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Fever and Taking Your Child's Temperature

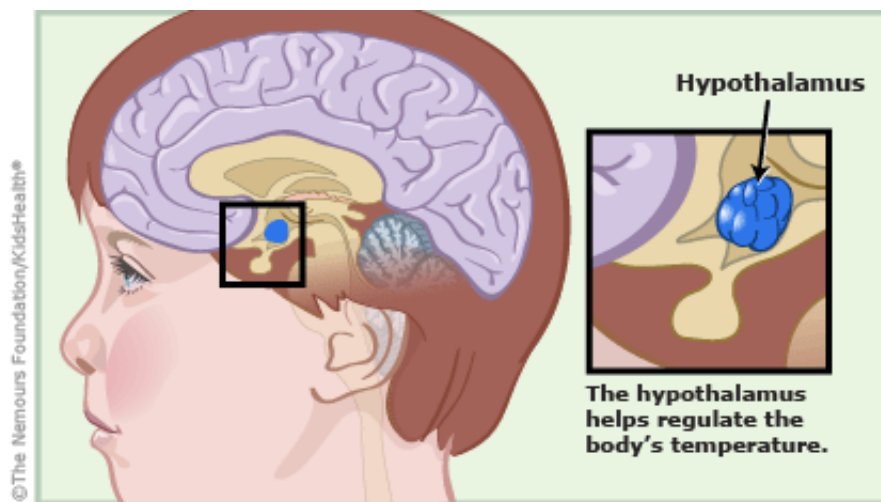
You've probably experienced waking in the middle of the night to find your child flushed, hot, and sweaty. Your little one's forehead feels warm. You immediately suspect a fever, but are unsure of what to do next. Should you get out the thermometer? Call the doctor?

In healthy kids, fevers usually don't indicate anything serious. Although it can be frightening when your child's temperature rises, fever itself causes no harm and can actually be a good thing — it's often the body's way of fighting infections. And not all fevers need to be treated. High fever, however, can make a child uncomfortable and worsen problems such as dehydration.

Here's more about fevers, how to measure and treat them, and when to call your doctor.

Fever Facts

Fever occurs when the body's internal "thermostat" raises the body temperature above its normal level. This thermostat is found in the part of the brain called the hypothalamus. The hypothalamus knows what temperature your body should be (usually around 98.6°F/37°C) and will send messages to your body to keep it that way.



Most people's body temperatures even change a little bit during the course of the day: It's usually a little lower in the morning and a little higher in the evening and can fluctuate as kids

run around, play, and exercise.

Sometimes, though, the hypothalamus will "reset" the body to a higher temperature in response to an infection, illness, or some other cause. Why? Researchers believe turning up the heat is the body's way of fighting the germs that cause infections and making the body a less comfortable place for them.

Causes of Fever

It's important to remember that fever by itself is not an illness — it's usually a symptom of an underlying problem.

Fever has a few potential causes:

Infection: Most fevers are caused by infection or other illness. A fever helps the body fight infections by stimulating natural defense mechanisms.

Overdressing: Infants, especially newborns, may get fevers if they're overbundled or in a hot environment because they don't regulate their body temperature as well as older kids. However, because fevers in newborns can indicate a serious infection, even infants who are overdressed must be evaluated by a doctor if they have a fever.

Immunizations: Babies and kids sometimes get a low-grade fever after getting vaccinated.

Although teething may cause a slight rise in body temperature, it's probably not the cause if a child's temperature is higher than 100°F (37.8°C).

When Fever Is a Sign of Something Serious

In the past, doctors advised treating a fever on the basis of temperature alone. But now they recommend considering both the temperature and a child's overall condition.

Kids whose temperatures are lower than 102°F (38.9°C) often don't require medication unless they're uncomfortable. There's one important exception to this rule: If you have an infant 3 months or younger with a rectal temperature of 100.4°F (38°C) or higher, call your doctor or go to the emergency department immediately. Even a slight fever can be a sign of a potentially serious infection in very young infants.

If your child is between 3 months and 3 years old and has a fever of 102.2°F (39°C) or higher, call your doctor to see if he or she needs to see your child. For older kids, take behavior and activity level into account. Watching how your child behaves will give you a pretty good idea of whether a minor illness is the cause or if your child should be seen by a doctor.

The illness is probably **not** serious if your child:

- is still interested in playing
- is eating and drinking well
- is alert and smiling at you
- has a normal skin color
- looks well when his or her temperature comes down

And don't worry too much about a child with a fever who doesn't want to eat. This is very common with infections that cause fever. For kids who still drink and urinate normally, not eating as much as usual is OK.

