Answers book

PAH SAQ Trial exam 2018.2

Guide for marking

- Answers are a rough guide only

- They have not been prepared with the same rigorous oversight as the questions

- There will be many acceptable answers that have not been included in the answer template

- Use your judgement to identify critical errors of omission or commission

- pass mark is given after question number

- items in bold are essential to score a pass for that Q – ie 50% of the mark for that Q

First book	79/112
Second book	75/114
Third book	79/117
Total	**233/343**

Q1 15/20

1

Petechial and **purpuric** rash

Location – face, torso, arms

Comment on child in general – looks pale/sick/unwell

2

Neisseria meningiditis

Strep pneumoniae

Haemophilus influenzae

Staph aureus

3

Drug reaction / SJS

Thrombocytopenia from any cause

Viral eg CMV

DIC any cause eg malignancy

Autoimmune causes – SLE

4

Blood culture – before Abs to guide future Rx

BSL – manage hypoglycaemia common in overwhelming sepsis

VBG – define severity of illness – met acidosis, lactate

5

IV abs – cefotaxime or **ceftriaxone 50mg/kg,** vancomycin 30mg/kg, +/- fluclox +/- gent

IV normal saline 20ml/kg bolus

6

Disseminated intravascular coagulation

7

death

Acute renal failure

Ischaemic hepatitis / brain injury

Amputation limbs

Lots of stuff OK

Q2 9/11

1

Urine dipstick / micro / cell count – looking for UTI as cause of epididymo-orchitis

Urine PCR – chlamydia / gonorrhoea – for STI causing epidiymo-orchitis

Renal function – potentially avoid gentamicin if renal failure

USS – exclude abscess complicating epididymo-orchitis

2

Epididymo-orchitis

3

Sepsis – ie unwell

Complicated by abscess

Co-morbidities decreasing cardiovascular reserve – eg significant CCF

Severe pain

Social circumstances eg homeless / unable to get follow up

Failure outpatient management

4

Analgesia – paracetamol 1q QID, ibuprofen 400mg tds

Oral Abs – trimethoprim 300mg nocte 1/52, ceftriaxone 500mg once IM, azithromycin 500mg oral now and on one week

Q3 9/12

1

Atrial fibrillation

Rapid ventricular response

2

Metoprolol 25mg po or 2.5mg boluses up to 15mg IV – has normal BP, minimal/no CCF, no C/I such as asthma, aim for rate control

Ca channel blocker – eg IV verapamil 2.5mg boluses up to 15mg – for rate control, avoid in hypotension and current CCF, avoid if co-prescribed beta blocker

Digoxin 500mcg slow infusion – use for rate control when low BP or presence of CCF, slow onset action

Flecainide 2mg/kg oral / IV – for cardioversion – structurally normal heart when AF is less than 48hr onset

Amiodarone 5mg/kg slow IV – for cardioversion – when flecainide C/I and lees than 48 hr onset AF

MgSO4 – 10-20mmol slow IV – my aid in rate control, care with hypotension

Q4 9/13

1

Hypertension >140/or >90mmHg

RUQ tenderness

Papilloedema

Hyper-reflexia

Peripheral oedema

2

Raised uric acid

Acute renal failure

Haemolysis – low HB, raised LDH

Raised LFTs

Low platelets

Proteinuria

3

Terminate seizure midazolam IV 2.5 – 5mg

Left lateral position

IV MgSO4 20mmol infusion

Urgent Obstetric attendance for delivery

BP management – eg hydralazine 5mg IV boluses

Q5 6/10

1

Triage issues – incorrect score / lack of awareness

Medical staff knowledge deficits of importance of timely decision making

Lack of protocol for liaising with stroke unit

Poor access to imaging / CT

Poor access to radiologist for urgent report

- Anything else sensible

2

Education triage staff about signs of stroke and necessity of cat 2

Education medical staff about stroke thrombolysis

Liaise with stroke unit to create pathway for referral / discussion

Liaise with radiology department to improve access to CT and to ensure immediate reporting

