



Model Answers — Monash Practice SAQ Trial 2025.1

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Question 1 (12 marks)

A 35-year-old male presents to your Emerg. Dept. with severe knee pain and swelling following a jump over a fence. There is no other significant injury.

Part a (5 marks)

List the five (5) criteria used in the Ottawa Knee Rules for decision making about Imaging.

Model answer

- Age $\geq$ 55 years
- Isolated patella tenderness
- Tenderness at head of fibula
- Inability to flex knee 90°
- Inability to bear weight (4 steps) immediately after injury and in emergency department

Part b (3 marks)

The patient's x-ray is displayed below



List three abnormalities seen on the x-ray.

Model answer

- Metadiaphyseal tibial fracture +
- Comminuted tibial plateau fracture
- and either one of
 - o Fibular head fracture
 - o Significant / Marked soft tissue swelling

Part c (1 marks)

What is the classification Type and Grade for this particular injury?

Model answer

Schatzker VI

Part d (3 marks)

List three (3) acute complications of the most clinically significant injury seen on the x-ray.

Model answer

- Compartment syndrome
- Common peroneal nerve palsy / injury
- Popliteal artery injury (accept further distal artery injury as well)
- ACL / PCL / Meniscal injury
- Fat embolism

Question 2 (12 marks)

You are preparing to intubate a patient in the ED.

Part a (3 marks)

List three (3) situations where a straight laryngoscope blade (eg Miller blade) might be more advantageous compared to a curved blade (eg McIntosh blade).

Model answer

- Better in paediatrics
- Better for long floppy epiglottis/ epiglottitis
- Anterior larynx
- When larynx is fixed due to scar tissue

Part b (3 marks)

State three (3) disadvantages of using a straight blade.

Model answer

- Less effective in large front teeth, more likely to damage teeth
- More associated with laryngospasm
- Lightbulb at the tip that can impede vision
- More trauma to laryngeal structures – vocal cords, arytenoids, posterior commissure
- *(Generally less familiar with blade)*

Part c (2 marks)

State two (2) advantages of using curved blade.

Model answer

- Allows more space for view and ETT tube as it pushes tongue to one side
- Indirect epiglottic lift: provides better view of the vocal cords
- Greater ease of intubation: indirect lift mechanism is easier to use for beginners or where precise placement is difficult
- wide airway view: curvature allows visualisation of greater area of the airway

Part d (2 marks)

When using video laryngoscopy with a D blade or hyper-angulated blade – state one (1) advantage and one (1) disadvantage.

Model answer

- Good for use in c spine immobilisation
- Good in those with very anterior larynx
- Lack of experience
- Difficulty manoeuvring ETT around sharp angle- requires pre- shaped stylet or introducer

Part e (2 marks)

List two (2) contra-indications to surgical cricothyrotomy.

Model answer

- Age <10-12 due to small cricothyroid membrane
- Tracheal transection or fracture
- Obstruction below cricothyroid membrane

Question 3 (12 marks)

A 39 year old man returns from a diving trip and presents to your Emerg Dept. with severe lower back pain that began on surfacing.

He has no medical problems, is not on any medications and is not allergic to anything.

Vital signs are:

HR	97 bpm
BP	124/72 mmHg
GCS	15/15
RR	15 bpm
SpO ₂	97% on room air

You suspect he has decompression illness.

Part a (5 marks)

List five (5) features on his history that would be important to know.

Model answer

Diving Hx

- Dive depth
- Time at depth (Bottom time)
- Any rapid ascent (>18m / minute)
- Number of dives & Time between dives (surface interval)
- Gas mix, supply
- Time of symptom onset
- Evolution of symptoms
- Any flights (ascent to altitude) after diving

Part b (4 marks)

Aside from decompression illness, list four (4) indications for hyperbaric oxygen therapy.

Model answer

Indications for hyperbaric

- Acute ischaemic conditions
- Compromised flaps and grafts
- Crush injury
- Idiopathic sudden sensorineural hearing loss
- Central retinal artery occlusion
- Infective conditions
- Necrotising fasciitis / Clostridial Myonecrosis
- Malignant otitis externa

- Refractory osteomyelitis
- Refractory mucormycoses

Late Radiation Tissue Injury

- Radiation Cystitis / Proctitis
- Osteoradionecrosis
- Radiation soft tissue injury

Inflammatory/Wound Conditions

- Ulcerative Colitis / Crohn's Disease
- Thromboangiitis Obliterans
- Diabetic Foot Ulcers
- Arterial ulcers

Emergency indications

- Decompression Illness
- Iatrogenic Arterial Gas Embolism
- Necrotising Soft Tissue Infections / Clostridial Myonecrosis
- Acute Spinal Cord Infarction
- Central Retinal Artery Occlusion
- Severe open fractures / crush injuries
- Idiopathic sudden sensorineural hearing loss
- Compromised flaps and grafts

Part c (3 marks)

List three (3) supportive measures that you would institute in the ED to treat a patient with decompression illness.

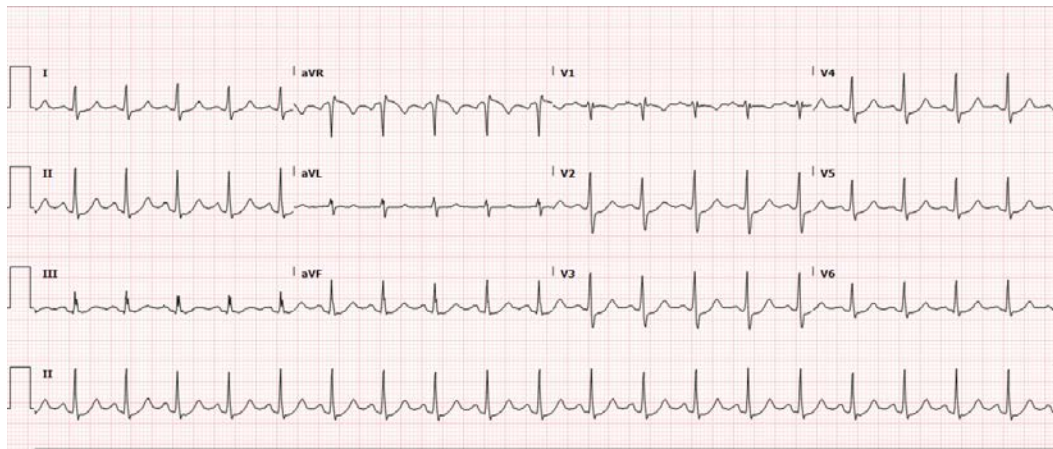
Model answer

Supportive measures

- Lie flat
- Consider securing airway + grommets (ENT)
- 100% FiO₂
- Pulmonary barotrauma screen – Seek & Treat Pneumothoraces
- Saline or Hartmanns Volume Expansion
- Consider IDC
- Emergent Hyperbaric Referral – takes 1 hour to prepare chamber

Question 4 (18 marks)

A 35-year-old woman presents to the ED with central chest pain and two syncopal episodes at home whilst ambulating. The following ECG is recorded.



Part a (3 marks)

List three (3) positive findings in the above ECG.

