FEVER IN CHILDREN: 3 MONTHS TO 5 YEARS PRESENTING TO THE EMERGENCY DEPARTMENT

SETTING: Children’s Emergency Department, Bristol Royal Hospital for Children (BRHC)

FOR STAFF: Nursing and Medical Staff

PATIENTS: Children aged 3 months to 5 years presenting with a Fever >38°C

Guidance

This guidance has been updated following the new NICE guidelines on Fever in Children, published May 2013. The key points are:

- Take seriously parental report of fever, even if this is not present in the Emergency Department (ED).
- Document the presence or absence of traffic light symptoms and signs (Table 1) in the notes.
- Do not use a reduction in temperature after antipyretics to differentiate between serious and non-serious illness.
- Reassess all children with amber or red features after one to two hours.
- Consider other factors in addition to the clinical state when deciding upon admission e.g. social circumstances, time of day.
- Consider iv antibiotics in children admitted as per BRHC antibiotic policy.
- If a focus of infection is identified, treat as appropriate.
- Beware that classic signs of meningitis are often absent in infants with bacterial meningitis.
- When discharging children, provide parents or carers with written discharge information and a clear plan for follow up if required. This should usually be with the GP but may be in ED clinic in some circumstances.
- Antipyretics do not prevent febrile convulsions and should not be used solely for this purpose (see note on Antipyretic interventions at the end of this guidance).
- Send urine for microscopy and culture in children under 3 years as dip urinalysis can be unreliable.

Normal values in infants and children

<table>
<thead>
<tr>
<th>Age</th>
<th>Birth</th>
<th>1 month</th>
<th>6 months</th>
<th>1 year</th>
<th>2 years</th>
<th>5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>110-180</td>
<td>110-180</td>
<td>120-160</td>
<td>100-150</td>
<td>95-140</td>
<td>80-120</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>30-60</td>
<td>30-60</td>
<td>30-50</td>
<td>20-40</td>
<td>20-30</td>
<td>20-25</td>
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</tbody>
</table>
TABLE 1: Traffic light system for identifying risk of serious illness:

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Normal Colour</td>
<td>Pallor reported by parent/carer</td>
<td>Pale/mottled/ashen/blue</td>
</tr>
<tr>
<td>Activity</td>
<td>Responds normally to social cues</td>
<td>Not responding normally to social cues</td>
<td>No response to social cues</td>
</tr>
<tr>
<td></td>
<td>Contents/smiles</td>
<td>No smile</td>
<td>Appears ill to a healthcare professional</td>
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<tr>
<td></td>
<td>Stays awake or awakens quickly</td>
<td>Wakes only with prolonged stimulation</td>
<td>Does not wake or if roused does not stay awake</td>
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<tr>
<td></td>
<td>Strong normal cry/not crying</td>
<td>Decreased activity</td>
<td>Weak, high pitched cry or continuous cry</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Nasal flaring</td>
<td>Tachypnoea:</td>
<td>Grunting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o RR&gt;50 breaths/min, age 6 – 12 months</td>
<td>Tachypnoea: RR&gt;60 breaths/minute</td>
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<tr>
<td></td>
<td></td>
<td>o RR&gt;40 breaths/min, age &gt;12 months</td>
<td>Moderate or severe chest indrawing</td>
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<td></td>
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<td>Oxygen saturations≤95% in air</td>
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<tr>
<td></td>
<td></td>
<td>Crackles in the chest</td>
<td></td>
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<tr>
<td>Circulation and hydration</td>
<td>Normal skin and eyes</td>
<td>Tachycardia:</td>
<td>Reduced skin turgor</td>
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<td></td>
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<td>o &gt;160 beats/min, age &lt;12 months</td>
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<td>o &gt;150 beats/min, age 12 – 24 months</td>
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<td>o &gt;140 beats/min, age 2 – 5 years</td>
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<td></td>
<td></td>
<td>CRT ≥3 secs</td>
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<tr>
<td></td>
<td></td>
<td>Dry mucous membranes</td>
<td></td>
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<td></td>
<td></td>
<td>Poor feeding in infants</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>None of the amber or red symptoms or signs</td>
<td>Age 3 – 6 months, temp ≥39°C</td>
<td>Age &lt;3 months, temperature ≥38°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fever for ≥5 days</td>
<td>Non-blanching rash</td>
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<td></td>
<td></td>
<td>Rigors</td>
<td>Bulging fontanelle</td>
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<td></td>
<td></td>
<td>Swelling of a limb or joint</td>
<td>Neck stiffness</td>
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<td></td>
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<td>Non-weight bearing limb/not using an extremity</td>
<td>Status epilepticus</td>
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<td></td>
<td></td>
<td>Focal neurological signs</td>
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<td></td>
<td></td>
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<td>Focal seizures</td>
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### TABLE 2: Symptoms and Signs of Specific Diseases

