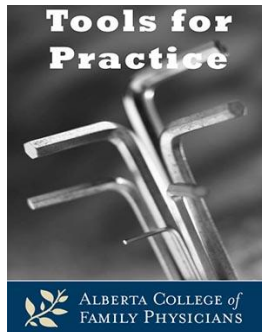


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Reviewed: December 16, 2017
Evidence Updated: Cochrane review & 2 RCTs added
Bottom Line: Unchanged
First Published: June 7, 2010



Are acetaminophen and ibuprofen equivalent in the treatment of pediatric fever?

Clinical Question: If we provide a recommendation regarding the treatment of pediatric fever, is acetaminophen or ibuprofen superior?

Bottom-line: Treatment of pediatric fever is debated and should be discussed with parents/patients. If clinicians are going to recommend a treatment, ibuprofen offers superior fever reduction with no increase in adverse events.

Evidence:

- A meta-analysis and two randomized controlled trials (RCT) provide some guidance.
 - Review of Ibuprofen versus Acetaminophen:¹
 - 10 trials, 1,078 patients.
 - Dose: Ibuprofen 5-10 mg/kg and acetaminophen 10-15mg/kg.
 - Outcome:
 - Ibuprofen statistically superior at 2, 4 and 6 hours.
 - At 4-6 hours approximately 15% more ibuprofen patients will have fever reduction [number needed to treat (NNT) 7].
 - Similar results in pooled analysis of 2 RCTs of children 6 months to 11 years (319 patients) of single dose ibuprofen versus acetaminophen.²
 - PITCH:³ RCT (156 children age six months to six years) comparing ibuprofen 10mg/kg q6-8 hours, acetaminophen 15mg/kg q4-6 hours or both.
 - Outcomes (statistically significant):
 - Time without fever in first four hours: Combination superior to acetaminophen by 55.3 minutes but not ibuprofen.
 - Combination had reduced fever time in first 24 hours.
 - Acetaminophen 4.4 hours more.
 - Ibuprofen 2.5 hours more.
 - Authors recommended ibuprofen due to superiority to acetaminophen, similar to combination with less risk of excess dosing.
 - Cochrane⁴ review of PITCH plus 5 other studies found similar.

Context:

- Overdosing of medications reported in 21% children in PITCH.³
- Debate:
 - No evidence that fever itself is harmful.⁵
 - Antipyretics not shown to prevent febrile seizures.^{6,7}
 - No evidence that treating fever in mild infections is harmful (unless overdosed) and present evidence shows it does not prolong illness.⁸
 - If treated, goal should likely be comfort (although no studies have investigated “comfort” in fever).
- Adverse effects of ibuprofen compared to acetaminophen:
 - Asthma: Ibuprofen carries the same or perhaps slightly lower risk versus acetaminophen⁹
 - Reye Syndrome: No increased risk.^{10,11}
 - GI Effect & Renal: No evidence of risk.¹² Canadian Pediatric Society advises against ibuprofen if a child is not “drinking reasonably well.”¹³
 - “Systemic” Reaction: No evidence of risk.¹²

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at <http://bit.ly/signupfortfps>. Archived articles are available on the ACFP website.

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