

# FEVER UNDER 5 YEARS - ASSESSMENT AND MANAGEMENT IN THE EMERGENCY DEPARTMENT PRACTICE GUIDELINE<sup>®</sup>

## DOCUMENT SUMMARY/KEY POINTS

- The NSW Agency for Clinical Innovation has endorsed the [Paediatric Improvement Collaborative Febrile Child Guideline](#) which contains useful background information.
- This SCHN guideline contains specific information to guide the management of febrile children locally.
- **Antibiotic Information**
  - For CHW refer to [Antibiotic Stewardship 4 Kids](#) (ABS 4 Kids)
  - For SCH refer to [Empiric Antibiotic Guidelines – SCH](#)
- **Sepsis:** Any febrile child who is seriously unwell should be managed as suspected sepsis as per the NSW Clinical Excellence Commission [Paediatric Sepsis Pathway](#) or [Neonatal Sepsis Pathway](#)
- The most common cause of fever in children is viral infection, however our aim is to identify children with serious bacterial infection (SBI). This requires a combination of clinical judgement, specific investigations and serial observation
- The most common serious bacterial infections are urinary tract infection and pneumonia.
- Other SBIs to consider include meningitis, bone and joint infections, skin and soft tissue infections, mastoiditis, bacteremia and sepsis.
- Infants under 3mths of age are a special group with increased risk of serious bacterial infection and are managed with a risk stratified approach to investigations and empiric treatment.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

<b>Approved by:</b>	SCHN Policy Procedure and Guideline Committee	
<b>Date Effective:</b>	1 <sup>st</sup> May 2024	<b>Review Period:</b> 3 years
<b>Team Leader:</b>	Staff Specialist	<b>Area/Dept:</b> Emergency Department

## Related Documents:

- [Blood Culture Collection \(SCHN Policy\)](#)
- [Meningococcal Disease - Acute Management – ED \(SCHN Policy\)](#)
- [Kawasaki Disease \(Paediatric Improvement Collaborative Guideline\)](#)
- [Urinary Tract Infection \(Typical\): Identification and Management \(SCHN Policy\)](#)
- Empiric Antibiotic resources as listed above
- Paediatric Improvement Collaborative Febrile Child guideline as listed above
- NSW Clinical Excellence Paediatric Sepsis pathway as listed above

## CHANGE SUMMARY

Network document replacing two local guidelines:

- Fever - ED Management - SCH (2014-1009 v2)
- Fever Under 5 Years - Assessment and Management in ED – CHW (2010-0010)
- **30/4/24** – minor review to update formatting in Flowchart 2.

## READ ACKNOWLEDGEMENT

- All clinical staff in SCHN Emergency Departments should read and acknowledge they understand the contents of the Guideline

