Illawarra Shoalhaven Local Health District

Emergency Medicine Fellowship Program

Topic-Based Quiz: Qs and As

MEDICINE 1

Candidate Instructions

- Duration = 30min
- 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
- You may take examination book home with you

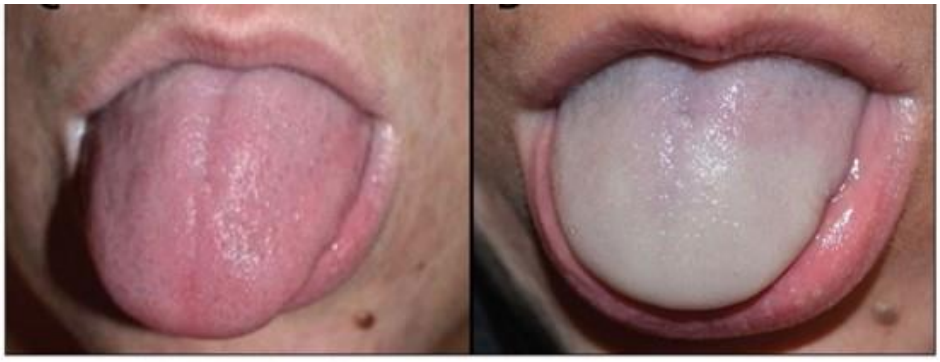
Good Luck!

Acknowledgement: Thank you to the trainees who have written these SAQs with the hope of making their colleagues sweat, but ultimately gain more exposure to exam practice. Good job.

Topic-Based SAQ Quiz: Medicine 1

Question 1

A 65 year old female with a prior history of polymyalgia rheumatica presents with new right sided headaches.



What is the clinical sign shown above? (1 mark)

_____

What is the most concerning diagnosis for this lady and the most concerning complication? (2 marks)

_____

_____

What are 2 other signs or symptoms that would increase your clinical suspicion of the above diagnosis?

(2 marks)

_____

_____

Name one investigation (and likely result) that will aid in the diagnosis in the emergency department (1 mark)

_____

Topic-Based SAQ Quiz: Medicine 1

What is the gold standard diagnostic test? (1 mark)

_____

What is your specific treatment of this condition? How it is altered based on severity of presentation? (3 marks)

_____

_____

_____

_____

What are 2 complications/adverse effects of the treatment? (2 marks)

_____

_____

Question 2

A 72 year old man has been admitted to hospital with behavioural disturbance. The nursing staff had given him multiple PRN doses of haloperidol overnight due to his behaviour. You are asked to review him as he is having muscle spasms of the neck, face and back.

What is the most likely diagnosis? (1 mark)

_____

Name 2 classes of medications that can cause this condition and give 1 example from each (2 marks)

_____

_____

Name 2 important complications can develop (2 marks)

_____

_____

Outline your approach to the treatment of this condition (4 marks)

