

Illawarra Shoalhaven Local Health District Emergency Medicine Fellowship Program



Trial Written Exam 2019.1

Candidate Instructions

- Duration = 3hrs
- The examination is divided into 3 booklets, each consisting of 9 questions
- Props are included within the examination booklets
- Allocated marks for each question are shown
- Each mark is of equal weight
- There is no negative marking
- Write answers CLEARLY, and cross out any errors
- Answer within space provided
- Do not begin until instructed
- No examination paper or material is to leave the examination room



Good Luck!

Candidate Name: _____



Book 1

Candidate Name: _____

Question 1 (19 marks)

An 84 year old woman presents to the ED after a coughing episode yesterday lead to spontaneous abdominal wall bruising. It has worsened overnight and this morning has been brought in by an ambulance after a syncopal episode at home. She is also complaining of significant left sided abdominal pain.

Her main comorbidity is that she has atrial fibrillation and has had a “valve replacement” following rheumatic fever as a child. She is on metoprolol and warfarin. Her INR at her GP was 2.9 earlier in the week.

Her vital signs are:

T 35.1

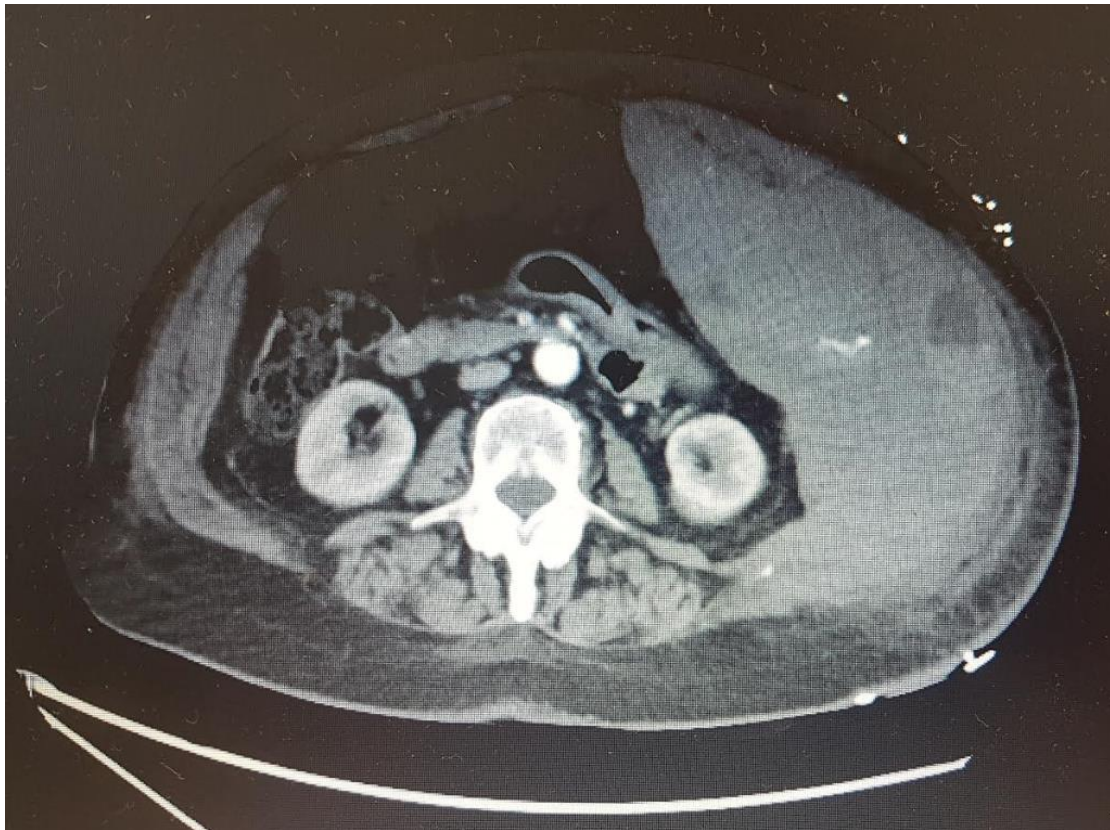
P 91

BP 73/50

RR 24

SaO2 92% RA

She receives 2 unit of packed red blood cells and her blood pressure improves sufficiently to be taken for a CT abdomen/pelvis. A single axial slice is shown below.