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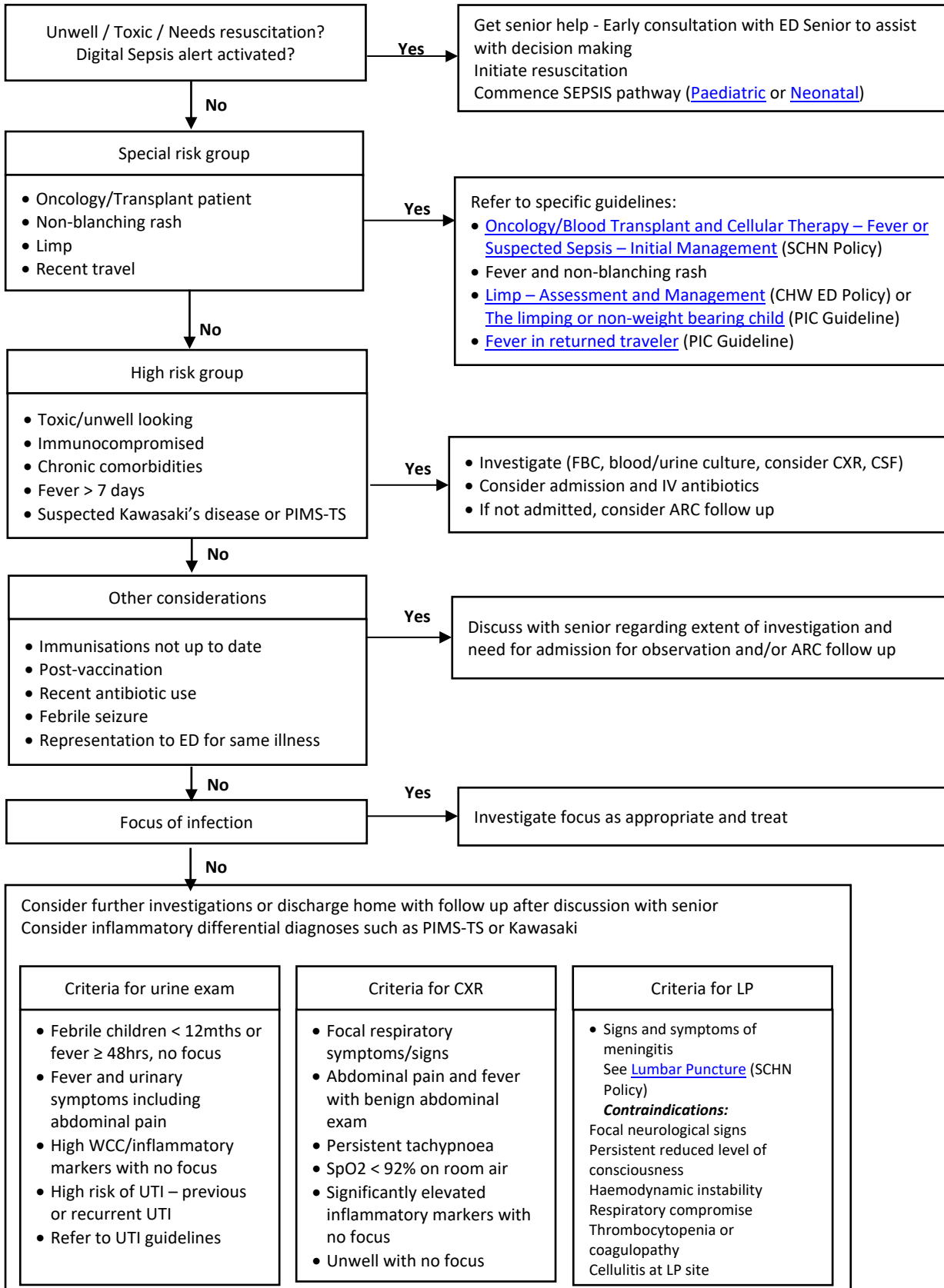
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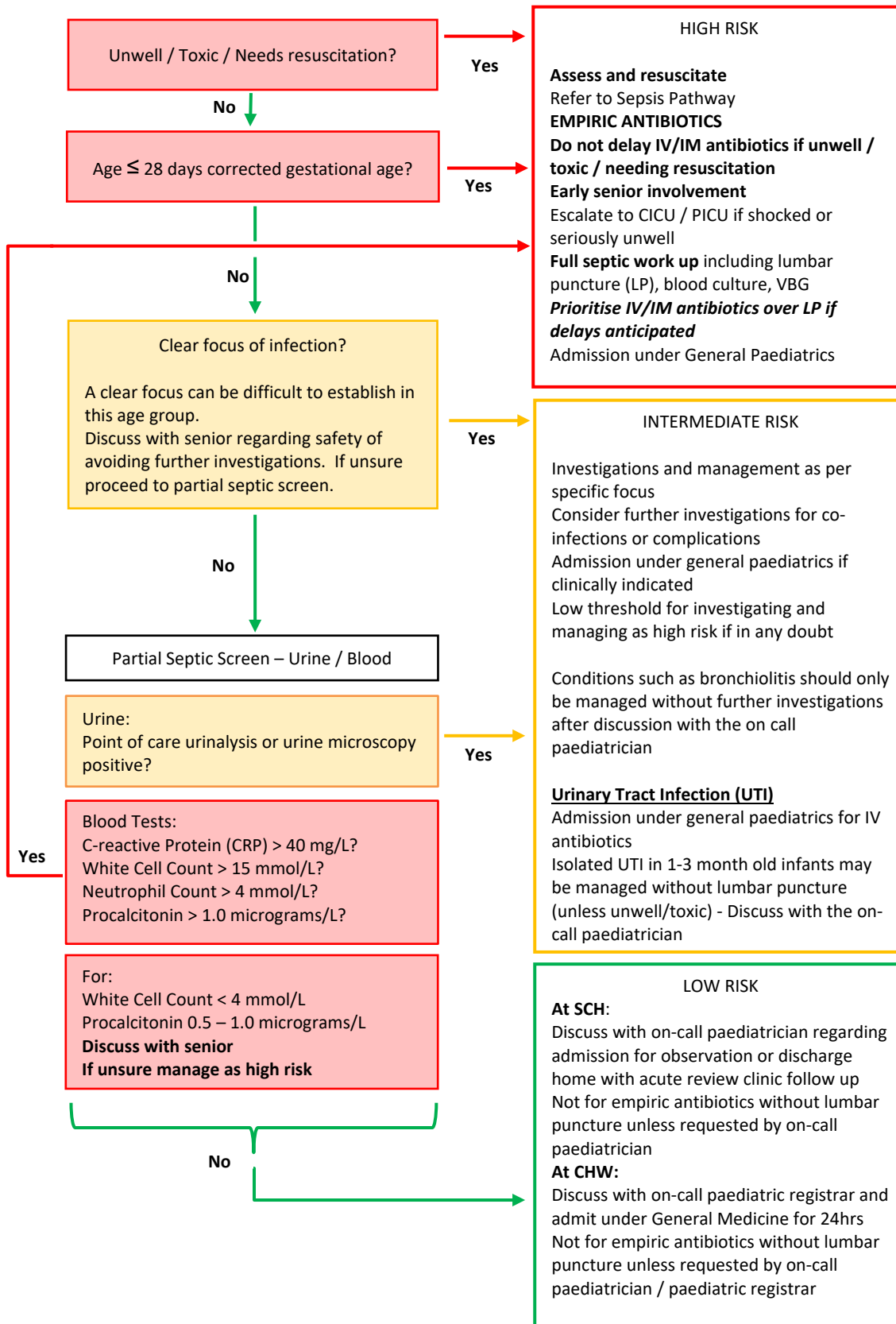
## Flowchart 1: Algorithm for child aged 3 months