_____

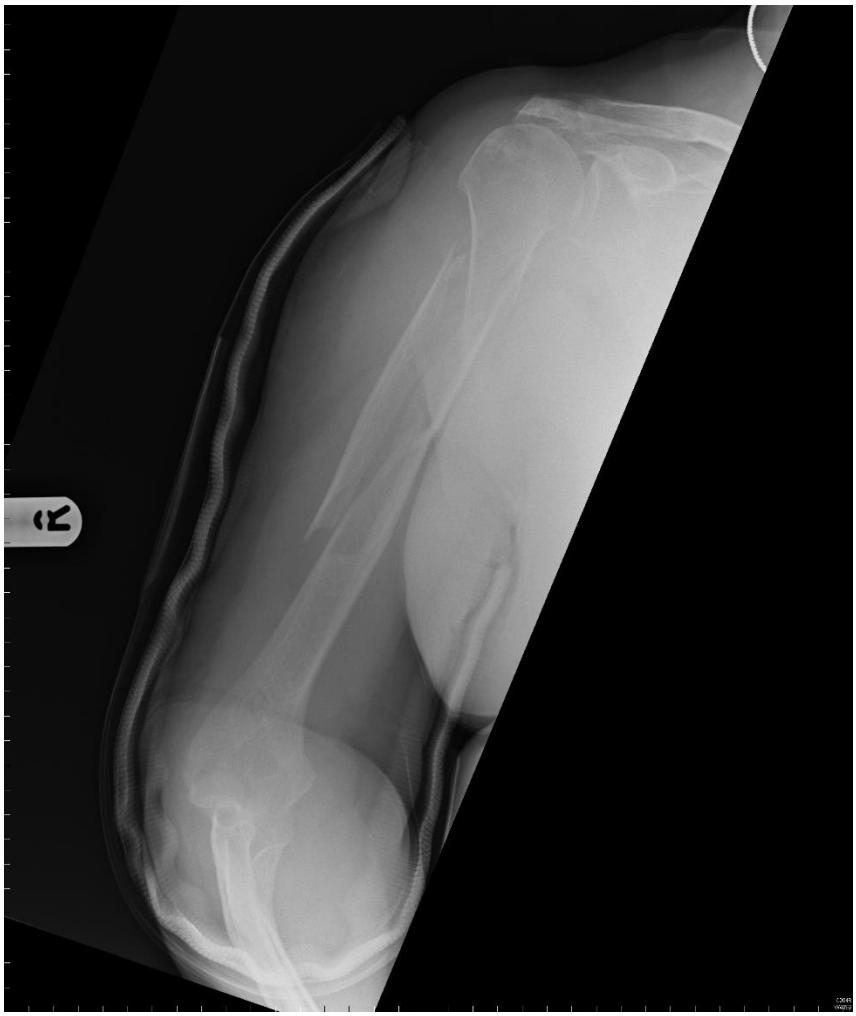
_____

_____

_____

Question 3

A 68 year old male presents with right mid upper arm pain after a fall. On examination of the limb, there is tenderness, swelling, shortening, and deformity. The upper arm is shortened and a mid-humeral fracture is diagnosed on Xray (below)



Which nerve is most likely to be damaged? (1 mark)

_____

What examination findings would you be looking for with the above nerve injury? (2 marks)

_____

_____

Topic-Based SAQ Quiz: Medicine 1

Name 3 other neurovascular components are potentially injured with a fracture of the shaft of the humerus? (3 marks)

_____

_____

_____

In the following table, can you please outline the examination findings and potential causes of injury for the median and ulnar nerve.

Nerve	Causes of injury	Examination findings
Median Nerve		
Ulnar Nerve		

Question 4

A 60 year old man with a background history of hypertension and Type 2 Diabetes Mellitus presented to ED with sudden onset of R) sided limb weakness and slurred speech, which lasted for 20 minutes. No previous history of stroke. On arrival to ED, the symptoms have resolved spontaneously. You suspect that the patient has had a Transient Ischaemic Attack (TIA). His vital signs are below:

HR 60
BP 158/90
Temp 37 degree
RR 18
SaO2 98% on room air

What is the definition of Transient Ischaemic Attack (TIA)? (2 mark)

List 2 potential causes of TIA. (2 marks)

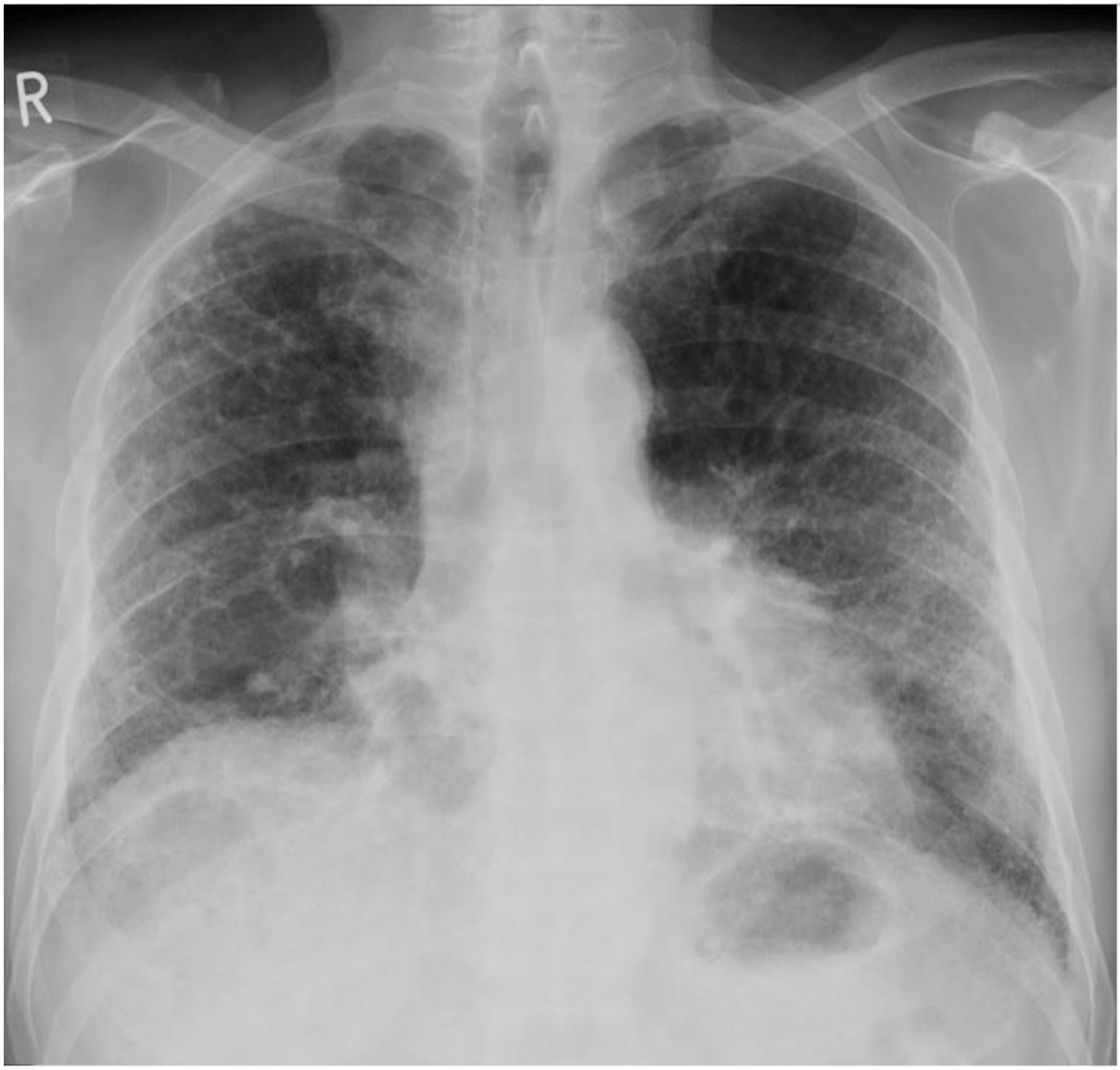
Name one scoring system that you would use to risk-stratify this patient. List 4 of the components that are considered in the scoring system you chose. (4 marks)

