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Fever

Fever is the temporary increase in the body's temperature in response to a disease or illness.

A child has a fever when the temperature is at or above one of these levels:

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

An adult probably has a fever when the temperature measured in the mouth is above 99°F to 99.5°F (37.2°C to 37.5°C), depending on the time of day.

Considerations

Normal body temperature may change during any given day. It is usually highest in the evening. Other factors that may affect body temperature are:

- A woman's menstrual cycle. In the second part of this cycle, her temperature may go up by 1 degree Fahrenheit or more.
- Physical activity, strong emotion, eating, heavy clothing, medicines, high room temperature, and high humidity can all increase body temperature.

Fever is an important part of the body's defense against infection. Most bacteria and viruses that cause infections in people thrive best at 98.6°F (37°C). Many infants and children develop high fevers with mild viral illnesses. Although a fever signals that a battle might be going on in the body, the fever is fighting for, not against the person.

Brain damage from a fever generally will not occur unless the fever is over 107.6°F (42°C). Untreated fevers caused by infection will seldom go over 105°F (40.6°C) unless the child is overdressed or in a hot place.

Febrile seizures do occur in some children. Most febrile seizures are over quickly and do not mean your child has epilepsy. These seizures also do not cause any permanent harm.

Unexplained fevers that continue for days or weeks are called fevers of undetermined origin (FUO).

Causes

Almost any infection can cause a fever, including:

- Bone infections (osteomyelitis), appendicitis, skin infections or cellulitis, and meningitis
- Respiratory infections such as colds or flu-like illnesses, sore throats (pharyngitis), ear infections (otitis), sinus infections (sinusitis), mononucleosis, bronchitis, pneumonia, and tuberculosis
- Urinary tract infections
- Viral gastroenteritis and bacterial gastroenteritis

Children and adults may have a low-grade fever for 1 or 2 days after some immunizations.

Teething may cause a slight increase in a child's temperature, but not higher than 100°F (37.8°C).

Autoimmune or inflammatory disorders may also cause fevers. Some examples are:

- Arthritis or connective tissue illnesses such as rheumatoid arthritis and systemic lupus erythematosus
- Ulcerative colitis and Crohn disease
- Vasculitis or periarteritis nodosa

The first symptom of a cancer may be a fever. This is particularly true of Hodgkin disease, non-Hodgkin lymphoma, and leukemia.

Other possible causes of fever include:

- Blood clots or thrombophlebitis
- Medicines, such as some antibiotics, antihistamines, and seizure medicines

Home Care

A simple cold or other viral infection can sometimes cause a high fever (102°F to 104°F or 38.9°C to 40°C). This does not mean you or your child has a serious problem. Some serious infections don't cause a fever or can cause a very low body temperature, most often in infants.

If the fever is mild and you have no other problems, you do not need treatment. Drink fluids and rest.

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 their temperature comes down

Take steps to lower a fever if you or your child is uncomfortable, vomiting, dried out (dehydrated), or not sleeping well. Remember, the goal is to lower, not eliminate, the fever.

When trying to lower a fever:

- Do not bundle up someone who has chills.

- Remove excess clothing or blankets. The room should be comfortable, not too hot or cool. Try one layer of lightweight clothing, and one lightweight blanket for sleep. If the room is hot or stuffy, a fan may help.
- A lukewarm bath or sponge bath may help cool someone with a fever. This is effective after medicine is given -- otherwise the temperature might bounce right back up.
- Do not use cold baths, ice, or alcohol rubs. These cool the skin, but often make the situation worse by causing shivering, which raises the core body temperature.

Here are some guidelines for taking medicine to lower a fever:

- Acetaminophen (Tylenol) and ibuprofen (Advil, Motrin) help reduce fever in children and adults. Sometimes health care providers advise you to use both types of medicine.
- Take acetaminophen every 4 to 6 hours. It works by turning down the brain's thermostat.
- Take ibuprofen every 6 to 8 hours. Do not use ibuprofen in children 6 months or younger.
- Aspirin is very effective for treating fever in adults. Do not give aspirin to a child unless your child's provider tells you to.
- Know how much you or your child weighs. Then check the instructions on the package to find the correct dose.
- In children 3 months or younger, contact your child's provider first before giving medicines.

Eating and drinking:

- Everyone, particularly children, should drink plenty of fluids. Water, ice pops, soup, and gelatin are all good choices.
- In younger children do not give too much fruit juice or apple juice, and do not give sports drinks.
- Although eating is fine, do not force foods.

When to Contact a Medical Professional

Contact your child's provider right away if your child:

- Is 3 months or younger and has a rectal temperature of 100.4°F (38°C) or higher
- Is 3 to 12 months old and has a fever of 102.2°F (39°C) or higher
- Is 2 years or younger and has a fever that lasts longer than 24 to 48 hours
- Is older and has a fever for longer than 48 to 72 hours
- Has a fever of 105°F (40.5°C) or higher, unless it comes down readily with treatment and the person is comfortable
- Has other symptoms that suggest an illness may need to be treated, such as a sore throat, earache, or cough
- Has had fevers come and go for up to a week or more, even if these fevers are not very high
- Has a serious medical illness, such as a heart problem, sickle cell anemia, diabetes, or cystic fibrosis
- Recently had an immunization
- Has a new rash or bruises
- Has pain with urination
- Has a weakened immune system (because of long-term [chronic] steroid or immune suppressing therapy, a bone marrow or organ transplant, spleen removal, HIV/AIDS, or cancer treatment)

- Has recently traveled to another country

Contact your provider right away if you are an adult and you:

- Have a fever of 105°F (40.6°C) or higher, unless it comes down readily with treatment and you are comfortable
- Have a fever that stays at or keeps rising above 103°F (39.4°C)
- Have a fever for longer than 48 to 72 hours
- Have had fevers come and go for up to a week or more, even if they are not very high
- Have a serious medical illness, such as a heart problem, sickle cell anemia, diabetes, cystic fibrosis, COPD, or other long-term (chronic) lung problems
- Have a new rash or bruises
- Have pain with urination
- Have a weakened immune system (from chronic steroid or immune suppressing therapy, a bone marrow or organ transplant, spleen removal, HIV/AIDS, or cancer treatment)
- Have recently traveled to another country

Call 911 or the local emergency number if you or your child has a fever and:

- Is crying and cannot be calmed (children)
- Cannot be awakened easily or at all
- Seems confused
- Cannot walk
- Has difficulty breathing, even after the nose is cleared
- Has blue lips, tongue, or nails
- Has a very bad headache
- Has a stiff neck
- Refuses to move an arm or leg (children)
- Has a seizure

What to Expect at Your Office Visit

Your provider will perform a physical exam. This may include a detailed examination of the skin, eyes, ears, nose, throat, neck, chest, and abdomen to look for the cause of the fever.

Treatment depends on the duration and cause of the fever, as well as other symptoms.

The following tests may be performed:

- Blood tests, such as a CBC or white blood cell differential
- Urinalysis
- X-ray of the chest

Alternative Names

Elevated temperature; Hyperthermia; Pyrexia; Febrile

References

Melia MT. Approach to fever or suspected infection in the normal host. In: Goldman L, Cooney KA, eds. *Goldman-Cecil Medicine*. 27th ed. Philadelphia, PA: Elsevier; 2024:chap 259.

Nield LS, Kamat D. Fever. In: Kliegman RM, St. Geme JW, Blum NJ, eds. *Nelson Textbook of Pediatrics*. 22nd ed. Philadelphia, PA: Elsevier; 2025:chap 219.

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