

ACETAMINOPHEN (PARACETAMOL) INCREASES THE RISK OF CHILDHOOD ASTHMA.

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THE INVESTIGATOR: *Dr. John T. McBride, Akron*

The sharp worldwide increase in childhood asthma over the past 30 years has long perplexed researchers, who have considered explanations as varied as improved hygiene and immunizations. Over the last decade, however, a new idea has emerged.

The asthma epidemic accelerated in the 1980s, some researchers have noted, about the same time that aspirin was linked to Reye's syndrome in children. Doctors stopped giving aspirin to children with fevers, opting instead for acetaminophen. In a paper published in *The Annals of Allergy and Asthma Immunology* in 1998, Dr. Arthur Varner, then a fellow in the immunology training program at the University of Wisconsin School of Medicine, argued that [the switch to acetaminophen might have fueled the increase in asthma](#).

Since then, more than 20 studies have produced results in support of his theory, including a large analysis of data on more than 200,000 children that found an increased risk of asthma among children who had taken acetaminophen. In November, Dr. John T. McBride, a pediatrician at Akron Children's Hospital in Ohio, published a paper in the journal *Pediatrics* arguing that [the evidence for a link between acetaminophen and asthma is now strong](#) enough for doctors to recommend that infants and children who have asthma (or are at risk for the disease) avoid acetaminophen.

Dr. McBride based his assertion on several lines of evidence. He said, there is now a plausible explanation for how acetaminophen might provoke or worsen asthma, a chronic inflammatory condition of the lungs. Even a single dose of acetaminophen can reduce the body's levels of glutathione, a peptide that helps repair oxidative damage that can drive inflammation in the airways.

Studies have also found an increased risk of asthma in children whose mothers who took acetaminophen during [pregnancy](#).

For instance, a study published in *The Lancet* in 2008 examined information collected on more than 205,000 children from 31 countries as part of the International Study of Asthma and [Allergies](#) in Childhood, known as the Isaac study. The 2008 analysis found that [children who had taken acetaminophen for a fever during the first year of life had a 50 percent greater risk of developing asthma symptoms](#), compared with children who had not taken the drug. The risk rose with increasing use — children who had taken acetaminophen at least once a month had a threefold increase in the risk of asthma symptoms.

A meta-analysis published in 2009 calculated that children who had [taken acetaminophen in the past year had nearly double the risk of wheezing](#) compared with those who had not taken the drug. "We know that acetaminophen can cause increased bronchial constriction and wheezing," said Mahyar Etminan, a pharmacoepidemiologist at the University of British Columbia and lead author of the study.

Still, Dr. Etminan believes it is not yet clear that acetaminophen itself is responsible for the increasing prevalence of asthma. "Children who take acetaminophen are usually getting it for fever control, and they get fevers because they have viral infections, which on their own are associated with developing asthma later in life," Dr. Etminan said. "It's hard to tease out whether it's the drug or the viral infection."

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Another potential problem, Mr. Etminan said, is that many of the studies required parents to accurately recall how much acetaminophen they gave their children, and how often. Parents whose children have asthma are likely to scrutinize the events that preceded an attack, he said, and thus may be more likely than other parents to recall giving their children the drug.

The results, published in 2002, showed that [children who took acetaminophen to treat a fever were more than twice as likely to seek a doctor’s care later for asthma symptoms](#) as those who took ibuprofen.

Dr. Richard Beasley, a professor of medicine at the Medical Research Institute of New Zealand, said the highest priority now should be rigorous trials to test whether acetaminophen use in infancy increases the risk of developing asthma. **Aspirin and other nonsteroidal anti-inflammatory drugs, including ibuprofen, are known to provoke asthma attacks in some people.**

He suggested a middle course for parents: Simply use [acetaminophen \(also known as paracetamol\)](#) more sparingly. **“We should be reserving paracetamol for very high fevers or for major pain relief,”** he said. “We know that paracetamol is used much more widely than that — when a child is a bit irritable or teething or having an [immunization](#).”

Acetaminophen has been shown to reduce the antibody response to immunizations, so the drug should not be given to children in advance of a vaccination.

Source: [Evidence Mounts Linking Acetaminophen and Asthma - NYTimes.com](#)