Based on your risk assessment, state your disposition plan for this patient. (2 marks)

Question 5

A 70 year old man who is travelling from out of town is brought in by ambulance with significant dyspnoea. He is only able to speak in single words and can't provide you with much history but nods when asked if he has had previous episodes of breathlessness.

A Chest X Ray is taken



What is your provisional diagnosis based on this CXR? (1 mark)

_____

Name 2 features that support this provisional diagnosis (2 marks)

_____

_____

Topic-Based SAQ Quiz: Medicine 1

Name 2 expected findings on Point of Care Ultrasound (POCUS) (2 marks)

_____

_____

Name 6 causes of this condition, dividing into upper and lower zones (3 marks)

Upper	Lower

Outline 4 management interventions/considerations and justify each (4 marks)

_____

_____

_____

_____

_____

_____

_____

_____

Topic-Based SAQ Quiz: Medicine 1

ANSWERS

Question 1

What is the clinical sign shown above? (1 mark)

Raynaud's phenomenon of the tongue

What is the most concerning diagnosis for this lady and the most concerning complication (2 marks)?

Temporal arteritis, permanent visual loss

What are 2 other signs or symptoms that would increase your clinical suspicion of the above diagnosis? (2 marks)

Any 2 of : jaw claudication, elevated ESR, elevated CRP, unexplained fever, tongue necrosis

Name one investigation (and likely result) that will aid in the diagnosis in the emergency department (1 mark)

Elevated CRP, usually >100 and often higher (most sensitive)

Elevated ESR, usually > 50 and often higher (normal in ~10%)

If combined, sensitivity 99%

What is the gold standard diagnostic test? (1 mark)

Temporal artery biopsy (under LA)

What is your specific treatment of this condition? How it is altered based on severity of presentation? (3 marks)

High dose systemic corticosteroids. This is continued for at least 2 weeks, and not more than 4 weeks and then tapered.

Dose / type depends on:

- No visual loss at Dx: Prednisolone PO 1mg/kg daily (max 60mg)
- Visual loss at Dx: Methylprednisolone 500-1000mg IV for 3 days then prednisolone PO 1mg/kg daily (max 60mg)

What are 2 complications/adverse effects of the treatment? (2 marks)

Fractures, infection, DM, HTN, osteonecrosis cataracts, weight gain, (86% of patients get an adverse effect with treatment)

Topic-Based SAQ Quiz: Medicine 1

Question 2

What is the most likely diagnosis?
Acute dystonia

Name 2 classes of medications that can cause this condition and give 1 example from each (2 marks)
Typical antipsychotics (mostly) – e.g. haloperidol / droperidol

Atypical antipsychotics (less commonly) – e.g. quetiapine

Name 2 important complications can develop (2 marks)
Oculogyric crisis

Laryngospasm

Outline your approach to the treatment of this condition (4 marks)

Benztropine 1-2mg IV
Diphenhydramine 25-50mg IV
Benzodiazepines can be added for treatment failure
Dosage reduction or discontinuation of offending agent

Question 3

Which nerve is most likely to be damaged?

