, M6

RR 26/min

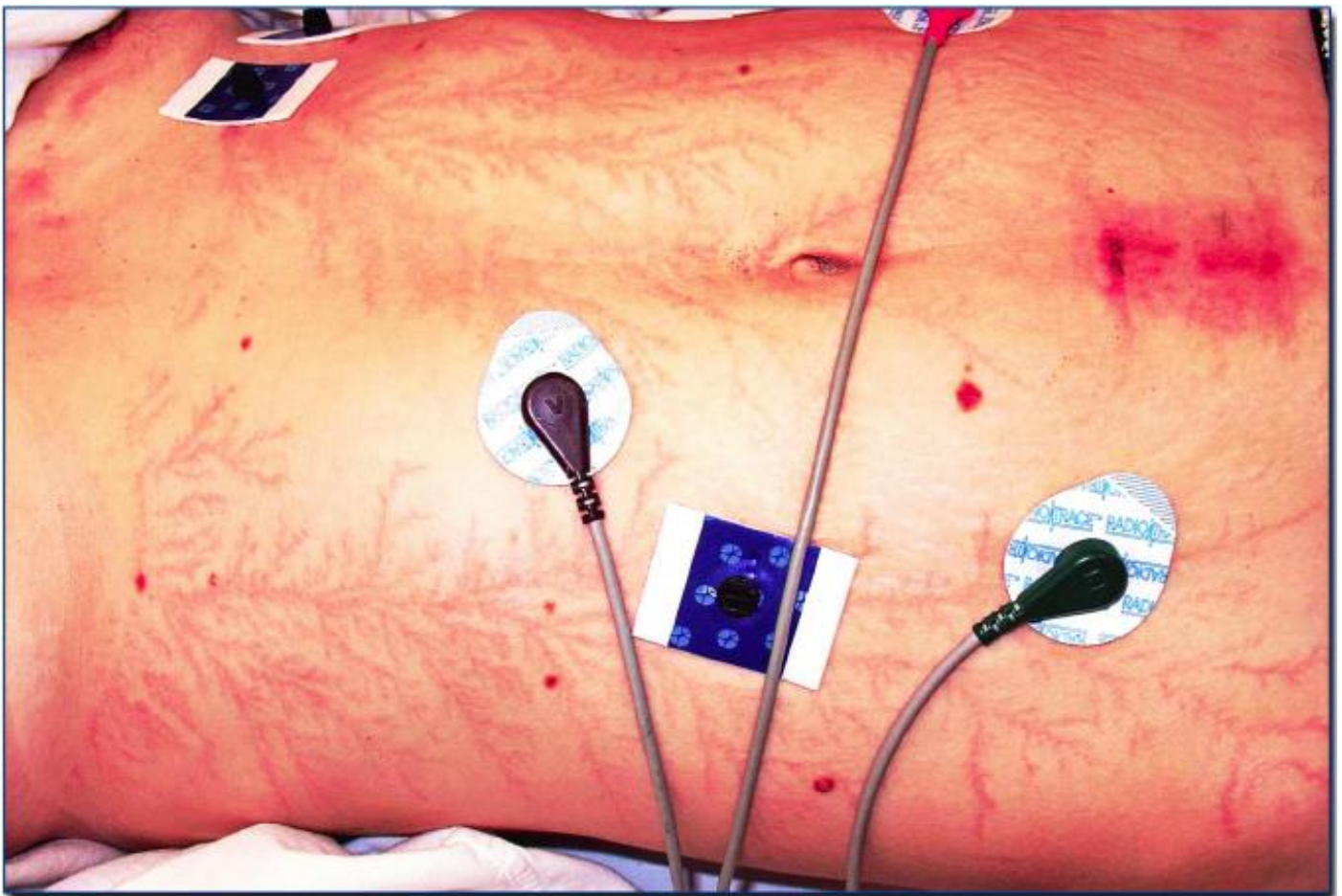


Figure 1: Image reproduced from Dunn's Emergency Medicine Manual (6th edition)

1. What is the most likely diagnosis? List **2** features *from the photograph* that support this diagnosis (2 marks).

Diagnosis: _____

Clinical Features:

i. _____

ii. _____

2. List **4** immediate complications that you would assess for (4 marks).

i. _____

ii. _____

iii. _____

iv. _____

3. List **1** important delayed complication requiring specialty follow-up (1 mark).

4. List and justify **3** investigations for this patient (3 marks).

	Investigation	Justification
1.		
2.		
3.		

~END~