Is it a Fever?

A gentle kiss on the forehead or a hand placed lightly on the skin is often enough to give you a hint that your child has a fever. However, this method of taking a temperature (called tactile temperature) is dependent upon the person doing the feeling and doesn't give an accurate measure of temperature.

Use a reliable thermometer to confirm a fever, which is when a child's temperature is at or above one of these levels:

- measured orally (in the mouth): 99.5°F (37.5°C)
- measured rectally (in the bottom): 100.4°F (38°C)
- measured in an axillary position (under the arm): 99°F (37.2°C)

But how high a fever is doesn't tell you much about how sick your child is. A simple cold or other viral infection can sometimes cause a rather high fever (in the 102°-104°F/38.9°-40°C range), but this doesn't usually indicate a serious problem. And serious infections might cause no fever or even an abnormally low body temperature, especially in infants.

Because fevers can rise and fall, a child might have chills as the body tries to generate additional heat as its temperature begins to rise. The child may sweat as the body releases extra heat when the temperature starts to drop.

Sometimes kids with a fever breathe faster than usual and may have a higher heart rate. You should call the doctor if your child is having difficulty breathing, is breathing faster than normal, or continues to breathe fast after the fever comes down.

Types of Thermometers

Whatever thermometer you choose, be sure you know how to use it correctly to get an accurate reading. Keep and follow the manufacturer's recommendations for any thermometer.

Digital thermometers usually provide the quickest, most accurate readings. They come in many sizes and shapes and are available at most supermarkets and pharmacies in a range of prices. You should read the manufacturer's instructions to determine what the thermometer is designed for and how it signals that the reading is complete.

Overall, digital thermometers usually can be used for these temperature-taking methods:

- oral (in the mouth)
- rectal (in the bottom)
- axillary (under the arm)

Turn on the thermometer and make sure the screen is clear of any old readings. Digital thermometers usually have a plastic, flexible probe with a temperature sensor at the tip and an easy-to-read digital display on the opposite end. If your thermometer uses disposable

plastic sleeves or covers, put one on according to the manufacturer's instructions. Remember to discard the sleeve after each use and to clean the thermometer according to the manufacturer's instructions before putting it back in its case.

Electronic ear thermometers measure the tympanic temperature — the temperature inside the ear canal. Although they're quick and easy to use in older babies and kids, they aren't as accurate as digital thermometers for infants 3 months or younger and are more expensive.

Plastic strip thermometers (small plastic strips that you press against the forehead) may be able to tell you whether your child has a fever, but aren't reliable for taking an exact measurement, especially in infants and very young children. If you need to know your child's exact temperature, plastic strip thermometers are **not** the way to go.

Forehead thermometers also may be able to tell you if your child has a fever, but are not as accurate as oral or rectal digital thermometers.

Pacifier thermometers may seem convenient, but again, their readings are less reliable than rectal temperatures and shouldn't be used in infants younger than 3 months. They also require kids to keep the pacifier in their mouth for several minutes without moving, which is a nearly impossible task for most babies and toddlers.

Glass mercury thermometers were once common, but health experts now say they should not be used because of possible exposure to mercury, an environmental toxin. (If you still have a mercury thermometer, do **not** simply throw it in the trash where the mercury can leak out. Talk to your doctor or your local health department about how and where to dispose of a mercury thermometer.)

Tips for Taking Temperatures

As any parent knows, taking a squirming child's temperature can be challenging. But it's one of the most important tools doctors have to determine if a child has an illness or infection. The best method will depend on a child's age and temperament.

For kids younger than 3 months, you'll get the most reliable reading by using a digital thermometer to take a rectal temperature. Electronic ear thermometers aren't recommended for infants younger than 3 months because their ear canals are usually too small.

For kids between 3 months to 4 years old, you can use a digital thermometer to take a rectal temperature or an electronic ear thermometer to take the temperature inside the ear canal. You could also use a digital thermometer to take an axillary temperature, although this is a less accurate method.

For kids 4 years or older, you can usually use a digital thermometer to take an oral temperature if your child will cooperate. However, kids who have frequent coughs or are breathing through their mouths because of stuffy noses might not be able to keep their mouths closed long enough for an accurate oral reading. In these cases, you can use the tympanic method (with an electronic ear thermometer) or axillary method (with a digital thermometer).

