Clinical Update

For Telephone Triage Nurses

May—June 2008

In this Issue:

- Fever

Key Point:

- Usually, it is how the child looks that is important, not the exact temperature.

References:

1. Trautner BW et al. Prospective evaluation of the risk of serious bacterial infection in children who present to the emergency department with hyperpyrexia. Pediatrics. 2006;118 (1):34-40 (Comment: 20% positive bacterial cultures in children with fever >106 F.)

2. Crocetti M et al. Fever phobia revisited: Have parental misconceptions changed in 20 years? Pediatrics 2001; 107:1241-1246. (Compares original 1980 Denver results to 2000 Baltimore results. Findings: fever phobia has not diminished.)

Pediatric Fever

Preventing Over-Referrals to the Emergency Department

Dear Nursing Colleague:

Fever is one of the most common symptoms of childhood. In our call center, fever is part of the symptoms in 20% of calls and an isolated symptom in 3% of calls. Combine this with the high prevalence of fever phobia, and we have the perfect recipe for over-referral. Unnecessary ED visits are not benign. They cost parents time and co-pays. They expose the child to other infections.

The following are some **scenarios** where an experienced telephone nurse can help worried callers see fever through a clearer prism:

1. **The fever is high so it could cause brain damage.**
   Response: Fevers with infections don't cause brain damage because the brain has a thermostat that keeps the fever at a safe level. Fevers from infection usually top out at 103 or 104 F. They rarely go to 105°F or 106°F. Only body temperatures over 108°F (42°C) can cause brain damage. And the body's temperature climbs this high only with extreme environmental temperatures (for example, if a child is confined in a closed car in hot weather.).

2. **The fever is high so the cause must be serious.**
   Response: If the fever is over 105 F, this is true. If the fever is less than 105 F, the cause may or may not be serious. How the child looks is what's important, not the exact temperature.

3. **The fever won't come down, so the cause must be serious.**
   Response: With acetaminophen or ibuprofen, fevers usually come down 2° or 3°F, not to normal. In addition, there are some germs that cause fevers that fall very little with fever medicines. Fevers that don't respond to fever medicine can be caused by viruses or bacteria. Whether the medicine works or not doesn't relate to the seriousness of the infection.

4. **The child is very flushed. Isn't that a bad sign?**
   Response: Flushed skin just means vasodilatation of the superficial blood vessels. It means the body is giving off heat and usually the fever is coming down.

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Fever Scenarios (Continued)

5. **The heart is beating really fast. Isn't that a bad sign?**
   Response: Fever normally increases the heart rate by 10 beats per minute for each degree F above normal. It has a lesser effect on the respiratory rate, increasing it only 2 breaths per minute for each degree F above normal. These are cooling mechanisms for the body.

6. **The fever came on suddenly and was very high from the start.**
   Response: Fevers usually peak at the highest level during the first day of the illness. This means the body is vigorously fighting off the infection.

7. **Fever is the only symptom and we don't know what's causing it. Shouldn't the child be seen to determine the cause?**
   Response: At least half of viral infections start with fever as the only symptom for 24 hours. On day 2, the child will usually develop a runny nose, cough, vomiting, diarrhea or rash and then we will know what's going on. Seeing the child during the first 24 hours, is usually a wasted visit because the cause cannot yet be identified, even on examination

8. **The child has a compromised immune system and the parents know that whenever their child develops a fever, he needs to be seen stat. However, they are calling because their 12 month old with sickle cell disease feels hot; the temperature has not been measured.**
   Response: If the presence of a fever means that the child must be seen, then that fever should be a measured one. Children can feel warm for many reasons such as playing hard, crying, sucking on a bottle, getting out of a warm bed or being outside on a hot day. They are "giving off heat". Their skin temperature should return to normal in 10 to 20 minutes. If the child also is acting sick, he can be sent in on the basis of a tactile fever. But if he is acting normal, measure the temp before making a decision that he needs to be seen.

Summary: Help callers understand the big picture; the body is more efficient at fighting infections when it is running a fever. Fever is a symptom , not a disease. All it tells us is that their child has an infection. It tells us nothing about how sick their child is. Refocus callers on how their child is behaving right now. Happy children with fever should be cared for at home.

Regards,

Bart Schmitt MD

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Fevers that Require an Emergent Evaluation:

- Babies age birth to 3 months (R/O sepsis)
- Compromised immune system (e.g. sickle cell disease, neutropenia, leukemia)
- Fever > 105 F (40.6 C) (R/O serious bacterial infection)

But remember….

- A measured temperature and documented fever is preferred before sending these children in to an Emergency Department.
- In contrast, any child with a serious symptom can be sent in with a tactile fever