Illawarra Shoalhaven Local Health District

Emergency Medicine Fellowship Program

Topic-Based Quiz: Qs and As

Paediatrics 2

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: Paediatrics 2

Question 1

A 14 year old girl is brought in to the ED with her boyfriend complaining of right iliac fossa pain since this morning, associated with poor oral intake and nausea. She has no past medical history and has been otherwise been previously well.

Differential diagnosis of patient's presentations (5 marks)

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List 3 Paediatric pain scales used (3 marks)

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List investigations that you would order for this patient in the ED and give your rationale (4 marks)

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Question 2

An 8 year old male is brought to the ED with 3 days history of headache, fever, lethargy, poor oral intake and decreased urine output. He has no past medical history with no regular medications. The boy was previously well, apart from vomiting and diarrhoea of 3 days duration after an overseas trip to Indonesia 1 week prior.

Initial blood tests showed

Na 135 Hb 78

K 4.4 WCC 12

Cl 107 Platelets 55

Urea 13

Creatinine 235

What other further investigations would you order for this patient's condition? (5 marks)

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What is your management for this patient? (5 marks)

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Complete the table (10 marks)

	ITP	TTP	HUS	HIT	DIC
↓Platelets					
↑PT/INR					
MAHA					
↓Fibrinogen					
OK to give Plt					

Question 3

A 7 week old boy is brought in by his parents with inconsolable crying for 16 hours. The parents look exhausted and dejected. The boy has unremarkable birth history and is thriving.

List the potential causes of patient's crying (5 marks)

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What are important features in history that need to be obtained? (5marks)

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You do not find a significant cause to the boys crying. You decide to discharge the patient.

What approach to discharge would you use? (5 marks)

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Question 4

A 14 year old girl is brought into the hospital via ambulance after a syncopal episode while playing soccer. She recovered spontaneously without any first aid measures. Paramedics were called and observation were noted to be within normal limits.

List down the components of the San Francisco Syncope Rule and <u>one</u> high risk group not covered in this score (5 marks)

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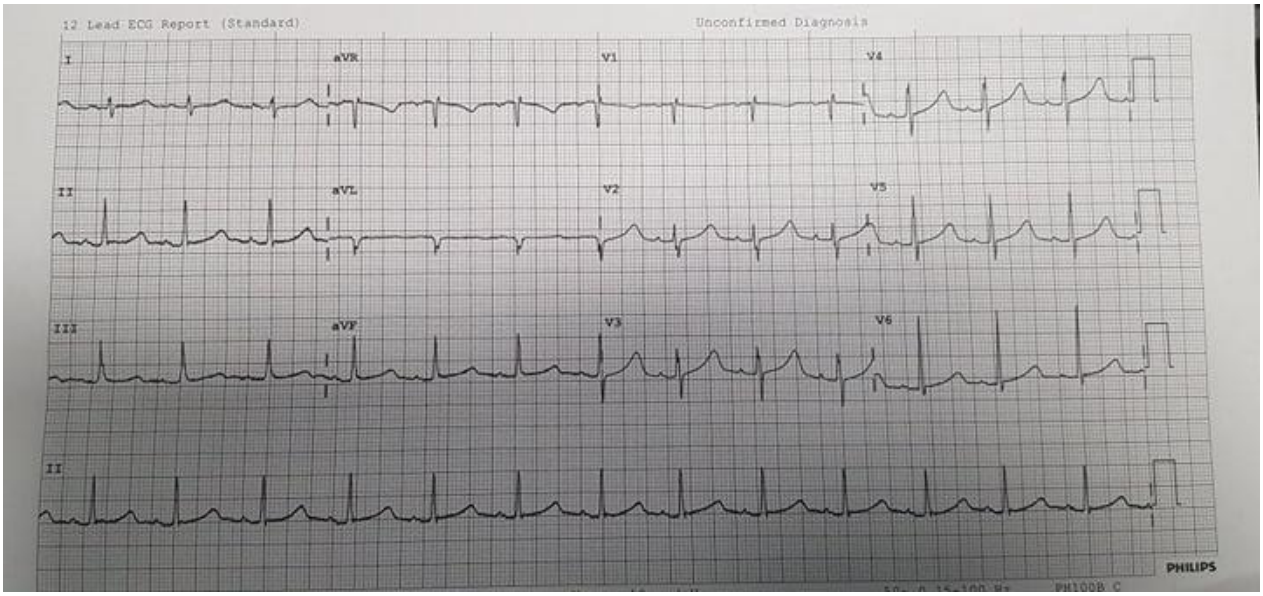
An ECG was done on arrival of the patient.