To take a rectal temperature: Before becoming parents, most people cringe at the thought of taking a rectal temperature. But don't worry — it's a simple process:

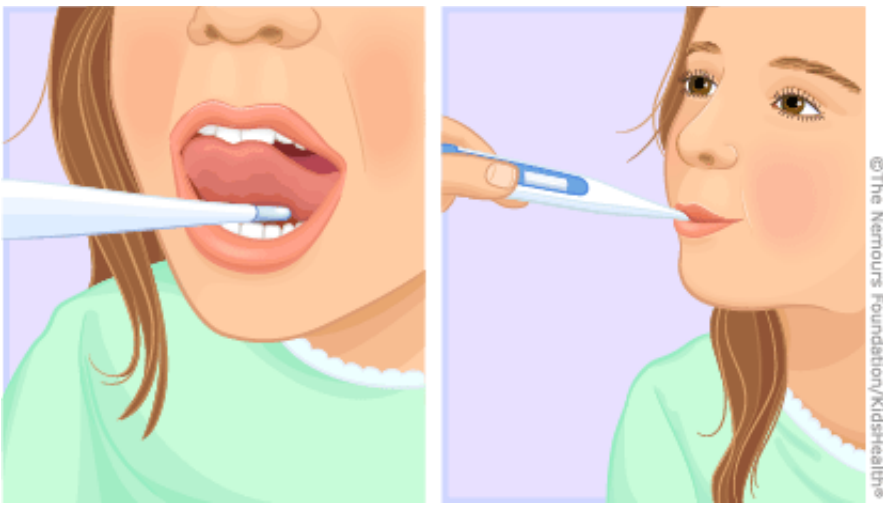
1. Lubricate the tip of the thermometer with a lubricant, such as petroleum jelly.
2. Place your child:
 - belly-down across your lap or on a firm, flat surface and keep your palm along the lower back
 - or face-up with legs bent toward the chest with your hand against the back of the thighs
3. With your other hand, insert the lubricated thermometer into the anal opening about $\frac{1}{2}$ inch to 1 inch (about 1.25 to 2.5 centimeters), or until the tip of the thermometer is fully in the rectum. Stop if you feel any resistance.
4. Steady the thermometer between your second and third fingers as you cup your hand against your baby's bottom. Soothe your child and speak quietly as you hold the thermometer in place.
5. Wait until you hear the appropriate number of beeps or other signal that the temperature is ready to be read. Write down the number on the screen, noting the time of day that you took the reading.



A rectal temperature can be taken in either of these positions.

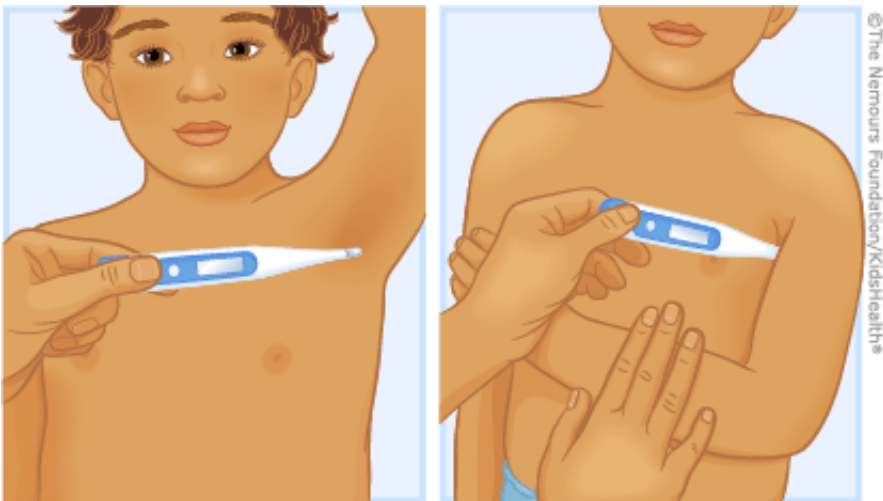
To take an oral temperature: This process is easy in an older, cooperative child.

1. Wait 20 to 30 minutes after your child finishes eating or drinking to take an oral temperature, and make sure there's no gum or candy in your child's mouth.
2. Place the tip of the thermometer under the tongue and ask your child to close his or her lips around it. Remind your child not to bite down or talk, and to relax and breathe normally through the nose.
3. Wait until you hear the appropriate number of beeps or other signal that the temperature is ready to be read. Write down the number on the screen, noting the time of day that you took the reading.



To take an axillary temperature: This is a convenient way to take a child's temperature. Although not as accurate as a rectal or oral temperature in a cooperative child, some parents prefer to take an axillary temperature, especially for kids who can't hold a thermometer in their mouths.