(corrected gestational age) to < 5 years with fever ( $T \geq 38^{\circ}\text{C}$ )



## Flowchart 2: Algorithm for child aged under 3 months

(corrected gestational age) with fever ( $T \geq 38^{\circ}\text{C}$ )



### **Temperature Measurement**

- Fever is defined as body (axillary) temperature  $\geq 38^{\circ}\text{C}$
- Temperature measurement
  - Axillary measurement is recommended in this age group
  - Tympanic and skin measurements may be inaccurate
  - Oral and rectal measurements are not recommended due to safety concerns

### **Rationale for clinical approach**

The aim is to identify children with serious causes of fever by assessing for signs, symptoms and risk factors for toxicity and serious infection/disease.

**Table 1: Toxicity Assessment**

<b>Signs and symptoms of toxicity</b>
<p>Presence of one or more of the following</p> <p><b>A:</b> Arousal, alertness or activity decreased, not responding normally to social cues, not waking with prolonged stimulation or not staying awake when roused</p> <p><b>B:</b> Breathing difficulties (tachypnoea, increased work of breathing), grunting, hypoxia</p> <p><b>C:</b> Poor colour (pale/mottled, blue/cyanosed), poor circulation (cold peripheries, increased capillary refill time <math>&gt; 2\text{sec}</math>) or cry (weak, high pitched), signs of vasodilated shock</p> <p><b>D:</b> Decreased fluid intake (less than half normal) and/or decreased urine output (fewer than four wet nappies a day)</p> <p>The presence of any of these signs places the child at higher risk of serious illness. The presence of more than one sign increases the risk. An unwell child can appear drowsy, lethargic or irritable, pale, mottled or tachycardic. Children with any of these signs must be seen urgently, investigated and treated as a priority.</p> <p><b>Unexplained, persistent tachycardia should always raise concerns. Discuss with Consultant/Fellow or senior doctor.</b></p>

