

When It Comes to Infant Milk Allergies, Many Questions Remain

Cow's milk allergies seem to be on the rise. Some experts question whether the formula industry is to blame.

Visual: Mayte Torres/Moment via Getty Images

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FOR TAYLOR ARNOLD, a registered dietitian nutritionist, feeding her second baby was not easy. At eight weeks old, he screamed when he ate and wouldn't gain much weight. Arnold brought him to a gastroenterologist, who diagnosed him with allergic proctocolitis — an immune response to the proteins found in certain foods, which she narrowed down to cow's milk.

Cow's milk protein allergies, or CMPA, appear to be on the rise

(<https://www.contemporarypediatrics.com>

[/view/increase-in-food-allergies-signals-similar-rise-in-cow-s-milk-allergy](#)) — following a similar trend (<https://www.feinberg.northwestern.edu/research/podcast/food-allergies-on-the-rise.html>) to other children’s food allergies (<https://undark.org/2019/08/05/oral-immunotherapy-food-allergies/>) — and they can upend a caregiver’s feeding plans: A breastfeeding parent is often told (<https://www.aap.org/en/patient-care/newborn-and-infant-nutrition/food-allergies-and-intolerances-in-newborns-and-infants/>) to eliminate dairy from their diet, or switch to a specialized hypoallergenic formula, which can be expensive.

But while the evidence suggests that CMPA rates are climbing, the source of that increase remains unclear. Some experts say part of the reason is that doctors are getting better at recognizing symptoms. Others claim the condition is overdiagnosed, which could have health consequences, such as an increased risk of developing additional allergies later in life. And among those who believe that milk allergy rates are inflated, some suspect the global formula industry, valued at \$55 billion

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according to a 2022 report

(<https://www.who.int/publications/i/item/9789240044609>) from the World Health Organization and UNICEF, may have an undue influence.

Meanwhile, “no one has ever studied these kids in a systematic way,” said Victoria Martin, a pediatric gastroenterologist and allergy researcher at Massachusetts General Hospital. “It’s pretty unusual in disease that is this common, that has been going on for this long, that there hasn’t been more careful, controlled study.”

This lack of clarity can leave doctors in the dark about how to diagnose the condition and leave parents with more questions than answers about how best to treat it.

When Arnold’s son became sick with CMPA symptoms, it was “really, really stressful,” she told Undark. Plus, “I didn’t get a lot of support from the doctors, and that was frustrating.”

Though the gastroenterologist recommended she switch to formula, Arnold ultimately used a lactation consultant and gave up dairy so she could continue breastfeeding (<https://undark.org/2023/03/13/new-mastitis-guidelines-give-breastfeeding-parents-whiplash/>). But she said she can understand

why others might not make the same choice: “A

lot of moms go to formula because there’s not a lot of support for how to manage the diet.”

FOOD ALLERGIES primarily come in two forms: One, called an IgE-mediated allergy, has symptoms that appear soon after ingesting a food — such as swelling, hives, or difficulty breathing — and may be confirmed by a skin prick test (<https://www.healthline.com/health/allergies/skin-prick-test-accuracy>). The second, which Arnold’s son was diagnosed with, is a non-IgE-mediated allergy or food protein-induced allergic proctocolitis, and is much harder to diagnose.

With non-IgE allergies, symptom onset often doesn’t happen immediately after a person eats a triggering food and there is no test to confirm a diagnosis. (Some specialists don’t like to call the condition an allergy because it doesn’t present with classic allergy symptoms.) Instead, physicians often rely on past training, online resources, or published guidelines written by experts in the field, which list symptoms and help doctors make a treatment plan.

Numerous such guidelines exist to help providers diagnose milk allergies, but the process is not always straightforward. “It’s a perfect storm” of vague and common symptoms

and no diagnostic test, said Adam Fox, a pediatric allergist and a professor at King's College London, noting that commercial interests such as formula company marketing can also be misleading. "It's not really a surprise that you've got confused patients and, frankly, a lot of very confused doctors."

"It's pretty unusual in disease that is this common, that has been going on for this long, that there hasn't been more careful, controlled study," said Victoria Martin, a pediatric gastroenterologist.

