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HOUSE OF REPRESENTATIVES

COMMONWEALTH of PENNSYLVANIA

House Democratic Policy Committee Hearing

Acetaminophen & Autism: Sorting Fact from Fear

Tuesday, September 30, 2025 | 9:30 a.m.

Representative Abigail Salisbury

OPENING REMARKS

9:30 a.m. Rep. Abigail Salisbury, D-Allegheny

PANEL ONE

9:35 a.m. Dr. David Mandell, Professor of Psychiatry

University of Pennsylvania School of Medicine

Q & A with Legislators

PANEL TWO

10:00 a.m. Dr. Reuben Brock, Professor of Psychology

Pennsylvania Western University California

Q & A with Legislators

PANEL THREE

10:25 a.m. Dr. Eric Feigl-Ding, Director of Public Health

New England Complex Systems Institute

Q & A with Legislators

Esteemed Members of the Pennsylvania House of Representatives:

Thank you for this opportunity to speak today on a topic that is near and dear to my heart. As a father of two autistic children, as a therapist working daily with autistic clients, and as an autistic person myself, it is vitally important to me that you understand autism. To the extent that I can, I am honored to offer my experiences as an aid in that understanding.

I was born and raised in Washington Pennsylvania. Although I was relatively quiet and shy as a child, my childhood presentation did not raise any red flags. Thus, I was not identified as a child that had any special needs. In the 1980s, when I was entering elementary school, autism was not something regularly being discussed in mainstream media. I was well liked by teachers and peers. I made friends relatively easily. I was bright and engaging when I wanted to be. I had my quirks, but I learned very quickly to hide them.

As I reached high school, although I continued to thrive socially, I struggled emotionally and academically. Those struggles continued into college. By age 20, my mental health had completely deteriorated to the point that I dropped out of school. I began seeking answers about my mental and emotional health. As I went to countless medical and mental health professionals, my case baffled everyone. I was misdiagnosed multiple times, given countless medications that didn't help, and I eventually became so frustrated with my life that I attempted to end it.

When I didn't die, at first, I was frustrated. Then, eventually, I became inspired. I was inspired by this opportunity to rebuild my life. I decided that I wanted to be what I never found. When I was at my lowest point, I was unable to find any medical or mental health professional that truly understood me. So, I set out to build a career helping people. I returned to college. I went to work full-time, and I took classes when I could. Although the road was rough, I eventually finished my bachelor's degree.

I became obsessed with learning to understand human behavior. Because I was eager to learn, school got easier for me. I went on to get a master's degree. Then I got a PhD. I worked as a family therapist. I worked as a drug & alcohol therapist. I worked in residential treatment. I eventually opened a private practice. I also landed a tenure track teaching job at state university, teaching diagnosis and clinical skills, among other things. Over the course of 20 plus years, I became a trusted member of the mental health field in southwestern Pennsylvania. Throughout my career, I always felt a sense of connection to my Aspergers clients and students. I never fully knew why, but their way of thinking resonated with me.

In 2020, as the covid pandemic turned our lives upside down, I began to experience an increase in anxiety. Some of my quirky behaviors became more pronounced. I felt tired a

lot. I noticed that all of my closest relationships had become strained. My work at the university became harder for me to manage. Something was wrong. I decided to take a break from my practice in order to go on a journey of self-discovery. I made a concerted effort to look at myself objectively, using the training I had come to use on everyone else. At the end of that self-discovery journey, I was perplexed by my conclusion. I determined that, if I were a client in my own practice, I would likely diagnose myself with autism. This thought confused me. Everything I had learned about autism to this point led me to believe that it would be illogical to believe I am autistic. I experience empathy. I am able to maintain eye contact when I want to. I am able to manage social situations without major issues, most of the time. How could I be autistic? Wouldn't I have been told this as a child?

I decided that I needed a professional opinion. I began a search for a psychologist willing to assess me for autism at age 45. After several weeks of phone calls and emails, I resigned myself to the fact that it would not be possible to get myself assessed within the Pittsburgh area within a year. Most offices didn't take adults. Those that did had wait lists that were six months long. So, I drove to Philadelphia for a psychological evaluation. A month later, I received word that I was right. At age 45, I was diagnosed with level two autism.