Model answer

- Sinus tachycardia – HR 120
- 2mm STE in aVR (measured from the TP segment)
- RSR' pattern in V1
- Diffuse ST depression – V2-V5; leads I, II and aVF

Part b (4 marks)

Apart from pulmonary embolus, list four (4) possible differential diagnoses; taking into account the patient's presentation and ECG finding.

Model answer

- Myocardial ischaemia
- Sepsis
- Haemorrhagic shock, e.g, from ectopic pregnancy
- Tension pneumothorax
- Aortic dissection

Part c (4 marks)

List four (4) features on bedside echocardiography that would suggest right ventricular (RV) dysfunction.

Model answer

- RV Dilatation (RV/LV ratio >1)
- Ventricular bowing/D-shaped septum
- Presence of "clot-in-transit" visualised in the right ventricle

- McConnell's sign (RV hypokinesis with apical sparing)
- TAPSE Reduction (TAPSE <18mm or <16mm)

**will not accept "pulmonary hypertension" as this is not a feature assessable by POCUS.

Part d (6 marks)

RV dysfunction is noted on the bedside echocardiography. The patient's BP falls to 80/40.

State six (6) management steps for this patient.

Model answer

- Judicious fluid replacement ☐ e.g., up to 500mls crystalloid¹
- Commencement of vasopressor/inotrope (e.g., 5-20mics/min noradrenaline IV; or 5-20mics/min adrenaline IV). ²
- Supplementary oxygen aiming for SpO₂ >92%
- Thrombolysis ☐ e.g., 100mg Alteplase IV over 2/24 with 0.6mg/kg loading dose over 15 minute; Tenecteplase 30 to 50mg; streptokinase; urokinase.
- Referral to ICU for consideration of ECMO
- Inhaled pulmonary vasodilators ☐ NO; Epoprostenol.
- Referral for surgical/IR option: mechanical thrombectomy/clot disruption.

Notation:

1. Will not accept >500mls: excessive fluid may cause further RV dysfunction.
2. Will not accept either milrinone or dobutamine in isolation as may precipitate hypotension

Part e (1 marks)

The patient suffers a cardiac arrest and has been provided with appropriate pharmacotherapy. State one (1) modification that you would make to standard ACLS for this patient.

Model answer

- Increased CPR duration to at least 30 minutes (aim for 60-90 mins)

Will not accept "give thrombolysis" as it states in the question that the patient has been given appropriate pharmacotherapy.

Question 5 (12 marks)

On a hot summer day, the ambulance has brought in an unknown young male. He was found in an altered conscious state by bystanders at a local outdoor music festival.

His vitals are as follows:

HR	140 bpm
BP	130/60 mmHg
RR	28
SpO2	96% RA
Temp	39.8° C
GCS	10 (E3V2M5)

Part a (4 marks)

List four (4) differential diagnosis for this presentation other than an acute toxidrome.

Model answer

- Meningoencephalitis
- Heat stroke / Environmental Hyperthermia
- Hypoglycaemia
- Closed Head Trauma / Intracranial Haemorrhage
- Seizure / Post-ictal

Anything else reasonable for young male who must have been well enough to get into a festival prior to his acute altered consciousness

Part b (2 marks)

List two (2) examination features that are present in Serotonin Syndrome but are not present in Anticholinergic Syndrome.

Model answer

- Diaphoresis
- Increased tone
- Hyperreflexia
- Clonus (+/- Ocular clonus)

Part c (6 marks)

After your initial assessment, you have diagnosed severe Serotonin Syndrome.

The patient is now highly agitated, purposelessly thrashing on the bed and is non-responsive to staff instructions. His monitoring devices have detached during his thrashing, and you have been unable to obtain IV access with his current behaviour. You feel he poses significant risk to himself and others in his current state.

State six (6) steps in your management, giving drug doses and endpoints where appropriate.

Model answer

- IM Sedation with reasonable doses – Midazolam 10mg/Lorazepam 2mg etc (+/- Antipsychotic)
- Optimise for Intubation - Description of IV Access / monitoring / Fluid Bolus, Pre-oxygenation etc.
- Intubation with reasonable description. Bag through apnoeic period (RR 28 pre-induction, unknown metabolic state)
- Cooling (39.8 degrees) with description EG: tepid sponge, cold IV fluids, ice packs
- ICU Disposition with Medical Bedcard / Toxicology Consult (Max one point for Consult/Disposition etc)
- Also accept Cyproheptadine/Chlorpromazine/Olanzapine – though less evidence once intubated/paralyzed as can be maintained on Benzo IV infusion
- Accept Physical Restraint for purpose of IV access (more common in some other centres EG: RMH)
- Accept liaison with SW/Police etc for Identification of Unknown Male
- Accept documentation of restraint/duty of care etc or staff debrief (max one point along these lines – more important acute resuscitation efforts required)
- Or other reasonable answers in addition to 5 core elements in italics above.

Need to purposefully include optimisation step prior to Intubation given stem (no access/monitoring/tachycardic/tachypnoeic). Max 5 marks if not included

Max 5 marks if Induced or ongoing Sedation with Fentanyl – Serotonergic

Do not accept investigations (VBG, CT Brain etc) – management question

Do not accept “seek and correct hypoglycaemia” etc – been told is Serotonin Syndrome

Do not accept IV Ceftriaxone/Aciclovir etc – been told is Serotonin Syndrome

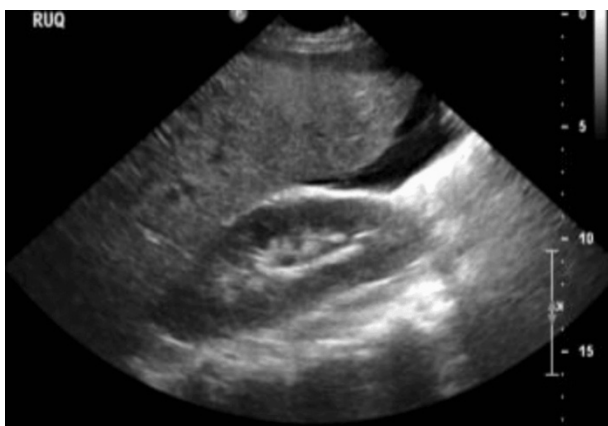
Question 6 (12 marks)

A 24 year old male has been brought into your tertiary Emergency Dept. following a high-speed motor vehicle accident.

His observations are as follows:

GCS	13 (E3V4M6)
HR	130bpm
BP	75/45mmHg
RR	25
SpO2	95%15L NRB

An eFAST is performed as part of his initial assessment and the RUQ view is displayed below.



Part a (1 marks)

State a point on the significance of this ultrasound image in this patient.

Model answer

RUQ free fluid and haemodynamic instability in blunt trauma, indication for emergency laparotomy

Part b (5 marks)

State five (5) initial management priorities for this patient.

Model answer

1. Evaluation of other potential life threats
2. Blood product resuscitation aim SBP 90mmHg
3. Manage coagulopathy
4. Maintain normothermia – T >35
5. Secure airway with RSI
6. Analgesia – eg IV ketamine 10-20mg boluses/IV fentanyl 25mcg q 15mins,/IV morphine 5mg q30mins
7. Urgent emergency laparotomy via trauma surgeon

Part c (6 marks)

The patient remains haemodynamically unstable and is receiving the massive transfusion protocol. List six (6) parameters and their targets which are used to guide your ongoing transfusion strategy.