Fox is the lead author of the International Milk Allergy in Primary Care (<https://ctajournal.biomedcentral.com/articles/10.1186/s13601-019-0281-8>), or iMAP, guidelines, one of many similar documents intended to help physicians diagnose CMPA. But some guidelines, including iMAP — which was known as the Milk Allergy in Primary Care Guideline until 2017 — have been criticized for listing a broad range of symptoms, like colic, non-specific rashes, diarrhea, and constipation, which can be common in healthy infants during the first year of their life.

“Lots of babies cry, or they posset, or they get a little minor rash or something,” said Michael Perkin, a pediatric allergist based in the U.K. “But that doesn’t mean they’ve got a pathological process going on.”

In a paper published online in December 2021, Perkin and colleagues found (<https://pubmed.ncbi.nlm.nih.gov/34877731/>) that in a food allergy trial (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4852987/>), nearly three-quarters of the infants’ parents reported at least two symptoms that matched iMAP guideline’s “mild-moderate” non-IgE-mediated cow’s milk allergy symptoms, such as vomiting or reflux. But another study led by Perkin and Robert Boyle, a children’s allergy specialist at Imperial College London, reviewed (<https://jamanetwork.com/journals/jamapediatrics/article-abstract/2764081>) available evidence and found that only about 1 percent of babies have a milk allergy proven by what’s called a “food challenge,” in which a person is exposed to the allergen and their reactions are monitored.

That same study found that up to 14 percent of families believe their babies have a milk allergy. Meanwhile, another study (<https://onlinelibrary.wiley.com/doi/10.1111/cea.14180>) by Boyle and colleagues showed

that milk allergy formula prescriptions

increased 2.8-fold in England from 2007 to 2018.

Researchers at the University of Rochester

found (<https://pubmed.ncbi.nlm.nih.gov/36129802/>)

similar trends stateside: Between

2017 and 2019, hypoallergenic formula sales rose

from 4.9 percent to 7.6 percent of all formula

sold in the U.S.

Perkin and Boyle suspect the formula industry

has influenced diagnosis guidelines. In their

2020 report, which was published in JAMA

Pediatrics, they found that 81 percent of authors

([https://jamanetwork.com/journals](https://jamanetwork.com/journals/jamapediatrics/article-abstract/2764081)

[/jamapediatrics/article-abstract/2764081](https://jamanetwork.com/journals/jamapediatrics/article-abstract/2764081)) who

wrote nine physicians' guidelines for the

condition — including the 2013 version of the

iMAP guidelines — reported a conflict of

interest with formula manufacturers, such as

research funding, consulting fees, or paid

lectures.

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Additionally, the formula industry sends representatives and promotional materials to some pediatric clinics. One recent study (<https://www.liebertpub.com/doi/10.1089/bfm.2022.0217>) found that around 85 percent of pediatricians surveyed reported a representative visit, sometimes sponsoring meals.

Formula companies “like people getting the idea that whenever a baby cries, or does a runny poo, or anything,” that it might be a milk allergy, Boyle said.

In response to criticism that the guidelines have influenced the increase in specialized formula sales, Fox noted that the rise began in the early 2000s. One of the first diagnosis guidelines,

meanwhile, was published in 2007

(<https://adc.bmj.com/content/92/10/902>). He also said that the symptoms listed in the iMAP guidelines were taken from the U.K.'s National Institute for Health and Care Excellence and the U.S.'s National Institute of Allergy and Infectious Diseases.

As for the conflicts of interest, Fox said: "We never made any money from this, there was never any money for the development of it. We've done this with best intentions, we absolutely recognize where that may not have turned out the way that we intended it, we'd have tried our best to address that."

Formula companies "like people getting the idea that whenever a baby cries, or does a runny poo, or anything," that it might be a milk allergy, Boyle said.

Following backlash (<https://www.bmj.com/content/363/bmj.k5056>) over close ties between the formula industry and healthcare professionals, including author conflicts of interest, iMAP updated their guidelines in 2019. The new version (<https://ctajournal.biomedcentral.com/articles/10.1186/s13601-019-0281-8>) responded directly

to criticism and said the guidelines received no direct industry funding, but acknowledged “a potential risk of unconscious bias” related to research funding, educational grants, and consultant fees. The authors noted that the new guidelines tried to mitigate such influence through independent patient input.

Fox also said he ceased all formula ties in 2018, and led the British Society for Allergy & Clinical Immunology to do the same when he was president.