ED consultant to prioritise order of CT scans performed

- Plenty of other stuff OK

Q6 8/12

1

Hb – guide packed cell replacement, define severity of blood loss

ABG – quantify degree of hypoxia / respiratory compromise / need for invasive ventilation

Coag – exclude coagulopathy contributing

CXR – looking for masses / malignancy, identifying which lung is bleeding to guide management eg isolated lung ventilation

CTA chest – looking for blush to guide management eg IR embolization, diagnosis of cause

Renal function – in suspected vasculitis eg Wegeners

2

Conservative – no ongoing bleeding

Interventional radiology embolization – active bleeding blush on CT, IR available

Thoracotomy – surgeon available, ongoing bleeding, not amenable to IR

Endoscopic – minor haemoptysis – settled

Q7 7/10

1

IP free fluid

IP free air

Defect anterior stomach wall

Fat stranding around stomach

Thick walled stomach

Multiple small gallstones

2

Perforated peptic ulcer

3

IV fluid – 1L N/S stat aiming for BP>100, reduction pulse rate / adequate perfusion

Analgesia – morphine 2.5mg aliquots

Urgent surgical attendance for laparotomy

IV Abs – something sensible – amp 1g, gent 5-7/kg, metronidazole 500mg

Q8 7/11

1

Vasovagal

Situational syncope – micturition, defaecation, cough

Carotid sinus syncope

2

Drug related – vasodilators

Volume depletion of any cause

autonomic dysfunction eg DM

3

Bifascicular block

Pre-excitation (delta waves)

Prolonged or short QT

Brugada pattern – RBBB with ST elevation V1-3

Findings of ARVC – epsilon waves, negative T waves right precordial leads

Q9 9/13

1

Left superior pubic ramus #

Left inferior pubic ramus #

Right acetabular #

2

Pelvic vessel bleeding – CTA pelvis looking for blush

Septic shock – Hx/Ex for focal source eg crackles for pneumonia

MI – ECG for STEMI pattern

Drug related – overdose morphine – check drug chart

Hypoxia – O2 sats, examine chest / CXR

Q10 17/24

1

Left haemothorax – veiled hemithorax, pleural cap

Mediastinal haematoma – wide mediastinum, rightward displacement NGT, paratracheal stripe, depressed left main bronchus

Right pulmonary contusion – right midzone opacities/consolidation

Right PTX – lucent right hemithorax, subcut emphysema

2

Respiratory acidosis – underventilation, need to increase MV

HAGMA – mainly lactate due to tissue hypoperfusion

Hyperkalaemia – when corrected for acidosis is approx. 3.6

Hypoxia – due to lung pathologies V/Q mismatch – haemothorax, contusions, PTX

3

Improve pO2 – increase FiO2, increase PEEP

Increase MV

Give blood – O neg – aim for systolic BP >80mmHg

Insert left ICC large bore

4

Normothermia / warm

Correct respiratory acidosis

(Restore volume is acceptable)

Resuscitate with blood products aiming for 1:1:1 RBC:FFP:platelets

Use ROTEM to target coagulopathy

Normal ionised Ca

Q11 8/12

1

Past Hx mania / bipolar AD

Pressured speech

Flight of ideas

Thought derailment

Spending money

Sexual promiscuity

Delusions of grandeur

(many others)

2

TFTs – thyrotoxicosis can present with similar mental state

CT head – in first presentation of major mental health disorder

Serum Na – where excessive water consumption, cause for delirium

LP – to look to encephalitis if febrile, meningism

BSL – hypoglycaemia as cause for delirium, hyperglycaemia if diabetic with intercurrent illness

Urine drug screen – looking for amphetamine use as a precipitant for behavioural disturbance

(probably many others)

Q12 7/12

1

Acute alcohol withdrawal – tremor, tachycardia, fever, seizures

Wernicke's encephalopathy – nystagmus, confusion, ataxia

Peripheral neuropathy – stocking style sensory loss, loss ankle jerk

Cerebellar degeneration – dysdiadochokinesis, nystagmus, ataxia, past pointing etc