Model answer

PARAMETER	AIM
Temperature	>35C
Acid-Base	pH.>7.2, BE < -6
Ionised Ca	>1.1mmol/L
Platelets	$\geq 50 \times 10^9 /L$
Fibrinogen	$\geq 1.0 \text{ g/L}$
Lactate	<4 mmol/L

Accept any of:

- Temperature >35
- pH >7.2, base excess <-6, lactate <4mmol/L
- Ionised calcium >1.1mmol/L
- Platelet count >50 x 10/L
- PT < 1.5 X normal
- INR <.1.5 X normal
- Fibrinogen level >1.0g
- APTT >1.0g/L

Question 7 (12 marks)

A 42-yr old male presents to the Emergency Dept with a painful middle finger, as pictured below, for the last three days.



Part a (1 marks)

What is your most concerning differential diagnosis for this presentation?

Model answer

Infectious (pyogenic) Flexor Tenosynovitis

(0.5 marks if only mentions flexor tenosynovitis)

Part b (4 marks)

List four (4) pertinent physical exam signs you would expect to find which are consistent with this diagnosis.

Model answer

- Fusiform swelling of the digit
- Flexed posturing of the digit
- Tenderness to palpation over the tendon sheath
- Marked pain with passive extension of the digit
- increased warmth and erythema of the involved digit

Part c (2 marks)

List two (2) mechanisms on how this disease commences.

Model answer

- Penetrating trauma to the tendon sheath
- Direct spread from:
 1. Felon
 2. Septic joint
 3. Deep space infection

Part d (2 marks)

List two (2) patient risk factors which increase the risk for the development of this condition.

Model answer

- Diabetes mellitus
- IVDU
- being immunocompromised

Part e (3 marks)

List three (3) steps in your management of this patient.

Model answer

- Flucloxacillin IV qid, Cefazolin 1-2grams IV bd/tds
- Splint to immobilise
- elevation
- Refer to Hand surgery (Plastics/Ortho) for urgent I&D
- analgesia

Question 8 (18 marks)

A 56-year-old woman is brought into your tertiary ED by her partner with confusion.

Her past history includes hypertension, dyslipidemia and a left mastectomy for Breast Cancer 5 years ago.

Her Vital signs are:

SaO ₂	97% RA
BP	124/70 mmHg
HR	114 bpm reg
Temp	36.2 °C
GCS	13 (eye opening/confusion)

You receive an urgent call from the Pathology Lab with her results as below:

Bilirubin	84	3 - 15
Alkaline Phosphatase	747	40 - 130
Gamma GT	1371	5 - 35
ALT	114	5 - 30
AST	475	10 - 35
Albumin	23	33 - 44
Globulin	40	23 - 41
Calcium	5.86	2.15 - 2.55
Calcium (corrected)	6.20	2.20 - 2.60
Inorganic Phosphate	1.29	0.8 - 1.5
Magnesium	0.84	0.7 - 1.10

Part a (1 marks)

List the most critical result?

Model answer

Hypercalcemia

Part b (2 marks)

List two (2) possible causes of this result in this patient.

Model answer

1. Metastatic Malignancy with bony involvement

One of other causes:

2. Hyperparathyroidism

Medications – thiazide diuretics

Renal failure

Sarcoidosis/Tuberculosis

Milk Alkali syndrome

Part c (3 marks)

You ask for an ECG to be done. List three (3) expected findings in this patient.

Model answer

3 of any

1. Shortened QT interval
2. Prolonged PR
3. Prolonged QRS
4. Flattened T waves
5. J waves
6. Osborn waves

0.5 marks for Conduction Block or Sinus Tachycardia

Part d (8 marks)

List four (4) treatments of the above critical result and their mechanisms of action

Model answer

Aggressive IV fluids Normal Saline 2-4L	Replace ECF losses
Calcitonin (don't need dose 50IU IV stat)	Increases renal excretion
Bisphosphonate (don't need dose Pamidronate 90mg IV stat)	Inhibit bone resorption
Furosemide 40mg IV stat	Increase renal excretion
Corticosteroid eg Hydrocortisone 100 – 200mg IV	Inhibits production calcitriol – reduced gut absorption

References for above Dunn 6th Edition 354 – 355

Part e (4 marks)

The admitting unit has asked you to establish goals of care for her admission. List and discuss four (4) factors that will influence your goals of care discussion.

Model answer

1. Confusion – need to establish capacity if shared care

2. Life threatening electrolyte imbalance is likely reversible – could possibly defer any limitations of care until this is corrected
3. Relatively young age with likely reasonable premorbid function – need to assess ECOG status. If high will be more likely for GOC A
4. Unclear primary diagnosis – although metastatic malignancy likely to be life limiting – exact prognosis is unavailable
5. May have prior ACD – although given younger age – this is less likely

(Or other reasonable answer)

Question 9 (12 marks)

A 54 year old male presents to the Emergency Department and you suspect he may have acute bacterial prostatitis.

Part a (4 marks)

List four (4) factors on his clinical history that would increase the risk of developing acute bacterial prostatitis.

Model answer

- Cystitis
- Neurogenic bladder
- BPH
- Instrumentation –Prostate Bx, cystoscopy, chronic indwelling catheter

Part b (2 marks)

List two (2) of the common pathogens associated with the prostatitis.

Model answer

- Gram negative – Ecoli, klebsiella, pseudomonas
- Gram positive – staph aureus
- STI chlamydia

Part c (2 marks)

List two (2) examination findings or investigations that are supportive of the diagnosis.

Model answer

- Prostate tenderness on DRE
- MSU – negative doesn't exclude Dx
- Blood culture if septic
- CT

Part d (2 marks)

List two (2) symptoms that would have made you suspect the diagnosis in a febrile patient.

Model answer

- urinary Sx eg urgency, poor stream, hesitancy
- pain eg pain on tip of penis, perineum, scrotum, upper inner thigh

Part e (2 marks)

List two (2) potential complications of bacterial prostatitis.

Model answer

- A Bacteraemia
- B Prostatic abscess
- C Metastatic infection
- D Endocarditis

Question 10 (12 marks)

A 4yo boy presents to your large urban mixed ED at 7am with new onset of being 'cross eyed', fatigued, and dropping things for the past 24 hours.

He is an ex-term delivery child, usually active and well, with immunisations up to date with schedule.

He had a 3 day febrile illness with respiratory symptoms starting 10 days ago with full recovery since. There is no history of trauma

He has left esotropia on exam but no swelling or redness around the eye.

Your registrar has already arranged a CT brain prior to handover, which has a NORMAL appearance, and is reported as such.

You are considering a diagnosis of Acute Disseminated Encephalomyelitis (ADEM):

Part a (3 marks)

List three (3) other key differential diagnoses to consider in this patient.

Model answer

- stroke
- MS,
- MOGAD,
- neuromyelitis optica,
- infectious encephalitis,
- ?meningitis,
- botulism.

Part b (5 marks)

List five (5) other features you need to seek on neurological examination to support a diagnosis of ADEM.

