

The Wellness Family

Dr. Cuperus Keeps You Informed

The Facts About Fevers

Anything that reflects the slightest thing wrong with a child will cause concern in a parent. A fever, for example, is one of the primary reasons that parents will call their child's pediatrician. Yet, the truth is, what many of us have been told is a "low-grade fever" is a natural body temperature for some children. Much of what we've believed for years is just not true.

What is a fever?

Simply put, our body's first line of defense when invaded by any microbe, virus or bacteria is going to be cells called microphages; a strong, healthy immune system may be able to eliminate the problem with this first step alone. If these fail to contain the "bug" then the body creates other pyrogens and proteins to try to assist. Once these have been created the hypothalamus in the brain recognizes that there is an invader and raises the body temperature to assist in killing it off.

This raised temperature will generally be just a couple of degrees, but the hypothalamus determines, based on the number of pyrogens and proteins, what will be necessary to eliminate the bug. If the hypothalamus creates additional biochemicals to try to protect the body then the temperature raises accordingly.

Defining a Fever

For all children above the age of 3-months, a fever is actually a good thing. It's a sign that their immune system is functioning properly. Although many parents will panic when their child has a temperature that is anything over 98.6°F, and this is understandable since many healthcare providers have called this a "low-grade fever," the reality is that children's temperatures may naturally run a little higher than what many consider the norm.

A true *low grade fever* is anything between 100°F and 102.2°F. This is beneficial and with most "bugs" that a child will be exposed to, this fever will assist the body in repelling the invader.

A *moderate-grade fever* is typically between 102.2°F and 104.5°F. This temperature is still considered beneficial and, if a child's body has reached this, it's what's needed to kill whatever bacteria or virus their body is attempting to fight.

A *high fever* is going to be over 104.5°F. This fever may cause the child some discomfort and result in a bit of crankiness. Generally indicative of a bacterial infection, this fever means that the body is fighting

something a little more serious than the common cold and, while it will not cause brain damage or any other harm to your child it is wise to seek assistance from your healthcare provider.

A *serious fever* is one that is at or above 108°F as this fever can be harmful.

Can a fever be dangerous?

Fevers caused by the body's immune system are not dangerous, and the hypothalamus will control the body temperature and not allow it to get so high as to cause harm. While it can be frightening to have your child or a child in your care run a moderate to high fever, it is simply their body doing what it was designed to do.

The only body temperature that can actually cause brain damage, despite what many parents believe, is 108°F, and this body temperature cannot typically be



"A fever is simply your child's body doing what it was designed to do."

achieved on its own but requires extreme external environmental temperatures; for instance, if a child is left in a closed car in hot weather.

What about fever reducers?

Since it is a very rare fever that can actually cause any kind of harm to your child, the best response is to let it run its course; most fevers will resolve themselves in 24 to 72 hours. Be aware that fevers will naturally spike a little in the late afternoon and evening so a slight increase in temperature during these times is not a cause for alarm. No matter the circumstances, do not give your child an over-the-counter chemical. Dr. Klass says, "Too small a dose of an antipyretic (fever medicine) may be ineffective; too much can be toxic." The risks associated with these chemicals far outweigh any potential danger from the fever.

The typical over-the-counter drug is going to contain acetaminophen which has been known to cause liver damage. Other fever reducers include Ibuprofen which

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can cause stomach upset, and aspirin is associated with Reye's syndrome when given to children under 19.

The American Academy of Pediatrics (AAP) does not recommend fever-reducing drugs but says, "Fever is not an illness, rather, it is a symptom of sickness and is usually a positive sign that the body is fighting infection." Even with high temperatures the AAP says, "Fever generally do not need to be treated with medication unless your child is uncomfortable or has a history of febrile convulsions. The fever may be important in helping your child fight the infection."

The Best Response

The best response to a fever below 104.5°F for children over the age of 3 years is lots of rest and clear fluids. Since the fever will cause your child to sweat they will lose sodium and water which must be replaced with proper fluids. This does not include Gatorade or other sugary sports drinks.

Based on age and temperature a child should see a healthcare provider right away:

- If a child younger than 3 months is running any grade of fever
- If a child between 3 months and 3 years has a temperature above 102.2°F and **appears ill** – it should be noted that even teething may also cause a slight increase in temperature
- A child of any age that has a temperature at or above 104.5°F

Additionally, since dehydration is a potential side effect of fever, watch your child for the following: dry mouth, lack of urine or wet diapers for 6 to 8 hours (or only a small amount of really dark urine), dry skin, lethargy, irritability, fatigue or with an older child, dizziness. These signs of dehydration may be a concern and the child should be seen by a healthcare professional; especially if they are unable to keep down clear fluids.

Dear Patient,

This information is not meant to imply that a Doctor of Chiropractic treats, cures or prevents any disease, however, Dr. Cuperus is dedicated to providing you with the absolute best in family wellness care, so take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.

The facts in this newsletter were found in the following:

- articles.mercola.com/sites/articles/archive/2005/01/05/fever-part-two.aspx
- JAMA November 30, 2010;304(23):2595-2602
- Pediatrics June 2001 Vol.107,No.6,pp.1241-1246
- Klass, P. *Lifting a Veil of Fear to See a Few Benefits of Fever*, New York Times January 10, 2011
- Pediatric Advisor 2009.1: Fever Myths and Facts, University of Michigan Health System
- Pediatric Advisor 2011.1: Fever Myths and Facts, Children's Physicians Network

In children that are under the age of 5 years a fever can also lead to a seizure, known as a febrile seizure. While this can be frightening it will typically have no lasting effects. During a seizure the child should be on their side or with their stomach to the ground and contact your healthcare provider as soon as it stops.

"Fever Phobia"

In 1980, Dr. Barton Schmitt published a now classic article where he coined the phrase "fever phobia". Many parents believed that untreated fevers could actually rise to critical levels and that even low-grade fevers could have serious neurological effects.

In 2001, Dr. Michael Crocetti, an assistant professor at Johns Hopkins was the lead author of a study called *Fever Phobia Revisited: Have Parental Misconceptions About Fever Changed in 20 Years?* He found that 20 years later not much had changed and that despite education, parents still believe that fevers are dangerous. Though they do increase the need for fluids, fevers in and of themselves are not harmful.

The Chiropractic Factor

Your Family Wellness Chiropractor is the only healthcare professional that recognizes and supports the body's natural ability to fight off infection. The immune system, like all other bodily systems, is controlled by the central nervous system via the spinal cord, which is housed in the spine. Your Doctor of Chiropractic helps keep the spine aligned allowing messages to travel without interruption from the brain to the rest of the body.

A fever is, quite simply, a natural part of your child's immune system. When it is functioning at it's absolute best, your child's body will fight off most foreign invaders so swiftly that they will have no outward effect at all. However, when necessary your child's immune system will raise their temperature to create a hostile environment for that invader. It's how a properly functioning body functions.

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