Several others OK eg alcoholic hepatitis, pancreatitis, gastritis,

Q13 7/10

1

Extruded iris / aqueous humour

Irregular pupil

Cloudy cornea

Scleral injection

2

Penetrating eye injury

3

Analgesia – eg IV morphine 2.5mg aliquots

Anti-emetic IV ondansetron 8mg

Urgent review Ophthalmology

IV Antibiotics – drugs not required for this one

Eye shield

Q14 7/12

1

Indirect inguinal hernia – extends from inguinal canal (can't get above it), may contain bowel sounds – urgent surgery if incarcerated, semi-urgent if reducible

Hydrocele – transillumination, soft, non-tender swelling, normal testis – conservative, most resolve by age 2

Testicular torsion – irritable child, tender testicle, high riding, no cremasteric reflex – urgent surgical correction

Q15 8/12

1

BSL – exclude hypoglycaemia as a cause in fulminant liver failure

Serum Na – hypoNa cause of confusion – due to CLD, diuretics

CT head – high chance of intracerebral bleed in coagulopathy due to CLD

Ascitic fluid tap – to exclude SBP as a precipitant for hepatic encephalopathy

Hb – GI bleed as cause for hepatic encephalopathy

One other tests for sepsis OK – CXR / urine

Serum NH4 – to confirm hepatic encephalopathy as a cause for confusion

Q16 8/11

1

Right posterior hip dislocation

2

CT – acetabular fracture, femoral head fracture (femoral arterial injury OK if CTA)

MRI – sciatic nerve injury, capsule / labral tear

3

Sedate well

Stabilise pelvis

Hip flexed and adducted

Traction in this position

Q17 6/10

1

Sinus tachy 100-110bpm

RBBB – RSR in V1

Right axis deviation

S1Q3T3 – RV strain

RV strain – ST depression V1 V2

2

Pulmonary embolus

3

Dilated RV

Poorly contractile RV

Hyperdynamic LV

Dilated IVC

Also accept – McConnell sign (RV RWMA sparing RV apex), bowing septum to LV

Q18 7/11

1

Renal failure

Chemotherapeutic agents

Family Hx

Diuretics – thiazide, loop

Dietary – high purine foods, alcohol

Hyperuricaemia

2

Negatively bi-refringent crystals

WBC 200 – 50000/uL

Predom PMNs

Yellow, turbid fluid

3

NSAIDs – eg ibuprofen 400mg tds

Prednisone 50mg od 3 days

Colchicine 500mcg – many different regimes exist – as long as it is safe

Q19 9/12

1

Pre-oxygenation / hypoxia

- Maximal FiO2 – 15L NRB / BVM with 15L / MIV 100%
- Addition of NP at 15L for apnoeic oxygentation
- Avoid apnoea – bag until able to intubate
- Experienced intubator

Hypotension

- IV N/S bolus 20ml/kg
- Choice of induction agent and dose – eg ketamine ~1mg /kg
- Vasopressor/ inotrope with induction – including safe dose

2

TV 90mL

RR at least 20

FiO2 100%

Limit at least 35cmH20, not more than ?45cmH20

Q20 8/12

1

Sympathomimetic toxidrome

- Dilated pupils, Hx use amphetamines, track marks
- Supportive – benzodiazepines, cooling +/- intubation to facilitate paralysis and cooling

Serotonin toxicity

- MDMA use, dilated pupils, hypertonia, hyperreflexia, clonus
- As above

Meningitis

- Meningism / neck stiffness, petechial rash of DIC, Hx headache / unwell, LP – white cells
- IV antibiotics ceftriaxone 2g +/- vancomycin 30mg/kg, IV fluids, supportive Rx

Heat stroke

- Hot environment, use of drugs will predispose, lots of activity (eg dancing)
- Supportive, cooling – cold IV fluids, ice packs, potentially intubation with paralysis

Status epilepticus

- Hx epilepsy, Hx of aura prior to seizure
- Anti-epileptic drugs: with dose, supportive care

Others will be OK

Q21 7/12

1

Time ingestion

Dose ingested

Formulation – immediate vs sustained release

Staggered vs one-off ingestion

Co-ingestants

Self-decontamination ie vomiting

2

- Within 2 hrs for immediate release ingestion >200mg/kg
- Within 4 hrs for sustained release >200mg/kg
- Massive (>30g) ingestion – within 4 hours immediate release and all SR

3

- INR > 3.0 at 48 hours or > 4.5 at any time
- oliguria or creatinine > 200 mmol/L
- persistent acidosis (pH < 7.3) or arterial lactate > 3 mmol/L
- systolic hypotension with BP <80 mmHg, despite resuscitation
- hypoglycaemia
- severe thrombocytopenia
- encephalopathy of any degree, or ALOC (GCS < 15) in the absence of sedatives.