Learning about my own diagnosis made me rethink and challenge everything I had learned about autism. As a clinician in private practice, when I had sent clients for autism evaluation, I had been told things like, "If they can make friends and make eye contact, they aren't autistic." I had heard mothers crying and asking why so many doctors have refused to diagnose their child with autism, saying things like, "Kids who show empathy can't be autistic." I had had multiple cases that seemed like autism to me only to be assured by medical doctors that this person doesn't "look autistic." After some reflection, it occurred to me that despite having a master's degree in counseling and a PhD in counseling psychology, I had never received any formal training specifically about autism. In all of my developmental classes, autism would have been discussed, but not at any great length. The vast majority of my knowledge about autism had come from popular media. Because I wasn't seeing tons of autistic clients, I was often told that "the autism experts" have a greater understanding and that this is why most doctors and clinicians don't diagnose autism. The interesting thing, though, was that I was now faced with the full knowledge that much of what those experts say about autism isn't true for me.

So, I did what I do best. I did a deep dive into autism. I spent months reading everything I could. I read primarily works by autistic people. What I came to learn is that autism doesn't have a look. I learned that, for that reason, there are lots of people just like me who are now coming to understand that they are autistic. As the internet makes information about autism more readily available, people are beginning to recognize it in themselves. I also

learned that most doctors don't have any more specific training in autism than I did before I took it upon myself to learn more. This fundamental lack of knowledge among the medical and mental health community aids in the spread of misinformation that makes diagnosis very difficult. Most importantly, I learned that there is an absolute scarcity of resources for the autism community. Most of the psychologists that do assessment have long waiting lists. Because there aren't many treatment options available for adults, many clinicians don't work with autistic adults. Particularly for level one and two, services in most areas are non-existent.

The experience I was having in 2020 is called autistic burnout. I have met several undiagnosed autistic people who figured out that they are autistic because of the stress of the pandemic. Many people learn to mask their autism symptoms intuitively, as a safety mechanism. Masking is harder to do in times of stress. So, the prolonged stress of the pandemic led to people seeing themselves in a new light. In many ways, I am thankful for the pandemic, as it gave me important information about myself. I know I'm not alone in that.

With this new knowledge, I became determined to be part of the solution. I returned to my practice and dedicated myself to serving the neurodivergent community. I got trained in autism assessment. I spent the past year helping children, adults, and families as they navigate the challenges presented by autism and ADHD. I have heard from countless mothers how hard it has been to find doctors, therapists, or teachers that truly understand autism. I can't help but be disheartened by what I see as the fundamental problem with the science and particularly the services available around autism in Southwestern Pennsylvania and around the country: a fundamental lack of understanding about what autism is and how it impacts lives. From well-meaning loved ones to doctors with outdated training, far too many people have inaccurate information about this phenomenon.

If there is one thing that my experience illustrates, it is that there is an absolute scarcity of understanding about autism in our society. The very professionals that serve the community and set the policies have little to no true understanding of autism and how it works. As a member of the autism community, as a service provider, and as an educator, I implore this body to invest in autism research, education, and support. I encourage you to let autistic people lead the way in this effort. There is no one better equipped to understand the needs of autistic people than the autistic people themselves. We must push back against misinformation by uplifting factual information and lived experience. Rhetoric like that which we heard from our president last week not only makes my job harder but it's an insult to me and my loved ones. If we truly want to improve the lived experience of people in the autism community, we must start by creating awareness and understanding about

exactly what autism is. Only then will more people understand how to help autistic people live the rich and fulfilling lives they are capable and deserving of.

Once again, I would like to thank Rep. Salisbury and the members of this body for the invitation to speak here today.

Rueben Brock, PhD

PREPARED TESTIMONY

Dr. ERIC FEIGL-DING, Sc.D.