Radial nerve

What examination findings would you be looking for with the above nerve injury?

Wrist drop
Altered sensation in the first web space

What other neurovascular components are potentially injured with a fracture of the shaft of the humerus?

Brachial artery
Ulna nerve
Median nerve
Brachial vein

In the following table, can you please outline the examination findings and potential causes of injury for the median and ulna nerve.

Nerve	Causes of injury	Examination findings
Median Nerve	Carpal Tunnel Syndrome Pronator Teres Syndrome	Motor: - Injury at elbow or forearm: Weak wrist flexion, no interphalangeal flexion of thumb, index, and long digit - Injury at wrist: none or weak thumb abduction Sensory: - Injury at elbow: proximal forearm pain - Injury at wrist: sensory loss in the thumb, radial 2.5 digits, and thenar eminence
Ulna Nerve	Elbow fracture/ dislocations Compresssion of ulna nerve at the wrist	Motor: no loss or weak thumb adduction, weak digit abduction, and adduction toward center of long digit Sensory: - Injury at elbow: pain ulnar side of forearm with or without paresthesias in ulnar digits - Injury at wrist: paresthesias in ulnar digits

Question 4

What is the definition of Transient Ischaemic Attack (TIA)? (2 mark)

- classic definition is focal neurological deficits lasting < 24 hours

- newer proposed definition: a brief episode of neurologic dysfunction caused by focal brain or retinal ischaemia, with clinical symptoms typically lasting less than one hour, and without evidence of acute infarction
- duration: usually 2-15 minutes; uncommonly > 1 hour

List 2 potential causes of TIA. (2 marks)

- carotid or vertebral atherosclerosis -most commonly at origin of ICA
- cardiac embolisation from mural thrombus or valvular disease
- inflammatory arterial disease
- arterial dissection
- hypotension
- hyperviscosity syndromes
- subclavian steal syndrome
- sympathomimetic drugs e.g. cocaine

Name one scoring system that you would use to risk-stratify this patient. List 4 of the components that are considered in the scoring system you chose. (4 marks)

ABCD2 score

- Age > 60 = 1 point
- Blood pressure > 140/90 = 1 point
- Clinical features

- -unilateral weakness = 2 points
- -speech impairment w/out weakness = 1 point
- Duration of symptoms
- > 60 minutes = 2 points
- 10-59 minutes = 1 point
- Diabetes = 1 point

ABCD

- same as ABCD2 score minus the diabetes factor

California score

- age > 60 = 1 point
- diabetes = 1 point
- duration of symptoms > 10 minutes = 1 point
- weakness = 1 point
- speech impairment = 1 point

Based on your risk assessment, state your disposition plan for this patient. (2 marks)

- ABCD2 score 6 / ABCD score 5 / California score 5 -> high risk of stroke
- Admit under neurology team for inpatient Ix and Mx

Question 5

What is your provisional diagnosis based on this CXR? (1 mark)

Pulmonary Fibrosis / exacerbation

Name 2 features that support this provisional diagnosis (2 marks)

- Diffuse bilateral coarse interstitial markings (not focal)
- Reduction in lung volume
- Irregular heart border 'shaggy' appearance

Name 2 expected findings on Point of Care Ultrasound (POCUS) (2 marks)

- Diffuse / bilateral B lines
- Thick irregular pleural line distributed over whole surface of the lung
- Absence of physiological gliding sign
- Upper zone predominance of the above changes is a feature of inconsistent usual interstitial pneumonia, and excludes interstitial pulmonary fibrosis
- Presence of changes in both lungs

Name 6 causes of this condition, dividing into upper and lower zones (3 marks)

Upper	Lower
Cystic fibrosis Pulmonary sarcoidosis	Idiopathic pulmonary fibrosis Asbestosis Scleroderma

Topic-Based SAQ Quiz: Medicine 1

Langerhans cell histiocytosis Pulmonary tuberculosis Pneumoconiosis Silicosis Allergic bronchopulmonary aspergillosis Chronic hypersensitivity pneumonitis Histoplasmosis	Rheumatoid

Outline 4 management interventions/considerations and justify each (4 marks)

- Supplemental O2: standard intervention, aim SaO2 >90%
- Ventilatory support: NIV or I&V – ideally offered if reversible precipitant or transplant candidate
- Antibiotics: If infectious precipitant / low threshold
- Glucocorticoids e.g. prednisolone 50mg daily (no strong evidence base, but consensus guidelines)
- Ceiling of care / palliation – if advanced disease, no reversible precipitant etc