Model answer

pyramidal signs, hemiparesis, cerebellar ataxia, cranial neuropathies (note already has one in stem – need differentiate), optic neuritis (afferent pupillary defect, visual impairment, pain with eye movements), myelopathy eg flaccid paralysis

Encephalopathy/ irritability / confusion – any one of these can be allowed as a neuro sign

Part c (4 marks)

Complete the table by listing two (2) key investigations to undertake, and their expected findings in the event of a diagnosis of ADEM.

Model answer

MRI multifocal high signal lesions (demyelination) esp on T2 & flair seq, in white matter and often spine

LP/CSF analysis: pleiocytosis. can be oligoclonal bands in up to 20%

Question 11 (12 marks)

A 6 year old boy presents to your ED with a rash on his legs which you suspect to be Henoch Schonlein Purpura (HSP)

Part a (4 marks)

List four (4) features of this rash that would support your diagnosis.

Model answer

- Palpable purpurae
- Non-blanching
- Not itchy
- Usually symmetrical
- Preference for gravity/ pressure-dependent areas

Part b (2 marks)

What is the key investigation that you would perform and why?

Model answer

Bedside urinalysis looking for haematuria and/or proteinuria

Part c (3 marks)

List three (3) additional examination findings that you would seek to support your diagnosis.

Model answer

- Arthralgia
- Hypertension
- Painful non pitting subcutaneous oedema

Part d (3 marks)

List three (3) significant complications that may arise following a diagnosis of HSP.

Model answer

- Intussusception
- Renal failure
- Pain

Question 12 (12 marks)

Your next patient is a paediatric patient who has been limping and complaining of a sore leg for the last 2 days.

Part a (4 marks)

List four (4) typical “RED FLAG” features when assessing a child with a limp. Please include at least one (1) feature on history and at least one (1) feature on examination.

Model answer

- Acute onset localised joint pain
- Constant, severe or worsening pain
- Concern for NAI
- Persistent limp >7 days
- Night pain
- Suspicious for malignancy
- Systemic symptoms eg fever, weight loss
- Petechiae or purpura
- Complete refusal to WB despite adequate analges

Part b (3 marks)

You decide to do an x-ray as part of your investigation of this patient. List three (3) specific findings to look for on the x-ray.

Model answer

- Cortical breach: fracture
- Joint effusion/increased joint space: synovitis, septic arthritis, Perthes
- Femoral epiphyseal destruction/loss of height/sclerosis/necrosis/fragmentation/lucency: Perthes
- Femoral epiphyseal displacement/slip: SUFE
- Mass/lesion: malignancy
- Periosteal bone changes: osteomyelitis

Part c (2 marks)

List two (2) features to look for on ultrasound that would raise suspicion of septic arthritis.

Model answer

- **Joint effusion** (mandatory answer)
- Echogenic debris
- Increased synovial/peri-synovial vascularity
- Synovial thickening

Part d (3 marks)

List three (3) of the Kocher's Criteria that increases the likelihood of septic arthritis.

Model answer

- Fever $>38.5^{\circ}\text{C}$
- Non-weightbearing
- Leucocytosis $>12 \times 10^9/\text{L}$
- ESR $>40 \text{ mm/h}$ or CRP $>20 \text{ mg/L}$

Question 13 (12 marks)

A 3 year old male has presented with a history of an ingested foreign body. He is comfortable and talking normally. His vital signs are all within the normal range.

Part a (4 marks)

In addition to button batteries, list four (4) high risk ingested foreign bodies that require emergent removal.

Model answer

- Multiple magnets or magnet plus metallic object
- Sharp or pointed objects (e.g. fish bone, pins or needles)
- Lead-containing objects (e.g. fishing sinker, curtain weight or air rifle pellet)
- Organic toxic material, plants, medication patches
- Large objects (>6 cm long and/or >2.5 cm wide)
- Superabsorbent polymers
- Multicomponent objects may break apart and progress separately in the gastrointestinal tract (e.g. Toys with lights, motors and batteries) and may require removal
- Failure to pass into the stomach for >24 hours
- Coin at the level of cricopharyngeus muscle

Part b (3 marks)

List three (3) common sites of foreign body impaction within the oesophagus.

Model answer

- Cricopharyngeal sling / thoracic inlet /C6 / between the clavicles
- Aortic arch
- Left main stem bronchus
- Distal oesophagus/ T10 / lower oesophageal sphincter

Part c (2 marks)

List two (2) features on chest X-ray that may help identify a button battery.

Model answer

- Double ring or halo rim appearance on PA, ring of radiolucency just inside the outer edge of the object for the BB.
- “Step off” or central bulge appearance on lateral view for the BB, although this can be difficult to appreciate if oblique or with newer, thinner Lithium batteries.

Part d (1 marks)

Chest X-ray confirms a button battery in the oesophagus. You have made plans to transfer the patient to theatre for endoscopic removal, this is delayed for 60 minutes

List one (1) oral agent that may have a role in reducing damage to the oesophageal mucosa pending endoscopic retrieval.

Model answer

- Honey
- Sucralfate

Part e (2 marks)

State two (2) mechanisms by which button batteries can cause necrosis in the oesophagus.

Model answer

- Leakage of potassium hydroxide and mercuric oxide - hydrolysis and creation of hydroxide ions in adjacent tissues leads to mucosal burn at battery's negative pole
- Liquefaction necrosis - Alkali produced from external flow of current
- Direct pressure

Question 14 (12 marks)

You are looking after a 24 year old male, with an isolated mid-shaft femoral fracture, following a motor vehicle crash. He is haemodynamically stable and has no other injuries.

His only past history is opiate use disorder for which he takes buprenorphine 16mg once daily. He is on no other medications and has no known allergies.

Part a (1 marks)

State the pharmacological mechanism of action of buprenorphine.

Model answer

- Partial agonist for opiate mu receptors. Hi affinity and low efficacy for mu receptors.
- Also antagonist at kappa and delta opiate receptors

Part b (2 marks)

He is in considerable pain from his injury.

State two (2) non-pharmacological analgesia strategies that could be used.

Model answer

- Reduction of fracture
- **Immobilization** using splint- E.g. Donway/Hare/other commercial splint or skin traction
- Ice
- Relaxation/mindfulness
- Distraction
- Acupuncture
- TENS

Must have bolded for full marks

Part c (6 marks)

List six (6) parenteral non-opiate pharmacological analgesic strategies (including route and dose) for this patient.

Model answer

- **Nerve block**- femoral - appropriate LA and dose.
- Epidural
- **Paracetamol** IV 1g qid
- Ketorolac IM/IV 10-30 mg 4-6 hrly
- **Ketamine** titrated IV does at 0.1-0.3mg/kg
- Clonidine 1-4mcg/kg once
- Dexmedetomidine load 0.5mcg/kg then infusion 0.3-0.7mcg/kg/hr
- Nitrous oxide inhaled prn
- Droperidol 0.625-2.5mg IM/IV

- IV Lignocaine 1-1.5mg/kg then 1.5-3mg/kg/hr
- penthrane

Must have bolded for full marks. If incorrect or missing dose/route- 0.5 marks

Part d (2 marks)

Complete the table by outlining and justifying your opiate analgesic regime.

