

Fever

--from *Pediatric Advisor*

What is a fever?

A fever means the body temperature is above normal. Your child has a fever if his:

- Rectal temperature is over 100.4°F (38.0°C).
- Oral temperature is over 100°F (37.8°C).
- Axillary (armpit) temperature is over 99.0°F (37.2°C).
- Ear (tympanic) temperature is over 100.4°F (38°C). (This measuring method is not reliable for babies under 6 months old.)
- Pacifier temperature is over 100°F (37.8°C). (The pacifier thermometer works well for babies over 3 months old.)

Tactile (touch) fever is the impression that your child has a fever because he feels hot to the touch. Checking a fever this way is more accurate than we used to think. But if you're going to call the doctor, use a thermometer to measure the fever.

The body's average temperature when it is measured orally is 97.6°F (36.5°C). Oral temperature normally can change from a low of 95.8°F (35.5°C) in the morning to a high of 99.4°F (37.5°C) in the afternoon. Mildly increased temperature (100.4 to 101.3°F, or 38 to 38.5°C) can be caused by exercise, heavy clothing, a hot bath, or hot weather. Warm food or drink can also raise the oral temperature. If you suspect such an effect on the temperature of your child, take his temperature again in a half hour.

What is the cause?

Fever is a symptom, not a disease. It is the body's normal response to infections. Fever helps fight infections by turning on the body's immune system. Most fevers (100 to 104°F, or 37.8 to 40°C) that children get are not harmful. Most are caused by viral illnesses such as colds or the flu. Some are caused by bacterial illnesses such as Strep throat or bladder infections. Teething does not cause fever.

How long will it last?

Most fevers with viral illnesses last for 2 to 3 days. In general, the height of the fever doesn't relate to the seriousness of the illness. How sick your child acts is what counts. Fever does not cause permanent harm. Brain damage occurs only if the body temperature is over 108°F (42°C). Fortunately, the brain's thermostat keeps untreated fevers well below this level.

While all children get fevers, only 4% develop a brief seizure from the fever. This type of seizure is generally harmless, but a child who has a febrile seizure should always be checked by a healthcare provider. If your child has had high fevers without seizures, your child is probably not going to have one.

How can I take care of my child?

- **Extra fluids and less clothing**

Encourage your child to drink extra fluids. Popsicles and cold drinks are helpful. Body fluids are lost during fevers because of sweating.

Clothing should be kept to a minimum because most heat is lost through the skin. Do not bundle up your child; it may cause a higher fever. During the time your child feels cold or is shivering (the chills), give him a light blanket.

If the fever is less than 102°F this is the only treatment needed. Fever medicines are not necessary.

- **Medicines to reduce fever**

Remember that fever is helping your child fight the infection. Fevers only need to be treated with medicine if they cause discomfort. That usually means fevers above 102°F (39°C).

These medicines start working in about 30 minutes, and 2 hours after they are given, these drugs will reduce the fever 2°F to 3°F (1°C to 1.5°C). Medicines do not bring the temperature down to normal unless the temperature was not very high before the medicine was given. Repeated dosages of the drugs will be necessary because the fever will go up and down until the illness runs its course. If your child is sleeping, don't awaken him for medicines.

Acetaminophen: Children older than 3 months of age can be given acetaminophen (Tylenol). Give the correct dosage for your child's weight every 4 to 6 hours.

Ibuprofen: Ibuprofen (Advil, Motrin) is approved for infants over 6 months of age. One advantage ibuprofen has over acetaminophen is a longer lasting effect (6 to 8 hours instead of 4 to 6 hours). Give the correct dosage for your child's weight every 6 to 8 hours.

CAUTION: The dropper that comes with one product should not be used with other brands.

Avoid aspirin: Doctors recommend that children (through age 21 years) not take aspirin for fevers. Aspirin taken during a viral infection, such as chickenpox or flu, has been linked to a severe illness called Reye's syndrome. If you have teens, warn them to avoid aspirin.

See also **Medication Dosages** on Hometown Pediatrics' website (www.hometownpediatrics.com) or go to Pediatric Advisor's **Dosage information** http://www.cponline.org/CRS/CRS/pa_painmeds_hhg.htm.

- **Sponging**

Sponging is usually not necessary to reduce fever. Never sponge your child without giving him acetaminophen or ibuprofen first. Sponge your child only if the fever is over 104°F (40°C), and hasn't come down when you take the temperature again 30 minutes after your child has taken acetaminophen or ibuprofen.

