

OSCE 2

Candidate Instructions

This is a **7 minute** physical examination station.

Holly is a 3 year old girl who was brought to your ED by her mother with a new onset non blanching petechial rash and fever (See photo).

She developed the rash on the right leg this morning and it is now progressing upwards. She has had a 4 day history of fever (measured at 38.5C) , and coryzal illness. No vomiting or diarrhea. Tolerating some oral intake and has normal urine output.

Past History: Nil. She is immunized.

Medications: Nil regular. She has been given paracetamol and ibuprofen for her fever. She last had some paracetamol 1 hour prior to presentation. She has not been given any antibiotics.



Your tasks are to:

- Describe to the Examiner the focused physical examination you would perform to determine a differential diagnosis and to guide your ongoing plan for investigation and management.
- Answer further questions from the Examiner.

You will be interacting directly with the Examiner throughout the station.

This OSCE will assess the following domains:

- Medical expertise
 - Physical examination (50%)
 - Provisional diagnosis, investigations and disposition (30%)
- Prioritisation & Decision Making (20%)

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Examination Findings

Observations:

Temp 36.8 deg
HR 110 bpm
Sats 100%RA
Resp rate 22/min
Capillary return < 2 secs

Child appears well. Interacting and happily reading a book.

The rash is non-blanching, petechiae <2mm. No purpura. Present on both lower limbs below the knee, predominantly on the right. Non tender.

Chest, abdo, ENT exam all normal.

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Examiner Instructions

Station summary: Examination of a well child who presents with fever and petechial rash.

1. “Please describe the physical examination you would perform to determine a differential diagnosis and to guide your ongoing plan for investigation and management.”

Key aims of the examination:

- Recognition of meningococcal disease
- Differentiate between other key differential diagnoses:
 - o Viral infections including enteroviruses and influenza
 - o Other causes of bacteraemia including *Streptococcus pneumoniae* and *Haemophilus influenzae*
 - o Other diseases including Henoch Schonlein purpura, ITP and leukaemia

General inspection – well or unwell?

- Vital signs and cap refill. Signs of unwell child – abnormal vital signs (tachycardia, tachypnoea or hypoxia), prolonged cap refill, cold extremities, altered conscious state (irritable, inconsolable, lethargic)

Rash – is there purpura (>2mm)? Unwell child with purpura suggests meningococcal or HSP.

- Distribution – mechanical cause eg tight clothing, buttocks (HSP)

Signs of specific diagnoses:

- Signs HSP – purpura on lower limbs and buttocks, joint swelling/pain, abdo (bowel obstruction, intussusception), urinalysis (haematuria, proteinuria), hypertension, oedema hands/feet
- Leukaemia – clinical signs anaemia (pallor, conjunct, SOB, lethargy) hepatosplenomegaly, lymphadenopathy, mouth ulcers
- ITP – well looking child, petechiae, bleeding gums, epistaxis

Provide candidate with examination findings relevant to those physical signs that the candidate examined.

2. Would you perform any investigations? If so, what?

Well child with fever and petechiae, without mechanical cause evident – require bloods to stratify risk and exclude ITP and leukaemia: FBE and film, CRP, blood culture.

3. Describe your management plan in the Emergency Dept.

Observe for minimum 4 hours with regular vital signs and skin examination. If remains well, no progression of rash and normal bloods – can be discharged with review within 24 hours.

If isolated thrombocytopenia – treat as per ITP.

Abnormal WCC/CRP – treat as per meningococcal: fluid resus as required, IV cephalosporin, early Paed consult, admission.

Children with ALL of the following features have a very low risk of meningococcal disease and may be discharged from the emergency department after 4 hours observation:

- Well and
- WCC $5 - 15 \times 10^9/L$ and
- CRP $< 8 \text{ mg/L}$ and
- No deterioration in clinical state or progression of the rash over 4 hours

(Ref: RCH petechiae & fever guideline.)

Domain criteria:

Medical expertise - Physical examination (50%)

- Identifies the elements that must be sought on initial assessment to formulate an initial management plan (specify which elements relevant to the station)
- Seeks evidence of time critical diagnoses when performing assessment
- Describes a focussed, structured and relevant physical examination
- Describes expected physical signs for a diagnosis
- Differentiates expected physical signs for different conditions
- Recognises signs on physical examination that indicate the patient is or at risk of imminent deterioration

Medical expertise - Provisional diagnosis, investigations & disposition (30%)

- Generates a relevant list of differential diagnoses after synthesising clinical information found on initial assessment
- Creates a focused investigation plan that confirms or excludes time critical diagnoses
- Explains the reasons for selecting those tests in that investigation plan
- Outlines an overall plan for ongoing treatment of a patient.
- Creates a safe and clear discharge plan for a patient (specify the details to individualise this to the station).

Prioritisation & Decision Making (20%)

- Highlights which of a number of selected investigations has/have higher priority
- Highlights high-risk features identified during initial patient assessment
- Explains the rationale for prioritising a particular diagnosis over others
- Prioritises a differential diagnosis list to determine the most likely diagnoses in a patient
- Prioritises chosen treatment options to create an appropriate escalating treatment plan
- Provides a rationale to explain disposition decisions