

## AAP Reports on the Use of Antipyretics for Fever in Children

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**Guideline source:** American Academy of Pediatrics

**Evidence rating system used?** No

**Literature search described?** No

**Published source:** *Pediatrics*, March 2011

**Available at:** <http://pediatrics.aappublications.org/content/127/3/580.full>

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It is estimated that one-third of all children's visits to a health care professional can be attributed to fever. Fever in children often leads to unscheduled physician visits, telephone calls from parents to physicians for consultation, and the treatment of fever with over-the-counter antipyretics. Parents often give their children antipyretics, even when there is minimal or no fever, and studies have shown that as many as one-half of parents do not administer the correct dose. In this report, the American Academy of Pediatrics (AAP) reviews the effectiveness of antipyretics for the treatment of fever in children.

Most physicians initiate treatment with antipyretics if the child has a fever of more than 101°F (38.3°C), or if the child's comfort level could be improved. In general, fevers in children do not last for an extended period of time, are benign, and can actually protect the child. Parents should be provided with thorough and appropriate counseling regarding the treatment of their child's fever with antipyretics. Most physicians believe that children are at risk of adverse effects from fever at temperatures above 104°F (40°C), but this has not been proven. There is no evidence to suggest that children with a high fever are at risk of brain damage or other adverse effects.

### Treatment

Physicians should focus treatment on improving the child's comfort level and

evaluating for serious illness instead of minimizing the risk of adverse effects from high fever. Parents should be advised to monitor the child's activity level, look for signs of serious illness, and encourage fluid intake to facilitate hydration. Improving the comfort of the child should be the primary goal over lowering body temperature. Most caregivers and physicians correlate high fevers with brain damage, seizures, and death. However, evidence does not suggest that lowering fever in children reduces morbidity or mortality, or the recurrence of febrile seizures.

### ACETAMINOPHEN

Acetaminophen in a dosage of 10 to 15 mg per kg every four to six hours to treat fever in children is safe and effective. It is estimated that 80 percent of children will have a decrease in temperature within the first 30 to 60 minutes after acetaminophen has been administered. There has been no consistent evidence that increasing the initial dose of acetaminophen orally or rectally improves effectiveness.

### IBUPROFEN

Ibuprofen in a dosage of 10 mg per kg every six to eight hours is as effective as acetaminophen, and may have a longer effect on lowering body temperature. Evidence has not shown any differences in safety between ibuprofen and acetaminophen in children six months to 12 years of age with fever. Children with a high fever who are older than six years do not respond as effectively to either medication. The primary determinants of the effectiveness of therapy may be the age of the child and fever grade, rather than the specific medication used.

### COMBINATION THERAPY

The combination of acetaminophen and ibuprofen is often used to treat fever in children.

Studies have shown that changes in temperature were similar for groups who alternated use of acetaminophen and ibuprofen compared with those who used acetaminophen or ibuprofen alone. However, after four or more hours of treatment, lower temperatures were more consistently observed in the combination therapy groups. The safety of combination therapy and its effectiveness in improving overall comfort have not been determined. Parents may not understand the dosing regimen; therefore, there is an increased concern about incorrect dosing and overdosing. There is not sufficient evidence to show that combination therapy is effective in improving the overall comfort level of the child. More evidence is needed to determine if combination therapy should be used routinely to treat fever in children.

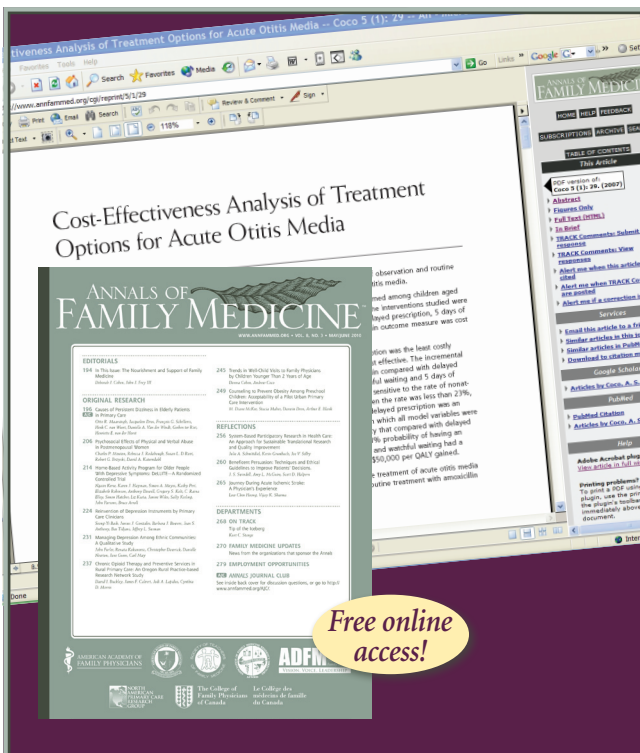
**Recommendation**

Physicians should give thorough and clear instructions to caregivers about appropriate dosages and dosing intervals of acetamino-

phen and ibuprofen for children with a fever. Helping parents understand the etiology of fever and explaining that fever will not have adverse effects on a healthy child are also important. The goal of administering acetaminophen and ibuprofen should be to improve the overall comfort of the child, and not only to lower body temperature. Combination therapy can lead to incorrect dosing and subsequent adverse effects, and should be used with caution. It is important that physicians monitor for signs and symptoms of serious illness, and educate parents about the correct use of antipyretics. ■

**Answers to This Issue's CME Quiz**

<b>Q1.</b> B	<b>Q7.</b> B
<b>Q2.</b> D	<b>Q8.</b> A, B, C, D
<b>Q3.</b> B, C	<b>Q9.</b> B
<b>Q4.</b> C	<b>Q10.</b> A
<b>Q5.</b> D	<b>Q11.</b> A, D
<b>Q6.</b> A, B, C, D	<b>Q12.</b> A, C, D



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