Q22 7/11

1

Erythema

Oedema

Pustule around removed piercing superior pinna cartilage

3 remaining piercings in situ

2

Perichondritis right ear

3

Pseudomonas aeruginosa

Staph aureus

4

Cartilage necrosis

Abscess formation

Systemic involvement / sepsis

5

Analgesia – something sensible

Antibiotics to cover Pseudomonas – eg pip/taz or ciprofloxacin

ENT review

Take other ear-rings out

Q23 7/10

1

Bulging fontanelle

Sick child – with some examination features to support this eg vital signs

Irritable / unconsolable

Apparent neck stiffness

No other source of fever/ no clear focus is acceptable

Seizure but regained consciousness (not focal / ongoing)

(should not mention C/I such as coma, focal signs/focal seizures, skin infection, coagulopathy etc)

2

Organized follow –up within 12-24 hours

Parents sensible

Ability to reattend hospital

Previously healthy

Looks well

WBC – 5-15

Urine clear

CXR clear

CSF clear

Q24 13/18

1

Subarachnoid blood

Extension to subdural space on right ie SDH

Blood in 4th ventricle

Midline shift to left

Parafalcine herniation

Loss grey/white differentiation – oedema

Also accept comment on localisation of haemorrhage right middle meningeal A territory

2

SAH

3

Non-cardiogenic **pulmonary oedema**:

Bilateral symmetrical pulmonary infiltrates

Peri-hilar predominance

Alveolar in pattern

Normal heart size

4

Urgent neurosurgical referral

BP control – eg hydralazine 5mg aliquots aim BP systolic 160mmHg

Nimodipine infusion to prevent vasospasm

Increase PEEP to manage APO – eg 10cm H2O

5

Vasospasm

Re-bleed

Hydrocephalus

seizure

Q25 7/11

1

Mucosal necrosis

Sinus infection

Aspiration of FB

2

GA in OT

Procedural sedation in ED eg ketamine

Physical restraint eg wrap in sheet

3

Suction

Direct instrumentation eg Curved paperclip

Foley catheter

Mouth to mouth from parent

Attempts at nose blowing with closed opposite nostril

Q26 9/13

1

Severe kyperkalaemia – due to rhabdomyolysis, probably also acidosis

HAGMA – renal failure, also possibly lactic acidosis from hypoperfusion

Renal failure – urea:creat suggests intrinsic – due to rhabdo

Severely raised CK – rhabdomyolysis from lying on ground

2

Pupils – looking for toxidromes, or blown pupil of raised ICP

Focal neuro signs c/w intracranial event

Muscle compartments – exclude compartment syndrome due to lying on floor

Skin examination for pressure areas

Chest / lungs for aspiration from reduced LOC

3

IV Ca gluconate 30mL 10% for cardiac protection

IV HCO_3 50-100mmol – K reduction

IV insulin 10U / dextrose 50mL 50% - K reduction

Intubate – protect airway and control CO_2

IV fluid N/S – titrate to UO 1ml/kg/hr to manage rhabdo and prevent further renal failure

Also accept – salbutamol for K reduction

Q27 12/18

1

Fracture eg toddler fracture – tender tibia on palpation shaft, Hx fall

NAI – multiple bruises different ages, inconsistent Hx from parent

Septic hip – fever, pain on passive ROM hip

Foreign body foot – FB visible on inspection

Transient synovitis – Hx viral illness, well child

There are others….

2

Xray hip – looking for developmental hip dysplasia, Perthes (rare but possible age 2)

USS hip joint – for effusion in septic hip

CRP / ESR – inflammatory marker elevated in septic hip

WBC – as above