Undark reached out to the Infant Nutrition Council of America, an association of the largest U.S. manufacturers of infant formula, multiple times, but did not receive any comment in response.

HOUGH THE GUIDELINES have issues, said Nigel Rollins, a pediatrician and researcher at the World Health Organization, he sees the rise in diagnoses as driven by formula industry marketing to parents, which can fuel the idea that fussiness or colic might be signs of a milk allergy. Parents then go to their pediatrician to talk about milk allergy, Rollins said, and “the family doctor isn’t actually well-positioned to argue otherwise.”

Rollins led much of the research in the 2022

report (<https://www.who.int/news/item>

[/22-02-2022-more-than-half-of-parents-and-pregnant-women-exposed-to-aggressive-formula-milk-marketing-who-unicef](https://www.who.int/news/item/22-02-2022-more-than-half-of-parents-and-pregnant-women-exposed-to-aggressive-formula-milk-marketing-who-unicef)) from WHO and UNICEF, which surveyed more than 8,500 pregnant and postpartum people in eight countries (not including the U.S.). Of those participants, 51 percent were exposed to aggressive formula milk marketing, which the report states “represents one of the most underappreciated risks to infants and young children’s health.”

Meanwhile, Amy Burris, a pediatric allergist and immunologist at the University of Rochester Medical Center, said there are many likely causes of overdiagnosis. “I don’t know that there’s one particular thing that stands out in my head as the reason it’s overdiagnosed,” she added.

Some physicians rely on their own criteria for diagnosing non-IgE milk allergy, rather than the guidelines — for instance, conducting a test that detects microscopic blood in stool. But Burris and Rollins both pointed out that healthy infants, or infants who have recently had a virus or stomach bug, can have traces of blood in their stool, too.

Martin, the allergy researcher at Massachusetts General Hospital, said the better way to confirm

an infant dairy allergy is to reintroduce milk

around a month after it has been eliminated: If the symptoms reappear, then the baby most likely has the allergy. The guidelines say to do this, but both Martin and Perkin told Undark that this almost never happens; parents can be reluctant to reintroduce a food if their baby seems better without it.

“I wish every physician followed the guidelines right now until we write better guidelines, because, unequivocally, what folks are doing not following the guidelines is worse,” Martin said, adding that kids are on a restricted diet for a longer time than they should be.

GIVING UP POTENTIALLY allergenic foods, including dairy, isn't without consequences. “I think there's a lot of potential risk in having moms unnecessarily avoid cow's milk or other foods,” Burris said. “Also, you're putting the breastfeeding relationship at risk.”

By the time Burris sees a baby, she said, their mother has often already given up breastfeeding after a primary care provider suggested a food allergy, but “at that point, it's too late to restimulate the supply.” It also remains an open question (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9222876/>) whether allergens in breast milk actually trigger infant

allergies. According to Perkin, the amount of cow's milk protein that enters breast milk is "tiny."

For babies, Martin said, dietary elimination may affect sensitivity to other foods. She pointed to research (<https://www.nejm.org/doi/full/10.1056/nejmoa1414850>) indicating that early introduction of food allergens such as peanuts can reduce the likelihood of developing allergies.

Martin also said some babies with a CMPA diagnosis may not have to give up milk entirely. She led a 2020 study (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8403015/>) suggesting that even when parents don't elect to make any dietary changes for babies with a non-IgE-mediated food allergy diagnosis, they later report an improvement in their babies' symptoms. But when parents do make changes to their baby's diet, in Martin's experience, if they later reintroduce milk, "the

vast majority of them do fine," she said. "I think some people would argue that maybe you had the wrong diagnosis initially. But I think the other possibility is that it's the right diagnosis, it just turns around pretty fast."

Still, many parents who give up dairy, or switch to a hypoallergenic formula, report an improvement

(<https://pubmed.ncbi.nlm.nih.gov/25963794/>) in their baby's symptoms. Arnold said her son's symptoms improved when they eliminated dairy. But when he was about eight months old, they reintroduced the food group to his diet, and he had no issues.

Whether that's because the cow's milk protein allergy was short-lived or because his symptoms were due to something else, it's unclear. But she sees moms self-diagnosing their baby with food allergies on social media and believes many are experiencing a placebo effect when they say their baby improves. "Nobody's immune to that. Even me," she said. "There's absolutely a

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