Petechiae +/- Fever

**Petechiae:** Pinpoint (1-2 mm) red or purple non-blanching spots on the body

**Purpura:** Larger (> 2 mm) red or purple non-blanching spots on the body

**Fever:**
- > 38°C in the > 1 month age group
- > 37.5°C in the < 1 month age group

**Background**

- The cause of petechiae and fever is difficult to diagnose on presentation
- Always err on the side of caution and obtain senior medical advice early
- This guideline is for Princess Margaret Hospital **internal** use only

**General**

- In Australia, most cases of meningococcal disease occur in winter or early spring.
- Less than 10% of children with petechiae and fever will have meningococcal disease.
- Early recognition and treatment is paramount.
- Mortality risk is high at approximately 10%. Furthermore 10-20% of patients who survive will develop permanent sequelae.
- Well children with petechiae confined to the area of the distribution of the superior vena cava (SVC) (above the nipple line) are unlikely to have a diagnosis of meningococcal disease.
- Consider: investigation and treatment of children who may have received **partial treatment with antibiotics**
Assessment

Differential diagnoses

Causes Of Petechiae:

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral</td>
<td>Influenza, Enterovirus</td>
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<tr>
<td>Bacterial</td>
<td>Neisseria meningitidis, Haemophilus influenzae, Streptococcus pneumoniae</td>
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<tr>
<td>Mechanical</td>
<td>Vomiting, coughing – petechiae to head and neck&lt;br&gt;Local pressure – (tourniquet, holding, trauma) – petechiae to site&lt;br&gt;Non-accidental injury (NAI)</td>
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<tr>
<td>Other</td>
<td>Henoch Schonlein purpura (HSP), Immune thrombocytopenic purpura (ITP), Systemic lupus erythematosus (SLE), Leukaemia</td>
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Management

- All patients with petechiae need to be reviewed by an Emergency Department Senior Doctor
- No discharge home between midnight and 8am

Initial management

Temperature > 38°C and looks unwell:
- Investigations:
  - FBC, U&E, CRP, venous blood gas (+/- coagulation profile to screen for DIC)
  - Meningococcal PCR, Blood Culture
  - +/- lumbar puncture (See ED guideline: Lumbar Puncture to determine if appropriate)
- Intravenous antibiotics: Ceftriaxone 50mg/kg
- Consider intravenous fluids: 0.9% saline 20mL/kg, repeat if signs of shock
- Hourly observations: temperature, heart rate, respiratory rate, blood pressure, capillary refill, AVPU
- Medical review hourly including skin (for spreading petechiae)
- Admit to ward under General Paediatric Team
- Consider PICU referral
If looks well:
- **No Investigations until reviewed by ED consultant** (in hours)
- If after midnight,
  - Admit to Emergency Short Stay Unit (4E) until consultant review
  - Consider investigating and treating as above for the unwell child if patient has abnormal vital signs
  - Hourly observations: temperature, heart rate, respiratory rate, blood pressure, capillary refill, AVPU
  - Medical review hourly including skin (for spreading petechiae)
- If on review child looks **unwell**, has spreading petechiae or has developed abnormal vital signs – investigate and treat as above for the unwell child.

**History of mechanical cause**
- Consider differential diagnoses: ITP, HSP
- If suspected non-accidental injury refer to Child Protection Unit (CPU)
- Consider investigations for underlying aetiology - HSP, ITP, SLE, non-accidental injury

**Discharge criteria**

No signs of deterioration or progression of rash:
- Emergency Department Senior Doctor must review the patient prior to discharge
- Follow up: General Practitioner within 24 hours

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