Model answer

Titrated opiate (e.g. morphine/fentanyl) at appropriate doses. Must state that high doses may be required to reach adequate analgesia due to partial antagonism. Titrate with frequent re-assessment and appropriate monitoring.

NB: 1 mark for drug and dose, 1 mark for higher than normal dose may be required and/or frequent monitoring

Part e (1 marks)

State a modification of his buprenorphine regimen that could be used to improve its analgesic efficacy in this situation.

Model answer

Divide the daily dose and administer it every 4,6 or 8 hours. Can give increased dose and frequency.

NB half mark if only state increased dose without mention of frequency. Full mark if states increase frequency but doesn't mention increasing the dose

Question 15 (12 marks)

You are an Emergency Physician in a regional referral centre with a paediatric service, but no PICU. A 3 year old boy has been pulled unconscious from a backyard pool. The Ambulance service has notified you that they will be arriving in 5 minutes. You will be team leading the resuscitation.

Part a (2 marks)

Detail two (2) methods for estimating the patient's weight (only one numeric calculation).

Model answer

- Age calculation: $2 \times 3 + 8$ or $3 \times 3 + 7$ or $2 \times 3 + 5$ or $2.5 \times 3 + 7.5$
- Height estimation: Broselow tape

Part b (5 marks)

Complete the table below by listing the weight-based doses of resuscitation drugs you would prepare.

Model answer

Drug	IV Dose (/kg)
Adrenaline	10mcg
Sodium Bicarbonate (8.4%)	1mmol
Glucose 10%	2-5ml
Midazolam	0.15mg
Suxamethonium	2mg

Part c (5 marks)

List five (5) findings, based on initial ED patient assessment, that confer a better prognosis in paediatric near-drowning presentations.

Model answer

- age > 3yrs
- submersion < 5 min
- commence Resus within 10 min
- not comatose on arrival in ED
- Core Temp > 30 C
- pH > 7.1
- GCS > 5
- neuro improvement within 6 hrs
- spont resp effort within 30 min of rescue

Question 16 (12 marks)

A registrar in your Emergency Dept has attempted to place a central venous catheter (CVC) in the internal jugular vein of a patient in septic shock. You become aware that a procedural error has occurred when the emergency alarm is sounded and you find the registrar applying pressure to the neck of the patient. They state "I think I punctured the carotid artery and the patient is having a stroke". A rapid examination confirms the registrar's suspicions.

Part a (4 marks)

State four (4) SPECIFIC priorities, aside from an open disclosure discussion, on your arrival to the resuscitation cubicle.

Model answer

- Assume control of the patient / Take clinical responsibility for the patient's ongoing Mx
Ensure rest of department is under control (I.e. handoff in charge responsibility) Compress puncture site 15-20 mins
- Assess for ongoing bleeding by imaging (CT C+ or US acceptable)
- Obtain vascular inpatient unit opinion
- Obtain neurology / stroke inpatient unit opinion
- Manage ongoing septic shock
- Arrange disposition / ongoing care in ICU or theatre acceptable

DO NOT ACCEPT OPEN DISCLOSURE AS IMMEDIATE PRIORITY

Part b (5 marks)

List five (5) benefits of an open disclosure approach to clinical procedural errors.

Model answer

- limited evidence that disclosure reduces the likelihood of litigation
- most health professionals feel a moral obligation to disclose
- meets ethical (and legal) expectations for health professionals in their practice allows patients to make autonomous decisions about their care
- meets the expectations of patients and their families for disclosure after adverse events
- may lead to an improvement in the quality of services (e.g. if preventative measures follow)
- may ameliorate the negative psychological (+/- physiological) consequences of the event for the patient

(Dunn Emergency Medicine Manual online edition accessed 2nd February 2025 - Management of a Patient Safety Incident)

Part c (3 marks)

List three (3) examples of a sentinel event.

Model answer

- procedures on wrong patient/part
- suicide of a patient in hospital

- retained instruments or other material after surgery requiring re-operation or further surgical procedure
- intravascular gas embolism resulting in death or neurological damage haemolytic blood transfusion reaction resulting from ABO blood type incompatibility
- medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs
- maternal death or serious morbidity associated with labour or delivery infant abduction from a hospital facility or discharge of the infant to the wrong family
- suspected or attempted homicide or suicide by a person who has recently received care or treatment for mental illness
- attempted suicide of a person in custody
- any incident where a patient
 - o suffers a major permanent loss of function
 - o suffers significant disfigurement due to the inci
 - o was at significant risk due to being absent against medical advi
- detained patients who have absconded and been at significant risk during that peri
- any incident that involves a systems failure or multiple systems failure that has the potential to compromise the safety of a patient

(Dunn Emergency Medicine Manual online edition accessed 2nd February 2025 - Management of a Patient Safety Incident)

Question 17 (18 marks)

A 78 year old man is sent into your ED by their general practitioner with concerns for acute kidney injury in the context of infectious gastroenteritis.

The patient's creatinine is 250 $\mu\text{mol/L}$ and their potassium level is 5.4 mmol/L .

Part a (2 marks)

According to the RIFLE classification of acute renal failure, list two (2) points that define injury?

Model answer

Serum creatinine concentration change	Increase of 2-3x baseline Or GFR decrease 50-75%
Urine output	<0.5ml/kg/hr for 12hr

Part b (10 marks)

Acute tubular necrosis (ATN) is one pathology which causes parenchymal acute kidney injury. List five (5) classes of drugs or toxins which can cause ATN and provide an example for each class.

Model answer

Class of drug/toxin	Example of drug/toxin
NSAIDs	ibuprofen
Analgesics	Paracetamol in overdose
Antibiotics	Gentamicin, amikacin Vancomycin Colistin
Antifungals	Amphotericin B
Antivirals	Aciclovir, tenofovir
Immunosuppressants	Ciclosporin, tacrolimus
Chemotherapeutics	Cisplatin, methotrexate
Bisphosphonates	Pamidronate
Toxic alcohol	Ethylene glycol
Snake venom $\diamond$ rhabdo	Myoglobin

Heavy metals	Lead, cadmium, thallium, mercury
Radiocontrast	Radiocontrast
IVIg	IVIg

Part c (6 marks)

List six (6) absolute or relative indications for emergency haemodialysis.

Model answer

- Refractory hyperK
- Oliguria (<5ml/kg/day)
- Intractable Fluid overload (pulmonary oedema, cardiac failure) with persistent hypoxia not responding to other measures
- Uraemic encephalopathy
- Metabolic acidosis (<7.2)
- Uraemic pericarditis
- Uraemic haemorrhage
- Dialysable toxic compound and refractory toxicity
- Temperature control
- Severe hypo/hyperNa
- Creat > 1000 (relative)
- Urea >30 (relative)

Question 18 (18 marks)

A 25 year old male is transported by ambulance from a music festival. He presented confused to the first aid area. His only prehospital treatment has been diazepam 20mg orally.

His observations on arrival to the emergency department are:

BP 115/70 mmHg
HR 135 bpm
RR 22
Temp 40 °C
GCS 13 (E4 V4 M5)

Part a (2 marks)

List two (2) recreational drugs that are the MOST LIKELY cause for this presentation.