Candidate Name: _____

Describe the findings on the CT image provided (3 marks)

You are considering reversing the anticoagulation, regarding prosthetic valve thrombosis, name 2 factors (relating to the valve) that effect this risk of this upon reversal (2 marks)

What is the daily thrombosis risk? (1 mark)

You decide to fully reverse the patient's warfarin, outline your approach (3 marks)

The patient requires a massive transfusion, name 6 laboratory targets for massive transfusion (6 marks)

Candidate Name: _____

Excluding resuscitation and reversal, outline your management plan for this patient (4 marks)

Candidate Name: _____

Question 2 (6 marks)

An 18 year old university student attends the ED for review of a red, tender scalp swelling. His general practitioner has commenced a course of oral flucloxacillin yesterday however there has been minimal improvement.



Describe the findings on this photograph (3 marks)

What is the likely diagnosis? (1 mark)

Candidate Name: _____

Describe the management of this condition (2 marks)

Candidate Name: _____

Question 3 (13 marks)

You are working in a rural emergency department without obstetric or paediatric coverage. A 24 year old lady presents with intermittent abdominal cramping. She is 29 weeks pregnant in her first pregnancy and is planning to relocate for the birth after 36 weeks. She has had no vaginal fluid loss or bleeding and is feeling normal fetal movements.

Her vital signs are:

T 37.2

P 64

BP 109/72

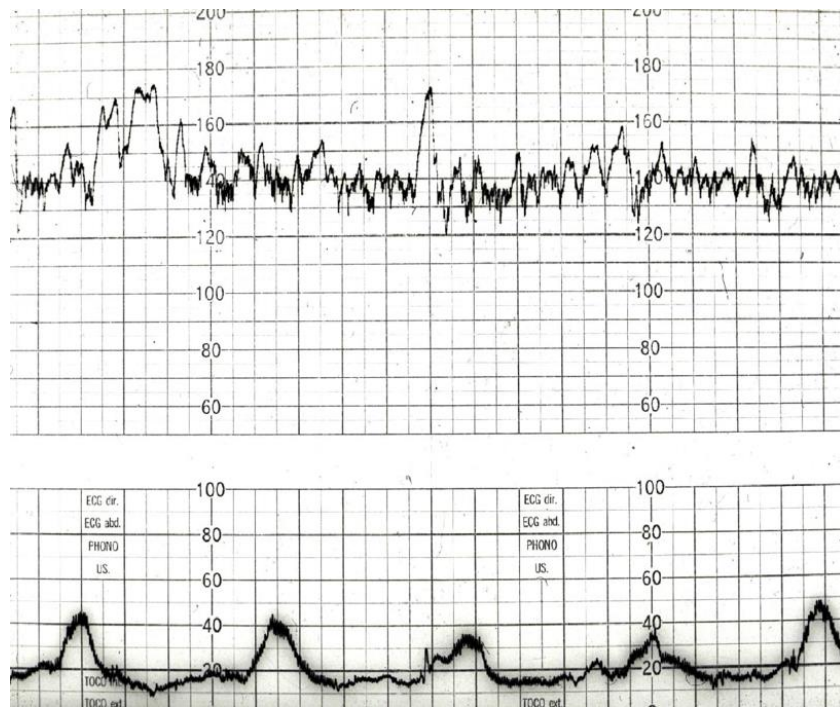
RR 22

SaO₂ 99% RA

Other than preterm labour, name one other obstetric condition that requires consideration (1 mark)

Name one investigation that can exclude the diagnosis of preterm labour. Explain the principle of its use (2 marks)

Candidate Name: _____



A cardiotocograph is performed (above), please interpret and provide summary (6 marks)

Candidate Name: _____

Outline the management of preterm labour in this woman (4 marks)

Candidate Name: _____

Question 4 (10 marks)

A 60 year old man with a known history of alcoholic liver disease and cirrhosis presents with reduced level of consciousness, which began as confusion the day prior. He is afebrile and his vital signs are within normal limits.

Name 4 stigmata of chronic liver disease on physical examination (2 marks)

Other than hepatic encephalopathy, name 4 relevant differential diagnoses in this patient? (4 marks)

Name 4 important precipitants of hepatic encephalopathy (4 marks)

Candidate Name: _____

Question 5 (8 marks)

A 24 year old woman in her first pregnancy comes to the emergency department with a small amount of vaginal bleeding and lower abdominal cramping. She has no significant past medical history and has been taking folate supplementation since her positive urine pregnancy test 3 weeks ago.