If you do sponge your child, sponge him in lukewarm water (85 to 90°F, or 29 to 32°C). Sponging works much faster than immersion, so sit your child in 2 inches of water and keep wetting the skin surface. Cooling comes from evaporation of water. If your child shivers, raise the water temperature or stop sponging until the acetaminophen or ibuprofen takes effect. Don't expect to get the temperature down below 101°F (38.3°C). Don't add rubbing alcohol to the water; it can be breathed in and cause a coma.

When should I call my child's healthcare provider?

Call IMMEDIATELY if:

- Your child is less than 3 months old.
- The fever is over 104°F (40°C) and has not improved 2 hours after giving fever medicine.
- Your child looks or acts very sick (fever along with severe headache, confusion, stiff neck, trouble breathing, rash, or refusing to drink).

Call within 24 hours if:

- Your child is 3 to 6 months old (unless the fever is due to an immunization shot).
- Your child has had a fever more than 24 hours without an obvious cause or location of infection AND your child is less than 2 years old.
- Your child has had a fever for more than 3 days.
- The fever went away for over 24 hours and then returned.
- You have other concerns or questions.

Fever Myths and Facts

Misconceptions about the dangers of fever are commonplace. Unwarranted fears about harmful side effects from fever cause lost sleep and unnecessary stress for many parents. Let the following facts help you put fever into perspective:

MYTH: All fevers are bad for children.

FACT: Fevers turn on the body's immune system. Fevers are one of the body's protective mechanisms.

Most fevers between 100°F and 104°F (38°C to 40°C) are good for sick children and help the body fight infection. The exception is babies less than 3 months of age. They should be seen by a healthcare provider right away.

MYTH: Fevers cause brain damage or fevers over 104°F (40°C) are dangerous.

FACT: Fevers with infections don't cause brain damage. Only body temperatures over 108°F (42°C) can cause brain damage. The body temperature goes this high only with extreme environmental temperatures (for example, if a child is confined in a closed car in hot weather).

MYTH: Anyone can have a febrile seizure (seizure triggered by fever).

FACT: Only 4% of children have febrile seizures.

MYTH: Febrile seizures are harmful.

FACT: Febrile seizures are scary to watch, but they usually stop within 5 minutes. They cause no permanent harm. Children who have had febrile seizures do not have a greater risk for developmental delays, learning disabilities, or seizures without fever.

MYTH: All fevers need to be treated with fever medicine.

FACT: Fevers need to be treated only if they cause discomfort. Usually that means fevers over 102°F or 103°F (39°C or 39.4°C).

MYTH: Without treatment, fevers will keep going higher.

FACT: Wrong. Because the brain has a thermostat, fevers from infection usually top out at 103°F to 104°F (39.4°C to 40°C).

MYTH: With treatment, fevers should come down to normal.

FACT: With treatment, fevers usually come down 2° or 3°F (1.1° or 1.7°C).

MYTH: If the fever doesn't come down (if you can't "break the fever"), the cause is serious.

FACT: 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.

MYTH: Once the fever comes down with medicines, it should stay down.

FACT: The fever will normally last for 2 or 3 days with most viral infections. Therefore, when the fever medicine wears off, the fever will return and need to be treated again. The fever will go away and not return once your child's body overpowers the virus (usually by the fourth day).

MYTH: If the fever is high, the cause is serious.

FACT: If the fever is high, the cause may or may not be serious. If your child looks very sick, the cause is more likely to be serious.

MYTH: The exact number of the temperature is very important.

FACT: How your child looks is what's important, not the exact temperature.

MYTH: Temperatures between 98.7°F and 100°F (37.1°C to 37.8°C) are low-grade fevers.

FACT: These temperatures are normal variations. The body's temperature normally changes throughout the day. It peaks in the late afternoon and evening. A actual low-grade fever is 100°F to 102°F (37.8°C to 39°C).

MYTH: Feed a cold, starve a fever.

FACT: This old saying should be ignored. Fevers cause the body to lose fluids through sweating and breathing. Children with fevers need extra fluids. Children with a fever may or may not be hungry for food. If they are hungry, offer the food that they choose. It is helpful to do so.

Summary: remember that fever is fighting off your child's infection.