Chief Epidemiologist, Faculty, Chair of the Department of Public Health

New England Complex Systems Institute

Delivered to the Pennsylvania House of Representatives

September 30, 2025

Debunking Tylenol-Autism Misinformation

Background: I am an epidemiologist who has spent 21 years in public health research, 15 years of which were spent as a faculty member and researcher at Harvard, where I was once ranked a top cited researcher across Harvard and globally, and spent another 2 years at the Federation of American Scientists, a leading institute founded by Robert Oppenheimer, focused on debunking misinformation, and I am currently Chief Epidemiologist, faculty, and Chair of the Department of Public Health at the New England Complex Systems Institute. Almost exactly 20 years ago, I was involved in leading the then largest study-to-date exposing the dangerous risks of the multi-billion-dollar-a-year Merck drug Vioxx, that was pulled from the market by the FDA. I have since worked to warn the public about dangerous drinking water in Flint, calling out the fraud of the CEO of Theranos Elizabeth Holmes, warning the world about the incoming COVID-pandemic, and debunking misinformation about COVID vaccines and drugs.

dangerous misinformation on Tylenol (aka acetaminophen / paracetamol) and autism in pregnant women and children.

On Monday September 22, 2025, flanked by Health and Human Services Secretary Robert F. Kennedy Jr. and Centers for Medicare and Medicaid head Dr. Mehmet Oz, President Trump declared at a press conference substantial blame for rising autism rates on the common painkiller, which is also known by its brand name, Tylenol.

For years, scientists debated a tough question: **does Tylenol (acetaminophen) in pregnancy cause autism?** There have been studies in the past that showed a small connection, so this is worth examining carefully.

The problem was that the studies that show a connection between Tylenol and autism were small and uncontrolled, and very limited in scope. **Up until 2024, there weren't high enough quality systematic large scale studies to answer the question.** Even more critically, these studies do not take into account fact that Tylenol is often taken to deal with a fever, and there *may* be a risk between fever in pregnancy and autism.

Even the American College of Obstetricians and Gynecologists said that the suggestion that acetaminophen use in pregnancy caused autism was not backed by reliable data and "dangerously simplifies the many and complex causes of neurologic challenges in children." The American Academy of Pediatrics (https://www.aap.org/en/news-room/fact-checked/acetaminophen-is-safe-for-children-when-taken-as-directed-no-link-to-autism/) also refutes Trump's claim, and stated there is 'no link to autism' by acetaminophen.

So why the debate and confusion? Is it actually causation, or spurious correlation?

We need to discuss what researchers call **confounding**. Confounding is one of the reasons that correlation does not always equal causation. It is where extraneous factors cause observed outcomes. For example: in old consumer data, condom use were correlated with sales of household appliances. Did buying condoms make people buy microwaves, or did buying microwaves lead to condom use? Of course not - the confounding variable was income/education. Families with more money were simply more likely to buy both. Confounding is the juggernaut to overcome when drawing causal conclusions.

Does Tylenol cause autism? Or is it the fever - the very reason people take Tylenol - that carries the risk? Is the fever a confounding variable? How much is the mother's health a factor? These studies cannot overcome these confounding problems because of the data they have access to.

Here's the great news: a huge high quality study solved this problem last year!

A Swedish study of 2.5 million children, published in JAMA in 2024, used sibling pair analysis, comparing families where the mother took Tylenol during one pregnancy but not another. Sibling pair analysis is the best way to remove the confounding variables. A crude unadjusted analysis found only a preliminary 5% risk, but once you adjust for family by matching using sibling controls (who didn't get autism), the even tiny 5% risk vaporizes to 0%. By looking at different pregnancies of the same mother, sibling pair analysis keeps constant her underlying susceptibility to fevers - which means differences in outcomes can't simply be explained by some mothers being more fever-prone than others. At the same time, it controls for family-to-family differences in

genetics, environment, and health behaviors. This makes it the gold standard for ruling out confounding in large observational studies.



[95% CI, 1.02-1.08]; risk difference [RD] at 10 years of age, 0.09% [95% CI, -0.01% to 0.20%]), ADHD (HR, 1.07 [95% CI, 1.05-1.10]; RD, 0.21% [95% CI, 0.08%-0.34%]), and intellectual disability (HR, 1.05 [95% CI, 1.00-1.10]; RD, 0.04% [95% CI, -0.04% to 0.12%]). To address unobserved confounding, matched full sibling pairs were also analyzed. Sibling control analyses found no evidence that acetaminophen use during pregnancy was associated with autism (HR, 0.98 [95% CI, 0.93-1.04]; RD, 0.02% [95% CI, -0.14% to 0.18%]), ADHD (HR, 0.98 [95% CI, 0.94-1.02]; RD, -0.02% [95% CI, -0.21% to 0.15%]), or intellectual disability (HR, 1.01 [95% CI, 0.92-1.10]; RD, 0% [95% CI, -0.10% to 0.13%]). Similarly, there was no evidence of a dose-response pattern in sibling control analyses. For example, for autism, compared with no use of acetaminophen, persons with low (<25th percentile), medium (25th-75th percentile) and high (>75th percentile) mean daily acetaminophen use had HRs of 0.85, 0.96, and 0.88, respectively.