Her vital signs:

T 36.5

P 77

BP 102/67

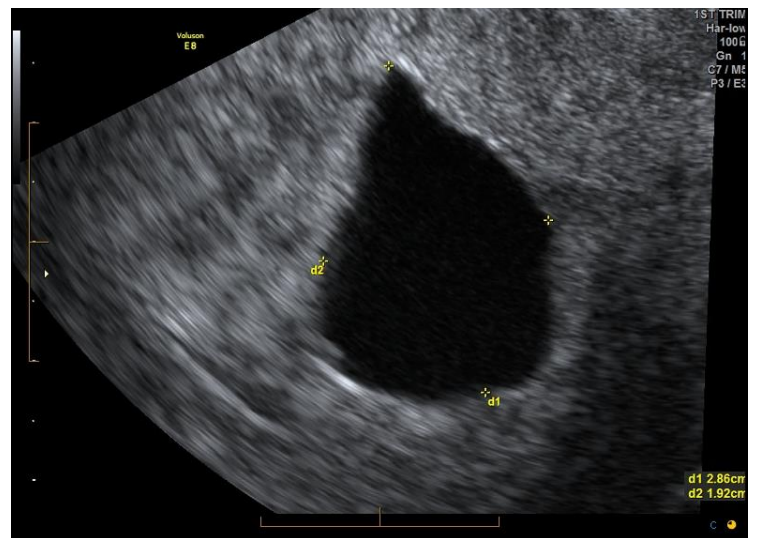
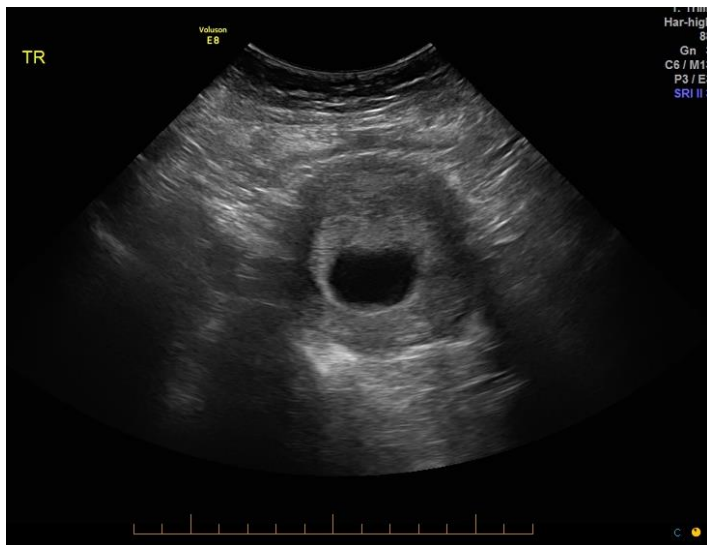
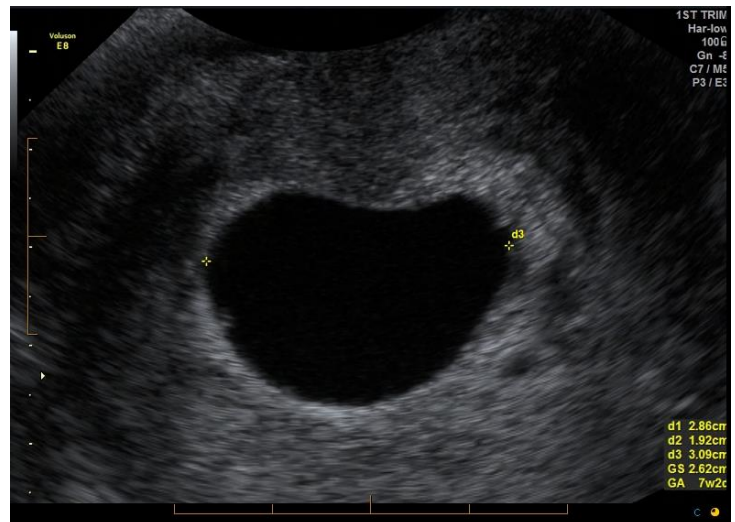
Blood tests show:

Hb 134

A Negative

BhCG 6,440

She has a transvaginal ultrasound



Report states:

“There is an intrauterine gestational sac which has a mean sac diameter of 26.2mm but no fetal pole is visualised. There is no evidence of extrauterine pregnancy and no free fluid”

Candidate Name: _____

What is the diagnosis and viability of the pregnancy? (2 marks)

What are the 3 management options for this condition? (3 marks)

Regarding surgical management, name 2 absolute indications for its use (2 marks)

The patient requires Rh immunoglobulin, what is the dose and route of this medication? (1 mark)

Candidate Name: _____

Question 6 – (16 marks)

A 24 year old man with a history of bipolar affective disorder is brought to the emergency department by friends who are concerned he has been non-compliant with his lithium. His friends are concerned he has become manic.