List 3 relevant findings in the ECG (3 marks)

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Topic-Based SAQ Quiz: Paediatrics 2

Apart from the findings in the ECG , what are other potential cardiac causes of syncope in this girl? (4 marks)

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List 4 noncardiac causes of syncope in children? (4 marks)

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Question 5

A 10 year old is brought in by her parents because of a sore throat that has worsened over the last 2 days. It is associated with fever, odynophagia, hoarseness and painful neck nodules.

Vital signs are:

BP 100/60

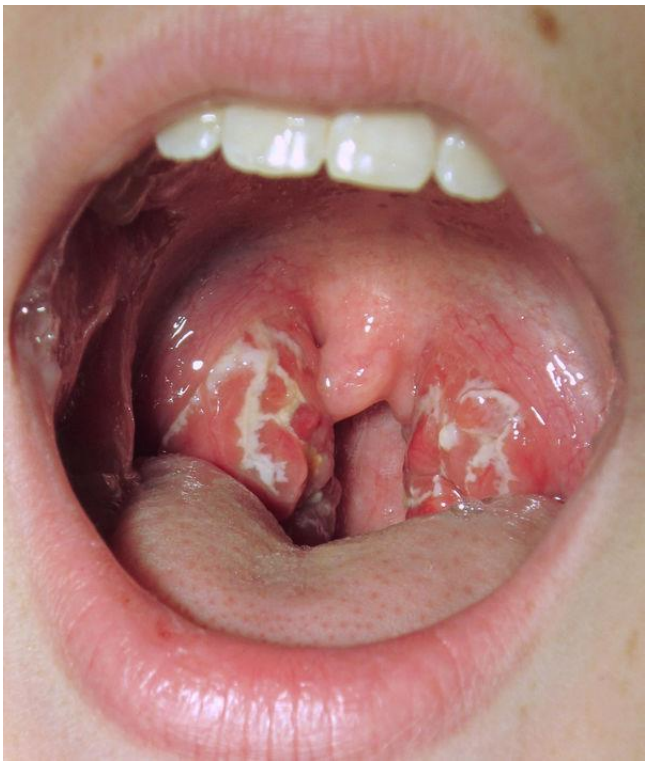
HR 115 bpm

RR 20brpm

SaO2 100 % RA

T 39.5C.

She has tender anterior neck swelling and cervical lymphadenopathy as well as mild exertional stridor. A photograph of her throat exam is shown in the photo



Give 5 differentials for this patient's presentation (5 marks)

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Topic-Based SAQ Quiz: Paediatrics 2

List down the criteria for the CENTOR Score (5 marks)

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Outline your management of this patient? (5 marks)

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Topic-Based SAQ Quiz: Paediatrics 2

ANSWERS

Question 1

Differential diagnosis of patient's presentations (5 marks)

- Ectopic pregnancy
- Ovarian torsion
- PID/TOA
- Terminal ileitis
    - Yersinia
    - Campylobacter
    - Enterohaemorrhagic E coli--- HUS
- Crohn's disease
- Cecal Volvulus
- Intussusception
- Gastro/duodenal Perforation
- Ureterolithiasis
- UTI/Pyelonephritis
- Biliary colic
- Epiploic appendagitis
- Omental torsion
- Mesenteric Adenitis

List 3 Paediatric pain scales used (3 marks)

Wong Baker Face scale

Numerical

FLACC

Visual analogue

Neonatal assessment tool

List investigations that you would order for this patient in the ED and give your rationale (4 marks)

Urine BHCG- pregnancy or ectopic

US pelvis- TOA/PID/ Ectopic pregnancy

US abdomen- Appendicitis, mesenteric adenitis

Urinalysis- UTI/Pyelonephritis

US KUB- Pyelonephritis/ Renal stones

FBC- Anaemia, WCC indicative of infection (<5 or >15)

Question 2

What other further investigations would you order for this patient's condition? (5 marks)

FBC- anaemia, dec plt, Peripheral smear- Schistocytes, Spherocytes, segmented RBC

LDH

Haptoglobin

Reticulocyte count

APTT/PT/INR

Stool test- Shiga toxin, E coli 0157:H7 Test

LFTs- Raised Bili

Urinalysis – Haematuria, casts

What is your management for this patient? (5 marks)

Supportive care and monitoring are the mainstays

Seek and treat the underlying cause and any complications

Plasma exchange and plasma infusion

Fluid restriction and diuretics

Anti-hypertensives

Avoidance of nephrotoxins where possible

RRT if necessary

Eculizumab

Admit

Complete the table

	ITP	TTP	HUS	HIT	DIC
↓Platelets	Yes	Yes	Yes	Yes	Yes
↑PT/INR	No	No	No	+/-	Yes
MAHA	No	Yes	Yes	No	Yes
↓Fibrinogen	No	No	No	No	Yes
OK to give Plt	Yes	No	No	No	Yes