<table>
<thead>
<tr>
<th>Diagnosis to be considered</th>
<th>Symptoms and signs in conjunction with fever</th>
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</table>
| Meningococcal disease      | Non-blanching rash, particularly with one or more of the following:  
  - An ill-looking child  
  - Lesions larger than 2 mm in diameter (purpura)  
  - A CRT ≥3 secs  
  - Neck stiffness |
| Meningitis                | Neck stiffness  
  Bulging fontanelle  
  Decreased level of consciousness  
  Convulsive status epilepticus |
| Herpes simplex encephalitis | Focal neurological signs  
  Focal seizures  
  Decreased level of consciousness |
| Pneumonia                 | Tachypnoea:  
  - RR >60 breaths/min, age 0-5 months  
  - RR >50 breaths/min, age 6-12 months  
  - RR >40 breaths/min, age > 12months  
  Crackles  
  Nasal flaring  
  Chest indrawing  
  Cyanosis  
  Oxygen sats ≤95% in air |
| Urinary Tract Infection   | In a child 3 months or older:  
  - Vomiting  
  - Poor Feeding  
  - Lethargy  
  - Irritability  
  - Abdominal pain or tenderness  
  - Urinary frequency or dysuria  
  - Offensive urine or haematuria  
  - Or any child less <3 months with fever  
  **REMEMBER:** Send urine for MC+S if suspicious of UTI (clinically or from urine dip) in <2yr olds |
| Septic arthritis/Osteomyelitis | Swelling of a limb or joint Not using an extremity Non-weight bearing |
| Kawasaki disease          | Fever for more than 5 days and at least 4 of the following:  
  - Bilateral conjunctival injection  
  - Change in mucous membranes of upper resp tract  
  - Change in the extremities (oedema, erythema, desquamation)  
  - Polymorphous rash  
  - Cervical lymphadenopathy  
  **(See Management of Kawasaki disease guideline** for more details)
Management of children aged 3 months to 5 years presenting to the Children’s Emergency Department with a fever >38°C

Assess and look for specific disease and life threatening symptoms and manage appropriately (tables 1 and 2)

If no focus identified on initial assessment, follow this flow chart:

- **If green features only and child appears well**
  - **Perform**: Urine Dipstick
  - **Assess**: For signs and symptoms of pneumonia
  - **Do Not**: Perform routine blood tests or CXR

- **Disposal**: If diagnosis made, treat child appropriately.
  - If no diagnosis made, child may be managed at home with appropriate advice and follow up plan (usually GP).

- **Any amber features and no diagnosis**
  - **Perform (unless deemed unnecessary)**:
    - Urine Dipstick
    - FBC CRP
    - Blood Culture
    - CXR if fever ≥39°C and WCC >20
    - **Consider**: LP if child younger than 1 year old

- **Any red features and no diagnosis reached**
  - **Perform**: Blood Culture and FBC
  - **Urine Dipstick**
  - **CRP**
  - **Consider**: CXR irrespective of Temp and WCC
  - **LP** in all ages (if not contraindicated)
  - **U&E** and **Blood Gas**

Consider admission according to results, clinical and social circumstances – consider IV antibiotics in these children according to BCH guidelines.

If child does not need admission consider discharging after a period of observation on The Observatory.

Children requiring prolonged observation should be admitted under the General Paediatric team and considered for IV antibiotics.

Ensure advice and a follow up plan (usually GP) for children discharged.
Antipyretic Interventions

Tepid sponging is not recommended to treat fever and nor should the child be underdressed or over-wrapped.

Paracetamol (15mg/kg QDS) or Ibuprofen (5mg/kg QDS) may be used in children with fever who are older than three months and appear distressed (these should not be used with the sole aim of reducing the body temperature).

When using Paracetamol or Ibuprofen in children with fever:

- Continue only as long as the child appears distressed.
- Do not give both agents simultaneously, but consider switching to the other drug if the child’s distress does not improve.
- Only consider alternating these agents if the child becomes distressed with fever before the next dose is due.

Ibuprofen should be used with caution in children who are dehydrated as this may (rarely) cause renal failure.

Advice for home care

Parents or carers can continue to use Paracetamol or Ibuprofen as described above. If the child is safe to discharge home, parents or carers should be advised to:

- Offer their child regular fluids.
- Be aware of signs of dehydration and encourage their child to drink more if these are present:
  - Sunken fontanelle.
  - Dry Mouth.
  - Sunken eyes.
  - Absence of tears.
  - Looks unwell.
  - Check on their child during the night.

Parents or carers looking after a child who has been seen in the ED and discharged, should seek further help if:

- The child has a fit.
- The child develops a non-blanching rash.
- The parent or carer feels that the child is less well or they are more concerned than when they previously attended.
- The fever lasts longer than five days.
- The parent or carer is concerned that they cannot look after the child at home.

<p>| Table A |
|---------------------|-------------------------------------------------|
| REFERENCES          | Fever in under 5s: assessment and initial management, NICE, 2013. |
| RELATED DOCUMENTS   | Bristol Royal Hospital for Children Empirical Medical Antibiotic Guideline |
| AND PAGES           | Urinary Tract Infection In Children Management And Referral |
|                     | Kawasaki Disease Management |
|                     | Management Of The Child With A Non Blanching Rash |</p>
<table>
<thead>
<tr>
<th><strong>AUTHORIZING BODY</strong></th>
<th>Children's ED Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAFETY</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>QUERIES AND CONTACT</strong></td>
<td>Ext 28666 Children's ED</td>
</tr>
</tbody>
</table>