What are the clinical features of mania? (4 marks)

The patient is admitted to the mental health ward and recommenced on lithium therapy. Your medical student has several questions regarding lithium toxicity.

What are the main clinical features of a large acute lithium overdose (2 marks)

What are the main clinical features of a chronic lithium toxicity? (4 marks)

Candidate Name: _____

Name 3 factors predispose a patient to chronic lithium toxicity? (3 marks)

What is the modality and name 3 indications for enhanced elimination in lithium toxicity. (3 marks)

Modality

Indications

Candidate Name: _____

Question 7 – (13 marks)

A 72 year old woman is brought in by ambulance following a syncopal episode that she completely recovered from. She has recently been admitted for a syncope work up with no diagnosis found. En route to the emergency department she becomes unresponsive with low blood pressure.

She has a 12 lead ECG done in the resus room (see next page)

Her vital signs are:

BP 82 / 55

RR 24

SaO₂ 84% on RA

T 36.4

Describe the main ECG findings of importance (4 marks)

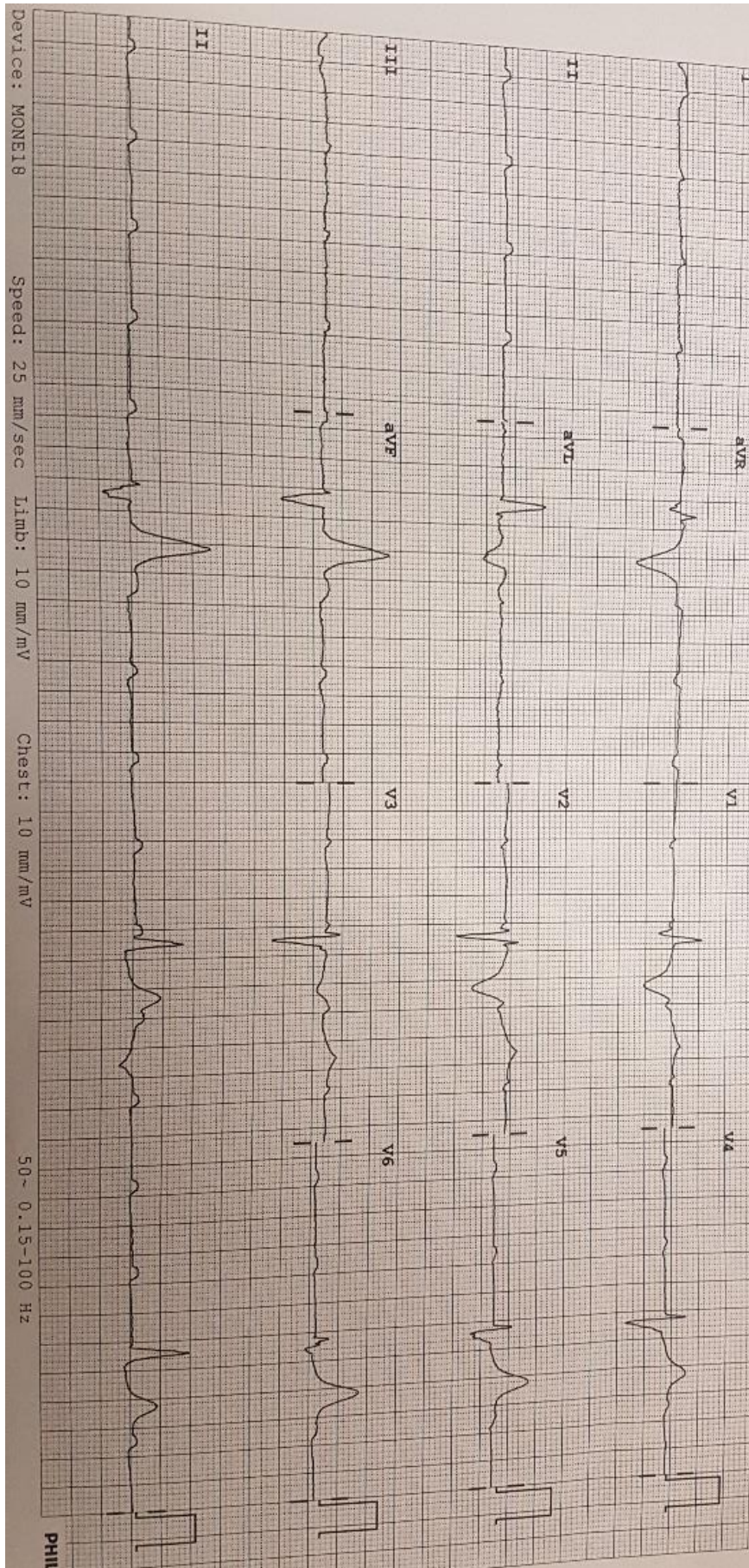
What is the likely diagnosis? (1 mark)

