

Indian Academy of Pediatrics (IAP)



GUIDELINES FOR PARENTS

Fever: General Management

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10 FAQs ON FEVER: GENERAL MANAGEMENT

1. What is fever? Is it a friend or a foe?
2. My baby's forehead always feels warm when touched. Is it fever?
3. Why my child develops fever?
4. What should I do when my child develops fever? Can I send him school if fever is mild?
5. Should I give antibiotics for fever?
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10. My baby's fever does not come down to normal even after giving paracetamol. Can I use other medicines?

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Fever: General Management

Q1

What is fever? Is it a friend or a foe?

Normal body temperature is around 37°C (98.6°F), plus or minus about 0.6°. When the body detects any infection or inflammation, the brain responds by raising the body temperature to help fight the condition. So, fever is sort of body's defense mechanism against various types of insult. A rectal temperature of over 38°C (100.4°F) is considered as fever. A high body temperature is beneficial to us in two ways—firstly, the raised temperature helps in controlling the disease process, and secondly, it is an important sign which tells us that “all is not well” in the body, and hence prompts us to look for the underlying cause. However, fever does make a child uncomfortable and increases the metabolic needs of the body. Fever itself is neither a friend nor a foe; rather, it is a messenger that brings you notification whenever your body is responding to an insult.

Q2

My baby's forehead always feels warm when touched. Is it fever?

Touching is a crude and unreliable method of temperature measurement. A digital thermometer is best for taking temperatures. Do not use a mercury thermometer, as it is toxic and could break. Although the most accurate way to take a temperature is through rectum, it needs some expertise in performing and may not be comfortable for child. The axillary (armpit) method is fairly precise and most commonly used in children. It is however important to realize that axillary temperature is 0.5–1.0°F lower than oral temperature while rectal temperature is 0.5–1.0°F higher than the oral temperature.

Age	Recommended technique
Birth to 6 months	1. Rectal (Definitive) 2. Axillary (Screening)
6 months to 5 years	1. Rectal (Definitive) 2. Axillary, tympanic or temporal artery (Screening)
>5 years	1. Oral (Definitive) 2. Axillary, tympanic or temporal artery (Screening)

Following points should be kept in mind before taking temperature:

Digital thermometers	Electronic ear (tympanic) thermometer	Temporal artery thermometers	Infrared thermometers
<p>Always read the manufacturer's instructions carefully before use. It can be used for measuring rectal, axillary or oral temperature. Always clean the thermometer with a clean sterile cloth before use.</p>	<p>These measure heat waves from the eardrum and can be used in infants 6 months or older. Crying, otitis media, and earwax have not been shown to change tympanic readings significantly.</p>	<p>These measure heat waves on side of forehead and can be used in infants 3 months or older. It is a promising tool for screening children at low risk in hospitals but cannot be recommended for home or hospital use when definitive measurements are required.</p>	<p>Noncontact infrared thermometers can be used to measure temperature rapidly and noninvasively but they have poor accuracy. Their use is currently not recommended either at home or in hospital setting. The prime utility of such devices is in mass screening of large population. Different types of thermometers have been shown in Figure 1.</p>
			

Fig. 1: Different types of thermometers.

Q3

Why my child develops fever?

As discussed above, fever is body's defense mechanism and can occur in response to following conditions:

- Infections (viral, bacterial, protozoal, and fungal)
- Dehydration
- Autoimmune diseases
- Drugs
- Postvaccination
- Cancers

Most causes of fever in children are benign and self-limiting. Viral infections are by far the most common cause of fever in children. Your pediatrician may decide to do some tests to know the underlying cause.

Fever can also occur postvaccination. Vaccination prevents diseases from infecting the body. The material in vaccine is made up of organisms (viruses/bacteria) causing an infection against which protection is required. These organism's ability to cause illness in the recipient is toned down. When the vaccine enters in the body, it activates immunity cells in the body, which in response to invasion by the organisms produce inflammatory markers, which in turn cause swelling and pain at the site of injection and fever in the body. In most cases, a postvaccination fever will resolve on its own, but your pediatrician may prescribe medicines to reduce the discomfort of child.

Q4. What should I do when my child develops fever? Can I send him school if fever is mild?

Whenever a child develops fever, the focus should be on finding the underlying cause. Fever is only a symptom, and its etiology must be established. The main objective of treating fever is to reduce the discomfort of child, rather than to just reduce the temperature.

- Do the following to make the child comfortable:
- Do not overdress the child. Have him wear loose clothes, as per season.
 - Keep the child well hydrated. Children may lose more fluids during fever.
 - Medications (acetaminophen, ibuprofen) can be used in doses recommended by a doctor.
 - Tepid sponging with water at 28–30°C can be done to reduce the temperature after medication is administered. Use of ice-cold water for sponging is not recommended in fever.