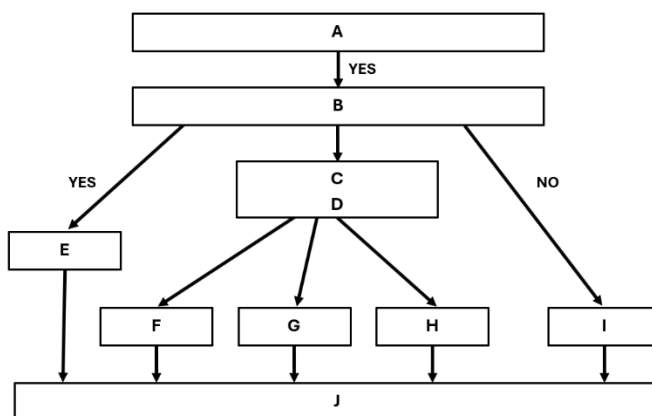
Model answer

- **MDMA** - MANDATORY
- Methamphetamine
- LSD
- Ketamine
- GHB
- Nitrous oxide

NB- Unknown is not acceptable, THC not commonly associated with severe serotonin syndrome

Part b (10 marks)

Fill in the following diagram, demonstrating the Hunter criteria for the most likely diagnosis:



Model answer

Option	Criteria
A	Serotonergic agent ingestion
B	Clonus

Option	Criteria
C	Inducible
D	Ocular
E	Spontaneous
F	Agitation
G	Diaphoresis
H	Hypertonia and Temp > 38 °C
I	Tremor and Hyperreflexia
J	Serotonin syndrome

Question 19 (12 marks)

A 48 year old male presents to your Emergency Dept with fever, productive cough and hypoxia. You decide to use Lung POCUS to assist your assessment of this patient.

Part a (3 marks)

State two (2) expected ultrasound features of a pneumonia and one (1) feature of a parapneumonic effusion.

Model answer

1. Lung consolidation: lung hepatisation
2. Air bronchograms: dynamic and or static
3. Small volume complex effusion: heterogenous, hyperechoic floating structures/particles- "plankton sign"
 1. The effusion is smaller or similar in size to consolidated lung

Part b (3 marks)

State three (3) expected ultrasound features of a large pleural effusion with atelectasis

Model answer

1. Compressed lung: "jelly fish sign" (compressive atelectasis)
2. Absence of air bronchograms
3. Large volume pleural effusion: anechoic
 1. The effusion is larger in size to the compressed/atelectatic lung

Part c (1 mark)

How do you estimate the volume (quantitative) of a pleural effusion using ultrasound?

Model answer

Distance from the diaphragm (cm) to the lung X 200=ML

Part d (1 mark)

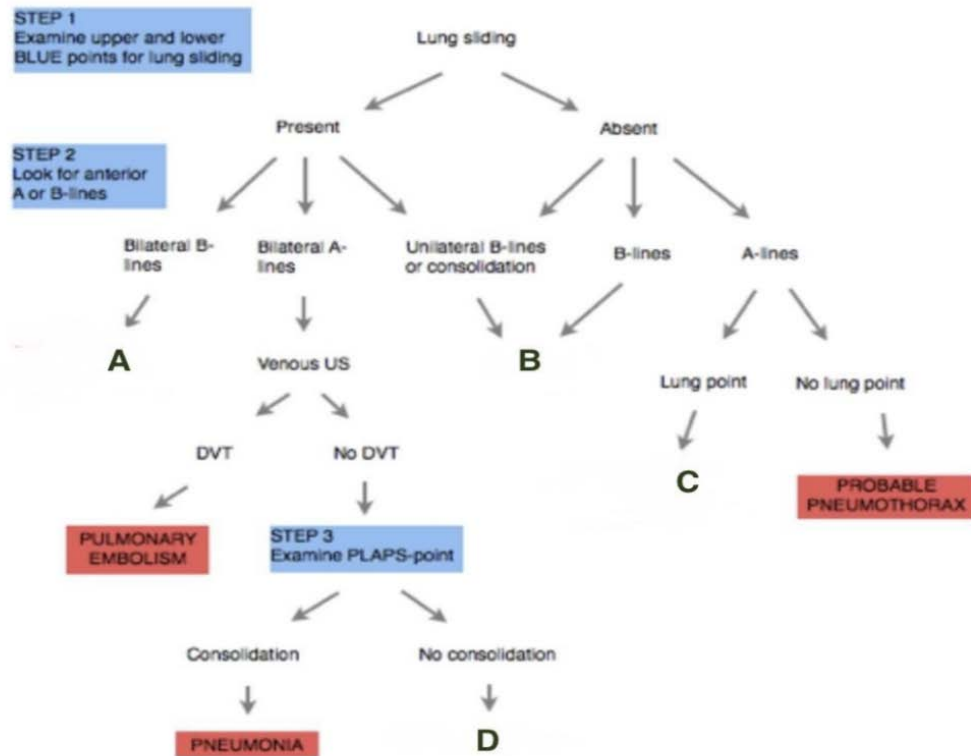
How much fluid is required to see an effusion on PA Chest x-ray?

Model answer

Approximately >200ml

Part e (4 marks)

Using the “Blue protocol” lung ultrasound flow chart, provide a diagnosis for each letter listed below.



Model answer

A	Pulmonary Oedema
B	Pneumonia
C	Pneumothorax
D	COPD/Asthma

Question 20 (18 marks)

A 35 year old female, who is 32 weeks pregnant with no other past medical history or regular medications, presents with atraumatic pain to her left upper arm. She has no chest pain or shortness of breath.

An ultrasound confirms an occlusive 5cm DVT to her left axillary vein. She reports her mother also had DVTs when she was younger.

Part a (3 marks)

State three (3) reasons why VTE risk is higher in pregnancy & peri-partum period.

Model answer

- Compression of IVC and left iliac vein from gravid uterus
- Trauma to pelvic veins during childbirth
- Prolonged immobilisation in peri-partum period
- Increased thrombin from placenta
- Increased platelet activity
- Decreased levels of Protein C

Part b (3 marks)

Other than pulmonary embolism, list three (3) potential complications of DVT.

Model answer

- Progression of DVT
- Chronic venous insufficiency
- Post-thrombotic syndrome (chronic pain/itchiness/ulceration)
- Phlegmasia Cerulea Dolens/ Phlegmasia Alba Dolens

Part c (3 marks)

List three (3) indications for performing a thrombophilia screen.

Model answer

- Unprovoked VTE in younger patient (<50 years old)
- Miscarriage >10/40 gestation
- Recurrent early pregnancy miscarriages (3 or more)
- SLE and pregnancy / planning pregnancy
- Arterial thrombosis in young patient (stroke, AMI, limb ischaemia)
- Central venous thrombosis

Part d (6 marks)

List three (3) potential congenital and three (3) potential acquired causes of thrombophilia.

Model answer

Inherited	Acquired
Factor V Leiden	Pregnancy
Protein C deficiency	Malignancy
Protein S deficiency	Medications (OCP, TXA)
Antithrombin Deficiency	Paget-Schroetter Syndrome
Antiphospholipid syndrome	Recent IV cannulation / PICC line

Other acceptable: Thoracic inlet obstruction, May-Thurner syndrome, Prothrombin Gene Mutation

Part e (3 marks)

You decide to anticoagulate the patient. List three (3) elements of the HAS-BLED score to calculating risk of adverse bleeding event on anticoagulation.