What are 3 potentially reversible precipitants of this condition? Give examples where appropriate (3 marks)

Candidate Name: _____

Outline your management of this patient (5 marks)

Candidate Name: _____



Candidate Name: _____

Question 8 (7 marks)

A 62 year old man with a history of multiple myeloma presents to the ED with severe pain to his left leg. On assessment he is clearly in pain, his vital signs are within normal limits and a photograph of his lower limbs is available below.



What is the most likely diagnosis? (1 mark)

Candidate Name: _____

Name 2 investigations you could perform to confirm the diagnosis (2 marks). Give a justification for each.

What are the management priorities in this case (4 marks)

Candidate Name: _____

Question 9

A 6 year old Indigenous girl is transferred to your hospital from a rural facility with a right lower lobe pneumonia that is not improving despite 4 days of intravenous benzylpenicillin. On day 4 of admission she has had a repeat chest X ray showing development of a parapneumonic effusion.

Her vital signs are:

T 39.2

P 152

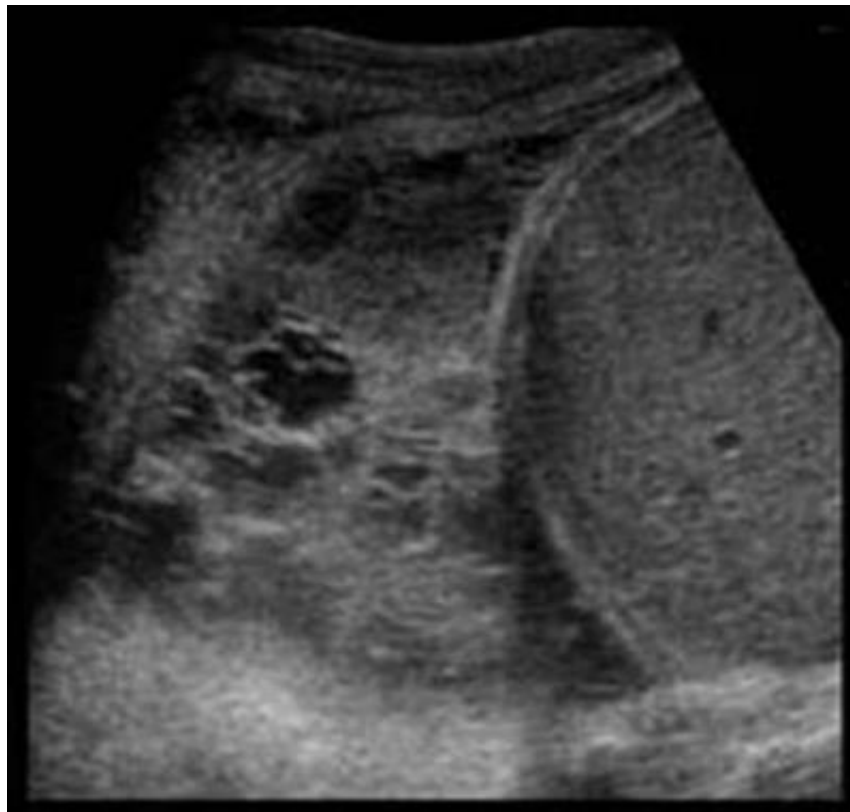
Central cap refill 2.5sec

RR 42

SaO₂ 93% on 3L/min via nasal prongs

What are the biochemical features of a pleural effusion that suggest empyema? (3 marks)

You perform a bedside lung ultrasound and in the right lower zone, you obtain the image below



Candidate Name: _____

Describe 2 important features of this ultrasound (2 marks)

What is the likely diagnosis? (1 mark)

Outline the medical and surgical management for this condition (5 marks)

END OF BOOKLET

Candidate Name: _____