1. Remove your child's shirt and undershirt, and place the thermometer under an armpit (it must be touching skin only, not clothing).
2. Fold your child's arm across the chest to hold the thermometer in place.
3. Wait until you hear the appropriate number of beeps or other signal that the temperature is ready to be read. Write down the number on the screen, noting the time of day that you took the reading.



Whatever method you choose, keep these additional tips in mind:

- Never take a child's temperature right after a bath or if he or she has been bundled tightly for a while — this can affect the temperature reading.
- Never leave a child unattended while taking a temperature.

Helping Kids Feel Better

Again, not all fevers need to be treated. And in most cases, a fever should be treated only if it's causing a child discomfort.

Here are ways to alleviate symptoms that often accompany a fever:

- If your child is fussy or appears uncomfortable, you can give acetaminophen or ibuprofen based on the package recommendations for age or weight. (**Unless instructed by a doctor, never give aspirin to a child** due to its association with Reye syndrome, a rare but potentially fatal disease.) If you don't know the recommended dose or your child is younger than 2 years old, call the doctor to find out how much to give.

Infants under 2 months old should not be given any medication for fever without being evaluated by a doctor. If your child has any medical problems, check with the doctor to see which medication is best to use. Remember that fever medication will usually temporarily bring a temperature down, but won't return it to normal — and it won't treat the underlying reason for the fever.

- Dress your child in lightweight clothing and cover with a light sheet or blanket. Overdressing and overbundling can prevent body heat from escaping and can cause a temperature to rise.
- Make sure your child's bedroom is a comfortable temperature — not too hot or too cold.
- While some parents use lukewarm sponge baths to lower fever, there is no evidence to support this method. In fact, sponge baths can make children uncomfortable. **Never** use alcohol (it can cause poisoning when absorbed through the skin) or ice packs/cold baths (they can cause chills that may raise body temperature).
- Offer plenty of fluids to avoid dehydration — a fever will cause a child to lose fluids more rapidly. Water, soup, ice pops, and flavored gelatin are all good choices. Avoid drinks containing caffeine, including colas and tea, because they can cause increased urination.
- If your child also is vomiting and/or has diarrhea, ask the doctor if you should give an electrolyte (rehydration) solution made especially for kids. You can find these solutions at drugstores and supermarkets. Don't offer sports drinks — they're not designed for younger children, and the added sugars may make diarrhea worse. Also, limit your child's intake of fruits and apple juice.
- In general, let your child eat what he or she wants (in reasonable amounts) but don't force eating if your child doesn't feel like it.
- Make sure your child gets plenty of rest. Staying in bed all day isn't necessary, but a sick child should take it easy.
- It's best to keep a child with a fever home from school or childcare. Most doctors feel that it's safe to return when the temperature has been normal for 24 hours.

When to Call the Doctor

The exact temperature that should trigger a call to the doctor depends on the age of the child, the illness, and whether there are other symptoms with the fever.

Call your doctor if you have an:

- infant younger than 3 months old with a rectal temperature of 100.4°F (38°C) or higher
- older child with a temperature of higher than 102.2°F (39°C)

Call the doctor if an older child has a fever of less than 102.2°F (39°C) but also:

- refuses fluids or seems too ill to drink adequately
- has persistent diarrhea or repeated vomiting
- has any signs of dehydration (urinating less than usual, not having tears when crying, less alert and less active than usual)
- has a specific complaint (e.g., sore throat or earache)
- still has a fever after 24 hours (in kids younger than 2 years) or 72 hours (in kids 2 years or older)
- has recurrent fevers, even if they only last a few hours each night
- has a chronic medical problem such as heart disease, cancer, lupus, or sickle cell anemia
- has a rash
- has pain with urination

Seek emergency care if your child shows any of these signs:

- inconsolable crying
- extreme irritability
- lethargy and difficulty waking
- rash or purple spots that look like bruises on the skin (that were not there before the child got sick)
- blue lips, tongue, or nails
- infant's soft spot on the head seems to be bulging outward or sunken inwards
- stiff neck
- severe headache
- limpness or refusal to move
- difficulty breathing that doesn't get better when the nose is cleared
- leaning forward and drooling
- seizure
- abdominal pain

Also, ask your doctor for his or her specific guidelines on when to call about a fever.

Fever: A Common Part of Childhood

All kids get fevers, and in the majority of cases, most are completely back to normal within a few days. For older infants and kids (but not necessarily for infants younger than 3 months), the way they act is far more important than the reading on your thermometer. Everyone gets cranky when they have a fever. This is normal and should be expected.

But if you're ever in doubt about what to do or what a fever might mean, or if your child is acting ill in a way that concerns you even if there's no fever, always call your doctor for advice.

Reviewed by: Yamini Durani, MD

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