



# What the research says about autism and acetaminophen use during pregnancy

4 Essential Questions with Dr. Zeyan Liew, Associate Professor of Epidemiology (Environmental Health Sciences); Yale Center for Perinatal, Pediatric, and Environmental Epidemiology

By Colin Poitras

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4 {essential} questions

Dr. Zeyan Liew discusses the latest research on autism and acetaminophen use during pregnancy.

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*[Editor's note: This story was updated to reflect additional information after the U.S. Department of Health and Human Services released new guidance on September 22.]*

For decades, acetaminophen has been the most commonly recommended pain reliever for pregnant women. Published reports have previously raised concerns about a possible link between acetaminophen use during pregnancy and an increased risk of

developmental conditions such as autism spectrum disorder, but there are no studies that have established a causal link.

U.S. Health and Human Services Secretary Robert F. Kennedy Jr. has made finding possible causes of autism a priority for research, including in May 2025 launching the \$50 million Autism Data Science Initiative, and in September 2025 issuing a warning about the potential link between acetaminophen and autism.

Yale School of Public Health Associate Professor Dr. Zeyan Liew, PhD, MPH, has spent years investigating contributors to neurodevelopmental disorders. He says that there is no proven causal relationship between acetaminophen use and autism.

Several large observational studies have reported “associations” between frequent or prolonged acetaminophen use during pregnancy and higher rates of neurodevelopmental disorders in children. But experts emphasize that these studies are not conclusive. Other factors, such as underlying illness or genetic predisposition, could also play a role in the development of autism. Until more definitive research is completed, the U.S. Food and Drug Administration and the CDC continue to recommend acetaminophen as the safest over-the-counter pain reliever for pregnant women.

Liew is currently doing an extensive study into acetaminophen use during pregnancy and neurodevelopmental conditions such as autism. In September 2025, he spoke to Colin Poitras about the current concerns and what the research has discovered to date; answers have been lightly edited and condensed for clarity.

## Does acetaminophen use during pregnancy cause autism?

**Dr. Zeyan Liew:** We do not know yet for sure whether acetaminophen causes autism. Multiple observational studies conducted across different populations have shown associations between frequent and long-term use of acetaminophen in pregnancy and some negative effects on a child’s neurodevelopment. However, not all studies are specific about autism. Further, there might be other factors related to acetaminophen use, such as fevers (which are known to cause

increased rates of neurodevelopmental delays). Genetics and other medical conditions also need to be considered.

What research have you done or are you currently doing on this issue?

**ZL:** I am leading an international collaborative project that will evaluate the association between acetaminophen use in pregnancy and six specific domains of neurodevelopment, assessed from early to late childhood. The project will study a range of other factors related to acetaminophen use, including medical conditions, other medications or treatments taken together with acetaminophen, and family history of physical and mental health outcomes. I am also leading a project at Yale that studies maternal behaviors associated with over-the-counter medication use, including their perceived risk and safety, and barriers to seeking clinical advice.

Are there alternative pain relievers that women can use during pregnancy?

**ZL:** Unfortunately, there is no equivalent alternative for acetaminophen at the moment, as other over-the-counter pain medications, such as ibuprofen, are recommended to be avoided during pregnancy, especially after 20 weeks of gestation.

Existing guidelines may be challenged if new and stronger research data emerge that suggest potential risks during pregnancy and child development.

These are nuances in medication safety communication. We do not want people to fear using a treatment—but we also need to be mindful about limiting potential harm and risks. In this case, frequent and prolonged use of acetaminophen during pregnancy might, potentially, be a risk. That said, untreated maternal fever or pain certainly poses known risks to pregnancy and child development. Thus, it is recommended that pregnant women consult with their health care providers and, if pain relief is necessary, that they use the

lowest effective dose and duration for acetaminophen to alleviate these conditions. While we continue doing research, we also should not scare women away from taking needed medications.

## What else do we know about potential risk factors for autism?

**ZL:** Autism is a highly complex disorder. As of now, researchers have not been able to pinpoint a single causal genetic or environmental factor. Hence, it is premature to declare we know for sure what is causing autism. Continuing research into both genes and environmental effects on autism development is important and needed.

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