Model answer

- Hypertension >160mmHg
- Abnormal renal or liver function >2 times normal limit
- History of stroke
- Prior major bleeding event or bleeding disorder
- Labile INR
- Age >65 years old
- Alcohol use (>8 drinks per week)
- Medication predisposing to bleeding (anti-platelets/NSAIDs)

Question 21 (12 marks)

A 43-year-old male presents with a minor alcohol-related injury and is acutely intoxicated. Your assessment determines that he is experiencing chronic alcoholism.

Part a (8 marks)

Complete the table by listing two (2) examples, for each system, of harm due to chronic alcoholism.

Model answer

System	Effect
1. CNS	• Wernicke's Encephalopathy • Korsakoff's psychosis • Cerebral Atrophy • Peripheral neuropathy
2. GIT	• Hepatic damage – cirrhosis, hepatitis • Pancreatitis • Gastritis • Oesophageal varices
3. Cardiovascular	• Cardiomyopathy • Increase risk of TIA/Stroke • Increase risk of sudden cardiac death
4. Haematological	• Thrombocytopenia • Macrocytosis • Increased INR
5. Metabolic	• Alcoholic ketoacidosis • Hypomagnesaemia • Hypophosphataemia • Osteoporosis

Part b (4 marks)

Except for the amount of chronic alcohol consumption, list four (4) points you would seek in this patient's history that would make them a high risk for severe alcohol withdrawal?

Model answer

- Increased duration of chronic alcohol consumption
- Intercurrent illness
- Psychotropic medication use
- Previous severe withdrawal

Question 22 (12 marks)

Your Director has asked for your review of a recent missed diagnosis of an ovarian torsion within the Emergency Department.

Part a (6 marks)

List three (3) patient factors and three (3) systems factors that contribute to delayed diagnoses of ovarian torsion.

Model answer

Patient factors	Non-specific or varied symptomatology often mimicking other conditions like cyst accidents/ectopic/surgical causes
	Intermittent torsion- means that patient could be symptom free by the time of presentation
	Delayed presentation due to mild symptoms or attributing symptoms to other conditions e.g menstrual pain
Systems factors	Access to ultrasound/imaging limited out of hours, low accuracy of diagnostic tests (ultrasound/CT/bloods)
	Biases/lack of awareness of & education on female presentations of gonadal torsion
	Need to involve multiple specialties in some cases due to variable presentation (surgeons/gynae) leading to delays

Part b (6 marks)

List three (3) potential advantages and three (3) disadvantages of having a clinical guideline for the management of ovarian torsion.

Model answer

Advantages	Disadvantages
1. Improved standard of care and health equity for female patients 2. Clearly defined agreed upon pathway for investigation for patients with concern less decision burden for clinicians 3. Discourages use of ineffective interventions or tests e.g. waiting formal scan when clinical suspicion is high 4. Streamlines referrals and disposition decision for these patients where early specialist input is required- reduced LOS in ED.	1. May commit patients to specific pathway and miss other potential diagnoses e.g. surgical causes 2. Patients in this subgroup often present atypically and will be difficult to know when to apply guideline 3. Variable take up among staff leading to discrepancies in care & outcomes 4. Requires buy in from other stakeholders e.g. inpatient specialists & radiology in order to be successful

- Other acceptable answers urinalysis with justification either for renal colic/infection

Question 23 (12 marks)

A 25 year old male has fallen down some stairs 3 days ago while intoxicated and has bitten his tongue. He presents with a grossly swollen tongue as pictured below.



Part a (4 marks)

What are four (4) features on examination that would make you concerned about this patient's airway?

Model answer

1. Dysphonia
2. Stridor/noisy breathing
3. Unable to lie flat
4. Unable to tolerate secretions
5. Sitting forward
6. Haematoma in floor of mouth

Part b (6 marks)

A venous blood gas reveals a sodium of 116 mmol/L.

List three (3) likely causes of this electrolyte derangement & provide your rationale.

Model answer

- Hypovolaemic hyponatraemia- from poor oral intake due to tongue trauma
- Euvolaemic hyponatraemia (SIADH)- ?drug use e.g. SSRI/ecstasy, SDH from trauma
- Euvolaemic- beer potomania given hx of ETOH use causing falls.
- Hypervolaemic hyponatraemia- cirrhosis/ascites due to alcohol dependence

Max 1 mark for causes of SIADH.

Part c (2 marks)

List two (2) serious complications of hyponatraemia.

Model answer

- Cerebral oedema
- Pontine demyelination

Question 24 (12 marks)

You are working in a tertiary trauma centre. A 38 year old male has been involved in a MVA roll over at 120 km/hr. His vitals are:

GCS 13
HR 125 bpm
BP 86/40 mmHg
RR 28
O2 sats 94% on 6L Hudson mask
Temp 36.6 °C

Part a (9 marks)

Complete the table by listing three (3) potential intrathoracic major life threats and two (2) supportive features you would seek on assessment for each.

Model answer

Life threat	Supportive features
Massive haemothorax	Reduced air entry on auscultation reduced chest wall movement USS- Positive spine sign, collapsed lung & fluid above diaphragm
Tension pneumothorax	Reduced air entry/tracheal deviation, hyperresonance, neck vein distension, absent lung sliding (this alone doesn't mean tension ptx)
Flail chest	Paradoxical chest wall movement, reduced a/e, respiratory distress, bony crepitus
Blunt traumatic aortic injury	Neurological deficits, tearing back pain, bedside USS showing defect in aorta wall or pericardial tamponade

- Other answers reasonable would be other solid organ injury, would have to qualify pneumothorax as tension & haemothorax as massive for full mark – not a life threat otherwise.

No marks for vital signs esp those already given in stem.

Pericardial tamponade less likely given blunt trauma but not incorrect either

Part b (3 marks)

On arrival he is complaining of left sided chest pain and difficulty breathing.

His vitals now are:

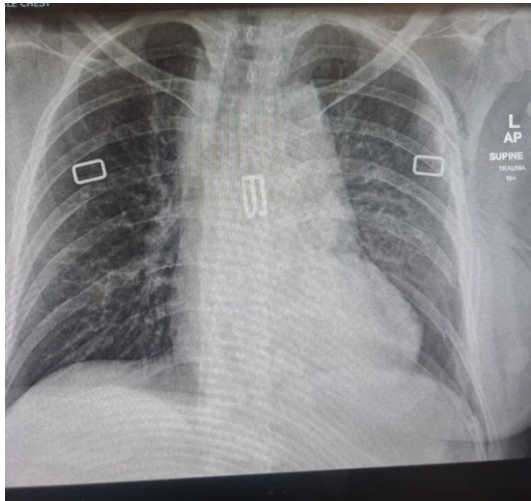
GCS 13
HR 130 bpm
BP 70/40 mmHg

RR 32

O2 90% on 10L

sats Oxygen

List three (3) abnormalities seen on his mobile chest x-ray.



Model answer

- Widened mediastinum
- Displace rib fractures on the left
- Sub cut emphysema
- Deep sulcus sign
- Vale opacification of left lung

Question 25 (12 marks)

A 19-year-old male presents to your Emergency Department after a syncopal episode during football training. He reports two similar episodes in the past 6 months, all during exercise. He is currently well with normal vital signs.

