

INFECTIOUS DISEASES & FEVERS

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WHAT YOU SHOULD KNOW

WHAT IS A FEVER?

Fever is a body temperature higher than normal. While body temperature tends to vary slightly throughout the day, for most people normal temperature is around 98.6 degrees F (37 degrees C). Fevers of 100.4 degrees F or lower are less concerning than those greater than 102 degrees F.

While most people think of fevers as being bad, they are actually our immune system's response to infection. As long as the body's temperature does not get too high or rise too quickly, a fever is helpful in eliminating the bacteria and viruses that cause severe infections. By increasing the temperature of the body, the immune system accomplishes two things. First, the higher temperature prevents or slows the ability of certain bacteria to reproduce (because they reproduce best at body temperature). Second, the increased temperature signals, or activates, other components of the immune system to respond to the infection.

WHICH METHODS ARE MOST ACCURATE FOR MEASURING A FEVER?

Temperature can be measured orally, rectally or under the arm. Babies under 3 months old should always have their temperatures taken rectally. Use a reliable thermometer, and follow the instructions provided with the thermometer.

Some parents wonder about using newer types of thermometers, such as electronic ear thermometers, forehead thermometers and pacifier thermometers. While these may be more convenient to use, getting an accurate reading is more difficult. When reporting temperatures to your child's doctor, indicating the method used to measure the temperature is important. Likewise, reporting a timeline of readings if you have more than one is also important to help the doctor figure out what is happening with your child.

WHAT ARE SOME CAUSES OF FEVER?

While the most common cause of fevers is viral and bacterial infections, fevers can sometimes be caused in response to other things. Malignancy (cancer) and inflammatory diseases such as juvenile idiopathic arthritis or systemic lupus erythematosus can lead to fever. Occasionally, medications can also cause fever.

WHEN IS A FEVER HARMFUL TO A CHILD?

Fever, in and of itself, is not harmful. However, a fever can become harmful if it leads to dehydration. For this reason, someone with a fever, particularly a prolonged fever, should be encouraged to drink plenty of fluids. If a child with a fever is not drinking fluids or cannot keep fluids down, you should contact a healthcare provider.

Sometimes, particularly in infants and young children, a fever can lead to a seizure. While febrile seizures are extremely scary for a parent and should be reported to a healthcare provider immediately, they typically do not cause any long-lasting effects. Febrile seizures tend to be short (but seem long to parents watching their child suffer); however, if the seizure lasts longer than five minutes, emergency medical care should be obtained.

Parents should monitor a child with fever and seek medical assistance if the child is not able to stay well-hydrated, experiences a febrile seizure, has prolonged fever or is not able to bring down their body temperature due to certain medical conditions or medications that they are taking.

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WHAT MEDICATIONS OR SUPPORTIVE CARE CAN A FAMILY USE TO REDUCE FEVERS?

Fever does not need to be treated solely to bring the temperature to normal. However, caregivers should monitor hydration and, if the child is uncomfortable, can consider medications that might allow the child to better rest and recover. If acetaminophen or ibuprofen is used, the dose should be based on the patient's age and weight. Children should not be given aspirin because of the risk of developing an unusual disease called Reye's syndrome.

IS THERE ANY HARM IN TREATING FEVERS?

Because fevers are part of the immune system's response to an infection, stopping a fever decreases the body's ability to fight an infection. Therefore, a better approach is to monitor fever and only treat it if it is getting too high, the child is uncomfortable, or it is worsening other medical conditions.

Fever-reducing medications are safe when used appropriately. However, at excess doses acetaminophen can lead to liver damage, and too much ibuprofen can cause stomach upset and kidney damage.

WHY DO VACCINES CAUSE FEVERS?

Because fever is indicative of an immune response and because vaccines introduce the immune system to a potential pathogen, fever following vaccination should be expected. However, fevers after vaccination tend to be low because vaccines introduce just enough of the organism to create immunity.



HOW SHOULD FAMILIES MANAGE FEVERS RELATED TO VACCINES?

As described earlier, fever does not need to be treated for the sole purpose of lowering the child's temperature into normal range. However, if the child has significant discomfort limiting his or her ability to eat and sleep, a fever-reducing medication can be administered as instructed by the healthcare provider.

SHOULD I GIVE MY CHILD MEDICATION TO PREVENT A FEVER BEFORE A VACCINE VISIT?

Some parents wonder whether giving fever-reducing medication prior to vaccination is acceptable. While this practice will reduce the chance of fever after vaccination, it will also dampen the ability of the child's immune system to respond to the vaccine. Research into this approach has shown lower antibody responses to vaccines in patients who are pre-medicated compared with those who are not. However, although these antibody responses might be lower, they are still above the threshold needed for protection. Longer term studies of differences in protection have not been done. So for this reason, taking fever-reducing medications prior to vaccination is not routinely recommended.

WHEN SHOULD I SEE A DOCTOR FOR FEVER?

All infants under 2 months old with a fever of 100.4 degrees F (38.0 degrees C) should be seen by a doctor promptly. For older infants and young children, parents should discuss concerns with the doctor based on their child's age and medical situation. In addition, fevers accompanied by other signs of illness, such as an inability to keep down fluids or specific complaints, like a painful ear, may warrant evaluation by the child's healthcare provider. Generally speaking, if you are concerned or have questions, you should seek guidance from your child's healthcare provider.

This information is provided by the Vaccine Education Center at Children's Hospital of Philadelphia. The Center is an educational resource for parents and healthcare professionals and is composed of scientists, physicians, mothers and fathers who are devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies. ©2018 Children's Hospital of Philadelphia. All Rights Reserved. 18049-06-18.