Sponging should be done by continuous wiping of the body with tepid water from head to toe for 15–20 minutes. Sponging action ensures that water film is constantly moving thus maximizing heat conduction. Studies indicate that use of hydrotherapy alone is clearly inferior for reduction of fever for periods longer than 30 minutes. However, external cooling could still be of value, if it potentiates activity of antipyretics. Child can also be given a bath with tepid water during fever. Bathing can actually help bring down your fever. Young infants (<3 months old) should not be kept exposed for long due to the risk of hypothermia and sponging may be preferred in this age group.

- Mild fever with no other symptoms is usually not a reason enough for a child to stay at home. But many schools or childcare centers request a child to not return until at least 24 hours after a fever has subsided. It is preferred to not send a child to school during febrile illness for following reasons:
- Child may feel weak, uncomfortable, and dehydrated during fever episode making it difficult to sit in school.
 - Child may have some contagious underlying infection (most viral infections are highly contagious), which may spread to other children.

Q5

Should I give antibiotics for fever?

Fever in children is most commonly caused by viral infections. Antibiotics are drugs used specifically against bacterial infections. They are not effective against viruses, and their indiscriminate use for every febrile illness is not warranted. In a febrile illness, your doctor will decide whether the child needs antibiotics, depending on if he/she is suspecting a bacterial infection.

Q6

My child does not want to eat anything during fever. What should I do?

The discomfort and muscle-aches associated with fever may make a child fussy and dull. It is important to maintain hydration during fever, and the child should be encouraged to take small sips of water and light meal during illness. Complete inability to take anything (even fluids and breast milk) from mouth is an indication to visit your doctor.

Q7

When should I be worried for fever?

Most febrile illnesses are not serious. However, you should visit the pediatrician immediately if your child is younger than 3 months old or has any of the following:

- Extreme lethargy, drowsiness, excessive cry or irritability
- Vomiting everything and/or not able to accept feeds orally
- Headache, neck stiffness or breathing difficulty
- Abnormal body movements or abnormal behavior
- Temperature above 104°F
- Fever persisting for more than 5 days

Similarly, in a febrile child following signs should make you relaxed:

- Playful and active during interfebrile period
- Acts like himself/herself during most of the day
- Feeding well
- Passing urine normally

Q8

Is it true that high fever can lead to seizures and brain damage in children?

Febrile seizures are convulsions that can occur in a child with fever. These seizures usually occur in kids 6 months to 5 years old. Children are more likely to have a febrile seizure if they have a family history of same, or if they have already had one in the past. Most children outgrow having febrile seizures by the time, they are 5 years old. There is no evidence that intensity of fever is linked to probability of having febrile seizures or brain damage in children. Also, these seizures do not increase the risk of further epilepsy.

Q9

Doctor prescribed paracetamol for my elder son. Can I use the same for my younger child?

Drugs in children are administered according to their body weight. Wrong dosage may lead to toxicity and unwanted side effects. You should always consult your pediatrician before administering any drug to your child. Different brands may have different formulation and strength of medicine. This should be confirmed with pharmacist before buying the drug.

Q10

My baby's fever does not come down to normal even after giving paracetamol. Can I use other medicines?

Paracetamol (acetaminophen) is the safest drug for fever to be used in children. If given in correct dose (15 mg/kg body weight), it brings symptomatic relief. Remember, the purpose of fever medicine is not to bring down the temperature to normal level, but to provide symptomatic relief to child by reducing pain and discomfort. If the initial fever was high, say 104°F, administration of paracetamol may bring it down to 101°F and not make the child afebrile. In children who are unable to take orally, your doctor may decide to give paracetamol suppository through rectal route.

Avoid overdosing if the fever does not normalize. You can repeat the next dose after 4–6 hours if required. Other medicines (ibuprofen, mefenamic acid) are also available, and should be used only in consultation with your pediatrician. Though ibuprofen at a dose of 10 mg/kg has similar efficacy as paracetamol in reducing fever, it has more side effects. Sometimes combination of paracetamol and ibuprofen is prescribed to have a rapid response, but it has not been proven to affect the overall outcome. Also, combination drugs have more side effects than individual drugs. Mefenamic acid is not recommended to be used in children owing to its serious side effects. Do not use aspirin or nimesulide for relief of fever in children.

What *not* to do in fever?

- Do not overclothe the child. Keep him/her in a cool airy environment.
- Do not sponge the child with cold water or ice. Always use tepid water (28–30°C), if needed.
- Do not use aspirin or nimesulide for control of fever. Paracetamol is safest.
- Do not keep treating fever at home or by yourself. Consult a pediatrician at earliest.