His ECG is shown below:



Part a (3 marks)

List three (3) abnormal ECG findings seen.

Model answer

1. Epsilon waves (most notably in V1-V3)
2. T wave inversion in V1-V3
3. QRS prolongation >110ms in V1-V3
4. Borderline 1st degree heart block

Part b (1 marks)

What is the most clinically concerning diagnosis based on this ECG and presentation?

Model answer

Arrhythmogenic Right Ventricular Dysplasia (ARVD)

Part c (1 marks)

State any modification to standard ECG leads that you would make to assist with your assessment.

Model answer

Fontaine leads are modified ECG leads with precordial leads placed on the right side of the sternum to better detect epsilon waves and other ARVD features.

Part d (4 marks)

List four (4) important features in the history you would specifically seek in this patient.

Model answer

1. Family history of sudden cardiac death or cardiomyopathy
2. Palpitations preceding syncope
3. Recovery time and post-event symptoms

4. Chest pain associated with exercise (Other relevant answers such as prodrome, position during event, witnessed account also acceptable)

Part e (3 marks)

In general, list three (3) red flag features that would mandate admission for a patient with syncope.

Model answer

1. Abnormal ECG suggesting underlying arrhythmia/conduction disease
2. Features of heart failure on examination
3. Associated chest pain suggestive of ACS
4. Significant trauma from syncope (Other appropriate red flags such as severe anaemia, new neurological signs also acceptable)

Question 26 (12 marks)

A 30-year-old male presents to your rural Emerg. Dept. with a painful and swollen right wrist after a fall.

The patient's X-ray is provided



Part a (2 marks)

List two (2) abnormalities, related to the fall, in this X-ray.

Model answer

Abnormalities
Intra-articular distal radius fracture, minimally displaced
Widening of scapholunate distance > 3mm- scapholunate dissociation Terry Thomas <i>sign</i>

Part b (2 marks)

List two (2) other structures that you would assess for complications of this injury.

Model answer

- Median Nerve (no mark if only mention nerve)
- Vascular compromise
- Skin integrity, underlying wound or laceration
- Tendons passing through the carpal tunnels (specifically Extensor Pollicis Longus tendon Rupture)
- Ligaments and stability of the wrist (triangular fibrocartilage complex TFCC)

Part c (2 marks)

List two (2) indications for urgent referral to a centre with orthopaedic service.

Model answer

- Open fracture
- Neurovascular compromise
- Compartment syndrome
- Lunate/peri-lunate dislocation

Part d (6 marks)

The orthopaedic team at the referral centre has asked you to manipulate the wrist. List two (2) methods to manage the pain during the manipulation and write one pro and one con for each method (in addition to pain management)

Model answer

	Method	Pros	Cons
1	Procedural sedation	Great level of sedation and pain control	Staffing, resources, complications due to sedation, ? intubation Recovery/monitoring time
2	Hematoma block	Easy to perform,	May not work with scaphoid, lunate dislocation, Introduction of infection into the fracture site
3	Biers block	Enough time to manipulate the fracture good level of pain control	Equipment, knowledge and training to use, not able to perform if fracture at the distal humerus,
4	N2O	Easily available, provide some level of analgesia	May not be enough for this dislocation, vomiting, patient discomfort, unavailability of the equipment
5	Regional nerve block	No effect on cardiopulmonary system, safe in a patient with comorbidities, not fasting status	Training and expertise should be done under USS to reduce the risk, inability to assess neurological compromise after the manipulation

Question 27 (12 marks)

Your junior registrar presents a case of a 60-year-old female with a 3-day history of slurred speech along with progressive dysphagia over the last 3 months.

Upon examination, you note:

- Tongue deviation to the left with fasciculations
- Diminished gag reflex
- Hyperreflexia
- Mild spasticity
- Some muscle atrophy

Her vital signs are stable and she has a GCS of 15. The stroke pathway was activated but inconclusive.

The registrar is confused by the clinical findings.

Part a (1 marks)

State a point on the most likely component of the clinical presentation that is causing confusion for the junior doctor.

Model answer

Combination of UMN and LMN

UMN: hyperreflexia, poor dexterity, incoordination, and spasticity. Dysarthria and dysphagia are common bulbar upper motor neuron findings.

LMN: muscle atrophy and fasciculations.

Part b (1 marks)

State a point on how you would simplify and guide him in understanding the findings.

Model answer

Combination of UMN and LMN

UMN: hyperreflexia, poor dexterity, incoordination, and spasticity. Dysarthria and dysphagia are common bulbar upper motor neuron findings.

LMN: muscle atrophy and fasciculations.

Part c (2 marks)

Based on the clinical findings, list one (1) neurological diagnosis and provide a brief statement on how these findings support the diagnosis.

Model answer

- ALS
- accept [Wallerian degeneration](#) and Krabbe disease
- Dx must address both UMN and LMN
- will give 1/2 marks for MND

Part d (6 marks)

Your registrar recalls reading that this condition is difficult to diagnose.

In approximately 10% of cases, patients initially diagnosed with this disease actually have another condition, and nearly 40% of patients with this disease are initially misdiagnosed.

From a biostatistics perspective, complete the table by listing

- What the 10% and 40% represent?
- What type of errors these numbers indicate, respectively?
- What these values should be for a perfect diagnostic test?

Model answer

FP and FN

type I and II error

Zero/Zero

(<https://www.targetals.org>)

Part e (2 marks)

You decide to order an MRI for the patient. Based on the following data:

- Sensitivity of MRI for the diagnosis = 48%
- Specificity of MRI for the diagnosis = 76%

Calculate the:

- Positive Likelihood Ratio (+LR)
- Negative Likelihood Ratio (-LR)

Model answer

$$+LR = Sn/1-Sp = 0.48/1-0.76 = 2$$

$$-LR = 1-Sn/Sp = 1-0.48/0.76 = 0.68$$

Gupta A, Nguyen TB, Chakraborty S, Bourque PR. Accuracy of Conventional MRI in ALS. Can J Neurol Sci. 2014 Jan;41(1):53-7. doi: 10.1017/s0317167100016267. PMID: 24384338.

Question 28 (12 marks)

A GP refers in a 10 month old to the Emergency Department with this x ray. The mum had taken the child to the GP earlier in the day as she was concerned that the child had been irritable for the past 5 days and had stopped crawling.



Part a (2 marks)

List two (2) abnormalities seen on the Xray

Model answer

- Transverse, minimally displaced and angulated distal metaphyseal fracture right tibia
- Fracture distal fibula- happy with transverse or even buckle/ greenstick

Part b (4 marks)

Specific to this presentation, list four (4) things that you would look for on examination?

Model answer

- I. NV intact
- II. Closed/ open
- III. Stigmata of NAI

Part c (6 marks)

State six (6) key management steps specific to this presentation.

Model answer

- I. Refer Paed/ VFPMS (state paed forensic service) for admission (if no mention NAI management then no marks)
- II. Refer Child Protection
- III. Work up NAI
- IV. Analgesia (max 1 point)
- V. POP/ backslab
- VI. Ortho referral