What Should I do When My Child Has a Fever

What Is Fever?
Fever is a symptom—a sign that your child’s body is fighting off an infection. Most fevers are caused by common things like colds, ear infections, and bronchitis. Fever is the body’s way of fighting infections. If you think your child has a fever, you should take their temperature. Temperature readings are different depending on what part of the body you use (rectum, ear, mouth). Your child has a fever if their temperature is above:

- Rectal 100.4° F (38.0° C)
- Oral (by mouth) 99.5° F (37.5° C)
- Axillary (armpit) 98.6° F (37.0° C)
- Tympanic (ear) 100.0° F (37.8° C)

Why Do We Treat a Fever?
Fever is usually not dangerous for most children and infants over the age of 3 months. Most fevers do not lead to brain damage or death. Although some children have seizures when they have a fever, medicines used to treat fever do not always prevent these seizures. The main reason we treat fevers is to keep your child comfortable so they will eat, drink, or sleep. If your child has a mild fever but is playing, drinking fluids, and generally acting well, there is no reason to treat the fever. Medicines used to treat fever do not make the fever or infection go away faster. Medicines used to treat fever may not make your child’s temperature normal. However, you should call your doctor if your child has a fever and is less than 3 months old, if the fever has lasted more than 24 hours, or if your child is also vomiting.

What Medicines Are Used to Treat Fever?
The most commonly used medicines to treat fever are acetaminophen (Tylenol and others) and ibuprofen (Motrin, Advil, others). When used as recommended, acetaminophen and ibuprofen have few side effects and are quite safe. These medicines come in drops for infants, liquid (“elixir”) for toddlers, and chewable tablets for older children. The infant drops are more concentrated than the liquid elixir for toddlers. Do not switch back and forth between different products or you may give your child too much or too little medicine. Always closely read the directions on the label. DO NOT give your child aspirin for their fever unless your doctor tells you to. Aspirin can cause serious side effects and Reye’s syndrome.

Other tips for the safe use of acetaminophen or ibuprofen include:

- To avoid making mistakes, read the label before you open the bottle, after you measure a dose, and again before you give it.
- It is important to use the medicine exactly as you are told. Do not give more or less medicine and do not give it more frequently than recommended.
- Many allergy, cold, and flu medications contain acetaminophen or ibuprofen. Check with your pharmacist before combining medications.
- When giving your child a liquid medication, do not use standard tableware tablespoons and teaspoons because they usually are not accurate. Instead, use a measuring device such as a syringe, dropper, dosing spoon, or medicine cup.

Other Ways to Keep Your Child Comfortable
There are other ways to keep your child comfortable. These include:

- If shivering, keep your child warm until the shivering stops. If not shivering, you can remove your child’s warm clothes and encourage them to drink plenty of fluids.
- Keep your child rested, quiet, and comfortable in a cool room.
- Place a cool washcloth on your child’s forehead or sponge them with lukewarm water. If sponge bathing, make sure the water doesn’t get cold, and stop if your child starts to shiver.
- Never use rubbing alcohol to cool your child’s skin. It can be absorbed through the skin and harm your child.
Antipyretics and Fever in Children

—For more information concerning dosing of commonly-used OTC medications in children see our Detail-Document, “Dosing of OTC Products in the Pediatric Population.”

U.S. subscribers please see document #220107. Canadian subscribers please see document #220117—

Introduction

Fever is common in infants and children. Fever is defined as an elevated core body temperature that is often, but not necessarily, part of the body’s defense response to the invasion of something live or inanimate which is considered foreign to the body.1,2

In general, fever is rarely harmful and mainly causes discomfort. Treating a fever with antipyretics assumes that fever is noxious and that using antipyretics such as acetaminophen (Tylenol, others) or ibuprofen (Motrin, Advil, others) reduces or eliminates the adverse effects associated with fever. However, neither of these assumptions has ever been proven, especially in older infants and children.1 In fact, fever is an important defense mechanism in the body and helps the body resist infection. Additionally, it has not been conclusively proven that a core temperature of up to 105.8° F (41° C) is harmful in most individuals. While some may argue that children with a history of febrile seizures derive benefit from fever suppression, this too has not been proven.3-5 Most children who experience a febrile seizure have a body temperature of 102.2° (39° C) or less and tolerate even higher body temperatures without experiencing seizures at a later time.2

In a number of trials, antipyretics have not been shown to prevent recurrent febrile seizures.3-5

While fever is often considered a beneficial response to foreign agents, it causes parental anxiety. Crocetti and colleagues interviewed 340 caregivers of children regarding their knowledge about fever. They found that 56% of caregivers were very worried about the potential harm of fever in their children, and felt that fever could lead to a variety of sequelae including seizures, brain damage, and death. When asked about the lowest temperature that could lead to harm, 76% of patients felt that a fever of 104° F (40° C) or less could be harmful, and 35% of caregivers felt like a temperature of 100° F (37.8° C) or less could be harmful.