Question 3

List the potential causes of the boys crying (5 marks)

T — Trauma (accidental and nonaccidental injuries) and bites (e.g. insects), tumours

I — Infections (otitis media, herpes stomatitis, urinary tract infection, meningitis, osteomyelitis, etc)

M — Maternal/ parental stress, anxiety or depression

S — Strangulation (hair/fiber tourniquet)

C — Cardiorespiratory disease

R — Reflux, reactions to medications, reactions to formulas, rectal (anal fissures)

I — Intracranial hypertension, immunizations, intolerance of lactose or cow's milk allergy

E — Eye (corneal abrasions, ocular foreign bodies, glaucoma, retinal haemorrhages)

S — Surgical (volvulus, intussusception, inguinal hernia, testicular torsion)

What are important features in history that need to be obtained? (5marks)

Temporal association of crying with feeds.

Variation of crying with contextual or environmental factors.

Parental response — in terms of emotional responses and actions.

The parents support system. Screen for depression. Consider the potential for non-accidental injury.

Growth and development — physical causes of chronic crying are rare if the child is thriving.

Associated symptoms — e.g. vomiting, diarrhoea, eczema.

You do not find a significant cause to the boys crying. You decide to discharge the patient.

What approach to discharge would you use? (5 marks)

Explain that the infant is not unwell or in pain and that crying and unsettled behaviour will improve with time.

Provide empathic acknowledgment of anxiety and stress, constructive options for ongoing support from within and outside the family.

Provide printed information with management advice and support contacts

Follow up with Maternal/ child health nurse, General practitioner or General paediatrics have been arranged

Offer Inpatient admission — for severe cases or if there is risk of parental exhaustion or non-accidental injury to the infant.

Topic-Based SAQ Quiz: Paediatrics 2

Question 4

List down the components of the San Francisco Syncope Rule and one high risk group not covered in this score (5 marks)

C - History of congestive heart failure

H - Hematocrit < 30%

E - Abnormal ECG

S - Shortness of breath

S - Triage systolic blood pressure < 90 ‘

High risk group = EXERTIONAL SYNCOPE

List 3 relevant findings in the ECG (3 marks)

Sinus rhythm

Normal rate 78 bpm

Prolonged QT

Normal axis

Apart from the findings in the ECG , what are other potential cardiac causes of syncope (4marks)

Short QT syndrome

Brady/tachyarrhythmia
Brugada syndrome
Wolff-Parkinson-White syndrome
Structural abnormalities (e.g. aortic stenosis, hypertrophic cardiomyopathy)

What other noncardiac causes of syncope (6 marks)

Vasovagal syncope (also called neurocardiogenic)

Functional disorder
Hypoglycaemia
Seizure
Migraine
Anaemia
Narcolepsy
Toxic exposure (e.g. carbon monoxide, clonidine)

Topic-Based SAQ Quiz: Paediatrics 2

Question 5

Give 5 differentials for this patient's presentation (5marks)

Acute pharyngitis/Tonsilitis

EBV/Infective Mononucleosis

Peritonsillar abscess

Retropharyngeal abscess

Ludwig's Angina

Epiglottitis

Diphtheria

Bacterial Tracheitis

List down the criteria for the CENTOR Score (5 marks)

Absence of cough

Tonsillar exudates

History of fever

Tender anterior cervical adenopathy

Age under 15 add 1 point , Age over 44 subtract 1 point

Outline your management of this patient? (5 marks)

Assess for signs of dehydration and start fluid replacement via IV or NGT as needed

Simple analgesia with escalation to parenteral opiods (Paracetamol 15mg/kg, Ibuprofen 10mg/kg, Oxycodone 0.1-0.2 mg/kg, Fentanyl 1.5mg/kg IN/ 1-2mg/kg IV, Morphine 0.1-0.2mg/kg IV)

Consider Corticosteroids if unresponsive to analgesia (Dexamethasone 0.15mg/kg po/IV/IM or Prednisone 1 mg/kg as single dose)

Antibiotics for high risk groups- Phenoxymethylpenicillin < 20 kg: 250mg two times daily

> 20 kg: 500mg two times daily for 10 days, Amoxicillin 50mg/kg once daily (max 1g) for 10 days Benzathin Penicillin IM if noncompliant, cefalexin for hypersensitivity or azithromycin if anaphylactic

Admission if signs od dehydration or severe pain unresponsive to analgesia