Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline
Fever in Underimmunized Children (3-36 Months)

Please note: There is no expert consensus on this topic. These recommendations are adapted from **this** UpToDate article. As always, feel free to consult a pediatric hospitalist via Tiger Connect role "Peds Wards on Duty."

Note: Children with fevers lower than 102.2 may still require evaluation/work-up, especially if medical complexity, ill appearance, or any other concerns. For fevers lasting five days or more, consider Kawasaki disease or **MIS-C**. Consult pediatric hospitalist.

Child 3-36 months old with <5 days of fever ≥102.2°F.

Is child toxic-appearing or in respiratory distress?
- Yes → Consult pediatric hospitalist.
- No ↓

Is child fully immunized for PCV and HiB? (See box.)
- Yes → Work-up as appropriate.
- No ↓

Is there an identifiable source listed in box?
- Yes → Treat as appropriate. Encourage caregiver update vaccines as soon as possible. If able, offer vaccines or outpatient appointment.
- No ↓

Perform work-up:
- CBC with differential
- Procalcitonin
- Blood culture
- Urinalysis and urine culture
- CXR

Note: The presence of AOM or viral URI does not decrease the risk of occult bacteremia. Thus, an underimmunized child with viral URI should still undergo this work-up; a work-up should be considered if the source is deemed to be AOM.

Is ANC >10,000 OR is procalcitonin >0.5?
- Yes → • Consider LP. May consult pediatric hospitalist. • Give ceftriaxone 50 mg/kg IV or IM.
- No → • Treat UTI if present. (See **guideline**.) • If child is well-appearing, is well-hydrated and tolerating PO intake, and has reliable caregivers, discharge with daily follow-up until blood culture is negative at 36 hours or sooner for any worsening.

Haemophilus influenzae Type A (HiA)

- There is a **high prevalence of HiA in rural Alaska**. Our region has had several pediatric deaths due to HiA in the past five years.
- There are few evidence-based recommendations, as this is rare elsewhere.
- Children with HiA can have meningitis, septic arthritis, severe cellulitis, necrotizing fasciitis, osteomyelitis, pneumonia, and isolated bacteremia.
- In most of the local cases, the child had a fever >104 at some point in the course.
- Children with history of HiA are at risk for recurrence, especially in the first year after initial presentation. These children should have blood cultures drawn with any fever (>100.4) until at least 12 months after the initial infection.
- YKHC pediatricians recommend that any child with a fever ≥104°F be considered at risk for HiA. Blood culture is not mandatory but should be considered. Good follow-up must be assured.

Identifiable Sources

Bacterial:
- Cellulitis and/or abscess
- Bone or joint infection
- Acute suppurative otitis media (see note to left)

Viral:
- Croup
- Influenza
- Herpetic stomatitis
- Hand-foot-mouth disease
- COVID-19
- Kawasaki disease

"Fully Immunized"

If children are under-immunized for pneumococcus (PCV) or *Haemophilus influenzae* type B (HiB), they are at a higher risk for occult bacteremia. Check vaccination status in the Immunization History tab in RAVEN and on VacTrAK for all febrile children.

• **PCV**: YKHC uses the Prevnar 20 vaccine. The recommended schedule is 2 months, 4 months, 6 months, and 12-15 months. **Children are considered "fully immunized" if they have received three doses by one year and four doses thereafter.** If series was started late or interrupted, consult **CDC vaccine schedule** to determine if child is "fully vaccinated."

• **HiB**: YKHC uses the PedVaxHib vaccine. The recommended schedule is 2 months, 4 months, and 12-14 months. **Children are considered "fully immunized" if they have received two doses by one year or three doses thereafter.**
Exceptions:
- If first dose was given at 12-14 months, a second dose will be given >8 weeks for a total of two doses.
- If first dose was given at >15 months, no further doses are required.

NOTE: Some experts consider all children <6 months under-immunized and recommend a cautious approach. If choosing not to do a work-up, child must be followed daily until improvement is documented.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.
Approved by Clinical Guideline Committee 8/2/24. Click **here** to see the supplemental resources for this guideline.
If comments about this guideline, please contact Leslie_Herrmann@ykhc.org.