## **Investigations and Management**

- Investigations should only be performed if the result is likely to alter management.
- **In urgent cases, such as a toxic child, do not wait for local anaesthetic to work. Get senior help immediately and expedite management.**
- **Any febrile child who appears seriously unwell should be managed as suspected sepsis**
- **Do not accept apparent otitis media or upper respiratory symptoms as the source of infection in young infants or unwell children. These children still require assessment for possible SBI.**
- **In children from high risk groups, have a lower threshold for investigations**
- The choice of investigation is guided by the assessment of the child's level of risk of serious infection (see flowchart)
- **Blood culture** should be taken whenever blood tests are performed on a febrile child (ensure adequate volume of blood – refer to [Blood Culture Collection Guideline](#)). If the child is stable, it is preferable to collect blood cultures before the administration of antibiotics.
- **Venous blood gas** should be collected urgently in unwell or septic children, in accordance with sepsis guidelines
- **White cell count and acute phase reactants** have limited use for informing emergency management in the well looking fully immunised child, especially when there is a focus of infection. They can however be useful for risk stratification in febrile infants 1 to 3 months old and to guide ongoing management in septic and seriously ill children.
- The priority of labs taken should be Blood culture and VBG, followed by FBC then EUC Acute phase reactants
- **Chest X-ray** is most useful if the child has signs of respiratory illness such as cough, **grunting**, tachypnoea, dullness or crackles.
- **Lumbar puncture** should be considered in a young infant, toxic child, irritable child or a child with complex febrile convulsions, especially if the child is already on antibiotics. In the 1-3 month old febrile infant, acute phase reactants and white cell count can help stratify their risk and justify need for or avoidance of a lumbar puncture.
- **If the child is drowsy or is very unwell, resuscitation and antibiotics take precedence – do not delay.**
- **Urine culture** should be performed in:
  - Children who are toxic
  - Febrile children <3 months of age,
  - Febrile children < 12 months or fever ≥ 48h, no focus
  - Febrile children with urinary symptoms including abdominal pain
  - High WCC/Inflammatory markers with no focus of infection
  - High risk of UTI: recurrent UTIs, pre-existing uropathy[Refer to Urinary Tract Infection \(Typical\): Identification and Management](#) for details

## ***Management of Fever***

- Fever is the body's natural response to infection.
- The most important part of managing fever is to identify the underlying cause.
- The presence of fever does not necessarily require the use of antipyretics. Antipyretics may, however, assist in symptom relief if the child is unsettled and miserable with the fever.
- The response to antipyretics should not be used as a diagnostic tool to assess the significance of the infection or to differentiate bacterial from viral infection.
- Non-pharmacological management
  - Remove extra layers of clothing.
  - Encourage fluids.
  - A sleeping settled child should not be woken for regular antipyretic medication.
  - Tepid baths, sponging or fanning are not recommended
- Pharmacological options for managing fever in children include paracetamol and ibuprofen – refer for Children's AMH for dosing information

## ***Discharge criteria and follow up***

Children may be discharged only if they satisfy the following criteria:

1. The child looks well.
2. Observations are between the flags within 1 hour of discharge (discuss with senior if not between the flags)
3. Child tolerating oral intake
4. Advice given regarding sepsis signs, lethargy, reduced oral intake.
5. Fever education and factsheet provided ([Fever Factsheet](#))
6. GP review in 1-2 days where possible, otherwise as soon after as practicable
7. [Acute Review Clinic SCH](#)
8. [Acute Review Clinic CHW](#)
9. Virtual Kids follow up if hydration and/or respiratory assessment required

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