Conclusions and Relevance Acetaminophen use during pregnancy was not associated with children's risk of autism, ADHD, or intellectual disability in sibling control analysis. This suggests that associations observed in other models may have been attributable to familial confounding.

(from https://jamanetwork.com/journals/jama/fullarticle/2817406)

The result was clear: the largest most comprehensive data shows no increased risk. It shows that Tylenol use during pregnancy is not linked to autism, ADHD, or intellectual disability.

We finally have the answer because of the hard work of scientists! That is until RFK Jr. and Donald Trump decided to blow everything up.

A presidential press conference

As we know, on Monday Sept 22, 2025, Donald Trump and RFK Jr. held a press conference in the White House that claimed that Tylenol causes autism. In front of the entire country, they spread dubious claims that completely ignored the gold standard study that contradicts them.

And this is dangerous. Here's why:

- Tylenol remains the safest option for pain and fever in pregnancy
- Untreated fever during pregnancy is extremely dangerous, raising the risk of miscarriages, birth defects, and complications.
- These false claims will make women hesitate to treat fevers, putting both mothers and babies at risk.
- Pregnant women cannot and should not wait out a fever! They must listen to their doctor's advice if they're told to take Tylenol.

Real science relies on quality data

Quality matters. Small, uncontrolled studies can produce misleading associations. But the Swedish sibling study - the **largest and most rigorous of its kind** - shows those associations between Tylenol and autism disappear when you control for genetics and family environment.

Real science is hard - it can take many years and millions of data points collected by experts. What RFK Jr. likes to peddle is conspiracies, backed up by misleading research that's often biased toward a predetermined outcome for political or commercial purposes. His claims cannot stand up to scrutiny, but they can persuade the public.

Trump and RFK Jr. are pushing junk.

Then at the end of last week, Trump went at it again on Truth Social - spreading reckless health disinformation that could put pregnant women and babies at risk. Trump posted on Truth Social telling pregnant women **not to use Tylenol, and advising parents against giving it to their children.**

This is not only wrong, it's dangerous for mothers and their fetuses. Let's set the record straight.

Tylenol is critical medicine for pregnant women

When it comes to fever in pregnancy, **Tylenol (acetaminophen) is the only real** option.

Here's why:

- Aspirin can cause miscarriage and bleeding problems in early pregnancy,
 and in later pregnancy it raises the risk of premature closure of a baby's
 heart vessel, leading to heart and lung complications.
- Ibuprofen and other NSAIDs have similar risks, especially in the second and third trimesters: kidney problems in the baby, reduced amniotic fluid, and increased risk of heart complications.
- Other antipyretics (like naproxen, indomethacin, etc.) fall into the same unsafe categories as ibuprofen and aspirin.
- Ice baths or polar plunges are dangerous too. The extreme cold causes vasoconstriction, reducing blood flow, which limits oxygen and nutrients to the baby.

That leaves only one widely available medicine that reduces fever without these risks: **Tylenol**.

And treating fever matters. Untreated fever during pregnancy is not just uncomfortable it raises the risk of miscarriage, birth defects, and developmental complications.

That's why every major health authority points to Tylenol as the safest and most effective option.

The guidelines exist to keep the baby and mother safe.

So when Trump tells pregnant women not to use Tylenol, he's not offering a harmless "second opinion." He's telling them to avoid the only safe medicine available.

What the science really shows about autism

Let's recap what we went over last week about Tylenol and autism. Trump thinks

Tylenol is a cause of autism. But here's what the research actually shows:

- Mothers take Tylenol because they have fevers. And fevers themselves not the Tylenol - are what increase pregnancy risks.
- In large sibling-controlled studies that account for genetics and family environment, the Tylenol link to autism disappears.
- Autism has no single cause. Scientists know it can have 100 different causes in 100 different patients.