In this same survey, 25% of respondents said they gave antipyretics for temperatures of less than 100° F (37.8° C) and 89% gave antipyretics for temperatures of 102° F (38.9° C) or lower. Alternating acetaminophen and ibuprofen was reported by 27% of caregivers. Finally, 7% of respondents thought that fever could rise to 110° F (43.3° C) or higher if the fevers were untreated. The authors concluded that fever phobia exists and that health care providers should educate caregivers about fever and its role in illness.6

Despite the protective role of fever, antipyretics are often recommended for treatment of fever. The primary reason to treat fever is for patient comfort. Complete normalization of body temperature is not necessary.

The most commonly used antipyretics include the salicylates such as aspirin, acetaminophen, and the nonsteroidal anti-inflammatory agents such as ibuprofen. These agents block the conversion of arachadonic acid to prostaglandin E2 by inhibiting cyclooxygenase.1,2 It is thought that prostaglandin E2 is critical in the febrile response. However, although aspirin is a very effective antipyretic, because of the association with Reye’s syndrome aspirin is not recommended for use in children.

Acetaminophen and Ibuprofen

Antipyretics such as acetaminophen and ibuprofen are the most commonly recommended agents.

Acetaminophen (Tylenol, others) is considered a safe and effective antipyretic agent. It is well absorbed orally, with a maximum temperature
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dehydration. There is a case report of acute renal failure associated with alternating antipyretics in a dehydrated child. The authors hypothesize that the synergistic and additive mechanisms of action and toxicities of acetaminophen and ibuprofen can predispose these individuals to adverse effects.

Nonpharmacologic Treatment of Fever

In the majority of cases, antipyretics are the most convenient method of reducing fever. However, sponging is a useful alternative to antipyretics in children who are allergic to an antipyretic or if they cannot tolerate it. Additionally, sponging can be used in combination with antipyretics. Common situations when sponging can be considered include:

- Fever is making the child uncomfortable
- Temperature is over 104°F (40°C)
- The child is unable to tolerate oral medications

When sponging is used, the child should be put into a tub of one to two inches of tepid water [85° to 90° F (29.4° to 32.2° C)]. Colder water is uncomfortable and can lead to shivering which can further elevate body temperature. The water should be spread over the trunk, arms, and legs, using a sponge or washcloth. Water evaporates from the skin surface and cools the body, usually within thirty to forty-five minutes. The room should be kept warm, about 75° F (23.9° C). Alcohol should not be added to the water since it can be inhaled or absorbed through the skin leading to adverse effects such as coma.

Other nonpharmacologic methods which can be utilized in a child with a fever include keeping the child lightly dressed, encouraging extra fluid intake, and avoiding overexertion.

Preventing Overdoses of Antipyretics

Overdoses of antipyretics can occur for a variety of reasons. Some overdoses occur in children whose caregivers feel that “if some is good, more is better.” Some caregivers administer extra doses or higher doses than recommended if the fever is not reduced as expected. Parents should understand that temperature normalization is not the goal, but rather patient comfort.

Another reason for unintentional overdose is giving the wrong formulation. For example, concentrated infant drops (80 mg/0.8 mL) are used instead of children’s suspension (160 mg/5 mL), or an adult strength tablet (325 mg) is used instead of children’s chewable (80 mg) or junior strength tablet (160 mg). Caregivers should understand the differences between the products and the importance of using a calibrated measuring device to administer liquid medications.

Finally, many combination products contain an antipyretic. If a child is getting multiple medications for a variety of symptoms, caregivers may unknowingly give more doses of an antipyretic than recommended. Caregivers should be warned that many preparations contain an antipyretic and that simultaneous use can be dangerous. They should be instructed to read the entire label of any over-the-counter product, especially those recommended for cough, fever, or headaches or other painful conditions. If their child is receiving an antipyretic and they are concerned about duplication of therapy, they should ask the pharmacist before purchasing or administering any over-the-counter product.

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Project Leader in preparation of this Detail-Document: Neeta Bahal O’Mara, Pharm.D., BCPS

References