That's the real science. And it couldn't be clearer.

About that 2017 Tylenol Tweet





We actually don't recommend using any of our products while pregnant. Thank you for taking the time to voice your concerns today.

19:31 · 07/03/2017

Now, MAGA defenders are trying to dunk on Trump's critics by pointing to a 2017 Tylenol corporate tweet that says, "We actually don't recommend using any of our products while pregnant." This gets taken out of context constantly.

Here's the reality:

- It was first a 'reply comment' to someone on Twitter who had asked about usage in pregnant women, not a standalone declaration tweet.
- Tylenol cannot "recommend" that pregnant women take their drugs, because there's no FDA study of their drugs in pregnant women, as is the norm.
- Pharmaceutical companies almost never includes pregnant women in drug approval studies submitted to the FDA, nor does FDA request them. That's not because every drug is unsafe - it's because testing drugs in pregnancy is ethically and legally fraught, and if they do, extremely time intensive and difficult.

- As a result, most drug labels will never explicitly say, "safe in pregnancy,"
 even when decades of clinical use show no problems.
- Companies are boxed in: they can't claim "safety in pregnancy" without an FDA study, but the FDA rarely ever requires pharma companies to run those studies.

So Tylenol - like almost every drug - was never *formally* "recommended" for pregnancy by the FDA. That's just how the system works. It's cautious by design.

But here's the key: despite that, **medical practice and evidence have long made Tylenol the default and safest choice for pregnant women.** Doctors use it, OB
GYNs recommend it, and public health bodies around the world endorse it.

By pushing his anti-scientific opinions, the president is undermining trust in safe, lifesaving medicine.

Their real goal is to undermine trust

This isn't just about Tylenol. It's about their goal to sow distrust in the entire medical and scientific community, just like they sow distrust of the media that reports facts and world events.

Trump and RFK Jr. want Americans to stop trusting doctors, pediatricians, scientists, and public health institutions. They want people to believe only them.

It's the same strategy they used with vaccines: attack the experts, spread doubt, fill the vacuum with lies.

Autism is difficult to find a cause and a cure. Researchers believe it has likely 100 different causes for 100 different autism presenting patients. And we have no simple 'Ozempic of autism' magic bullet cure either. So let's focus on actually finding the true complex web of autism causes via funding medical research, instead of slashing NIH funding, decimating NSF funding, undermining researchers, and spreading misinformation—if not outright purposeful disinformation. Thank you.

Rep. Greg Scott (Montgomery County) would like fellow lawmakers to be aware of public statements made by medical and public health groups:

American College of Obstetricians & Gynecologists, ACOG Affirms Safety and Benefits of Acetaminophen during Pregnancy: When considering the use of medication in pregnancy, it's important to consider all potential risks along with any benefits. The data from numerous studies have shown that acetaminophen plays an important—and safe—role in the well-being of pregnant women. (The full statement can be found by following the above link.)

Society for Maternal-Fetal Medicine, SMFM Response to Administration Announcement on Acetaminophen Use During Pregnancy and Autism: The Society for Maternal-Fetal Medicine (SMFM) reiterates its recommendation advising both physicians and patients that acetaminophen is an appropriate medication to treat pain and fever during pregnancy. (The full statement can be found by following the above link.)

Autism Science Foundation, ASF Statement on White House Announcement on Autism: "Any association between acetaminophen and autism is based on limited, conflicting, and inconsistent science and is premature," said Autism Science Foundation Chief Science Officer Dr. Alycia Halladay. "This claim risks undermining public health while also misleading families who deserve clear, factual information. For many years, RFK and President Trump have shared their belief that vaccines cause autism, but this is also not supported by the science, which has shown no relationship between vaccines and autism." (The full statement can be found by following the above link.)

American Academy of Pediatrics, AAP Statement on White House Autism Announcement: Today's White House event on autism was filled with dangerous claims and misleading information that sends a confusing message to parents and expecting parents and does a disservice to autistic individuals. (The full statement can be found by following the above link.)