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PASS THE PEANUT, PLEASE!

How to protect a baby from developing peanut allergy?
Start with some peanut-based foods.

Introducing peanut to infants might sound like a scary thing to do. Especially since initially, parents were instructed to hold off serving peanut until after a baby's first year.

Today, parents are being told the opposite: Get babies eating peanut ASAP. What happened? Why such a dramatic shift in thinking?

In a nutshell: more research. After years of study, scientists now have a clearer understanding about the best time to introduce potentially allergenic foods like peanut to infants – and earlier is better. A lot better.



Dr. Elinor Simons, Assistant Professor
University of Manitoba

In 2019, a research project led by Dr. Elinor Simons, a clinician-scientist at the Children's Hospital Research Institute of Manitoba (CHRIM) and assistant professor at the University of Manitoba, is one of several large studies to reach this conclusion.

Dr. Simons' research found that babies who did not consume an age-appropriate form of peanut before their first birthday were four times more likely to be allergic to peanut by age three, compared to those little ones who ate peanut in their first 12 months.

"What makes our study unique is that we looked at children from the general population, not just kids believed to be at high risk of developing food allergy – as had been done in other studies," says Dr. Simons. "This means we now have evidence that early exposure to peanuts protects *all* children, not just those considered most at risk."

A serious problem of unknown origin

This can only be good news, because peanuts are hard to avoid. They're handy, inexpensive, tasty and a solid source of protein. But they sure can cause trouble if you're allergic to them.

In April 2020, a [nationwide survey](#) published by investigators from the Allergy, Genes and Environment (AllerGen) Networks of Centres of Excellence found that 3.2%

of Canadian children have what is considered to be a "probable" peanut allergy.

Yet, the causes of peanut allergy are still largely unknown. A prevailing theory, known as the microbial hypothesis, suggests that a variety of environmental factors can disrupt a child's microbiome (the trillions of microbes that live on and in our bodies), causing the immune system to overreact to a food or a substance in a food.

Another theory suggests that exposure to allergens through the skin can increase the chance that an allergy will develop down the line. "This can happen in children with eczema; their skin may have a more fragile barrier and crack in places where food allergens, like peanut, can get into the body and make contact with the immune system through a route that does not usually allow development of tolerance," Dr. Simons explains. "For most infants, multiple factors likely contribute to development of sensitivity or tolerance to food allergens."

Despite the uncertainty about why peanut allergy develops for any given child, virtually everyone agrees on the seriousness of the problem. Health Canada lists peanut among its priority food allergens – the foods that cause the majority of allergic reactions – and federal labelling laws require peanut to be listed in the ingredient information on packaged food.



Poster by CHILD participant Oliver (8 years old), from Vancouver, BC

LEAPing to new conclusions

In recent years, several high-profile studies have determined that early exposure to peanut is beneficial to babies who are at high risk of developing peanut allergy – a group that includes infants with other food allergies or eczema.

One of the best known of these studies, the UK's [Learning Early About Peanut \(LEAP\)](#) study, found that feeding peanut to young infants with a heightened allergy risk reduced the likelihood, by 70 to 80%, that these children would develop a peanut allergy by age five.

“The LEAP results were very encouraging,” notes Dr. Simons. “As a pediatric allergist, there are few interventions I can recommend to high-risk patients that will reduce the risk of a chronic allergic disease by a magnitude of 80%.”

What science was still wondering, and what Dr. Simons was eager to find out, was whether early peanut introduction could also benefit children with a low risk of allergy. The [Enquiring About Tolerance \(EAT\)](#) study from the UK had suggested lower allergy development among breastfed infants randomized to early introduction of highly allergenic foods, inspiring Dr. Simons to investigate this area further.

Dr. Simons is a clinician investigator with the CHILD Cohort Study (CHILD), a unique Canadian research project that has been studying the health and development of close to 3,500 children across the country. By following these children from before birth, CHILD researchers have made exciting discoveries about how early-life exposures affect the development of childhood allergies, asthma, obesity and other chronic diseases.

As part of the ongoing data collected by CHILD, parents and caregivers provided detailed information about their children’s consumption of potentially allergenic foods, including peanut, while also reporting on signs of food allergies the children developed along the way. At ages one, three and five, the children had skin prick testing to check for allergic sensitization (a marker for possible allergy) to peanut, egg, and cow’s milk.

This gave Dr. Simons and her team the data they needed for their analysis. Unlike the LEAP study, CHILD participants were generally not at high risk for peanut allergy. When the small number of children who would have been part of the high-risk group studied by LEAP were excluded from the

analysis, the results did not change. In total, Dr. Simons' study involved 2,600 CHILD participants.

"Our results clearly showed that eating peanut early, even for low-risk children, reduced the incidence of peanut allergy later on," she explains. "In our study, none of the infants introduced to peanut before six months of age were sensitized to peanut at age three."

In fact, the benefit of introducing peanut early persisted as the babies grew. The babies who had not been introduced to peanut before 12 months of age were *four times* as likely to be allergic to it by age three. Children who did not have peanut introduced into their diet by 18 months were over *seven times* more likely to be sensitized or to exhibit an allergy to peanut compared to children who began consuming it before nine months of age.

"This finding tells us that if peanut has not been introduced before the age of 12 months, it should still be introduced as soon as possible," Dr. Simons adds.

The analysis also accounted for other factors that might contribute to the development of peanut allergy, such as family history and the number of older siblings. The [Journal of Allergy and Clinical Immunology: In Practice](#) published the study in November 2019.

The study's findings are in line with [previous CHILD research](#), which found, in June 2017, that delaying the introduction of potentially allergenic foods increased the likelihood of a child developing a positive skin prick test to highly allergenic foods by age one.

In the 2017 study, infants who avoided cow's milk products, egg or peanut in their first year were nearly twice as likely to be sensitized to those foods compared to infants who consumed them before 12 months of age. Of interest, early introduction of egg before one year seemed to be especially beneficial – reducing allergic sensitization to all three foods, milk, egg and peanut – at 12 months.

The early bird ... doesn't get the allergy

Results from LEAP and other studies prompted the American Academy of Pediatrics (AAP) and the National Institute of Allergy and Infectious Diseases (NIAID) to update recommendations on introducing peanut. The new approach recommends introducing peanut-containing foods to babies at high risk for food allergy when these babies are between


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four to six months old, and to continue exposing them to peanut regularly through age one. The guidelines caution, however, that peanuts and peanut butter are choking hazards, and that smoothing peanut butter into pureed fruits or vegetables is a safe way to offer peanut to babies.

In 2019, the Canadian Paediatric Society (CPS) updated its guidance on peanut introduction as well. The [new recommendations](#) encourage the introduction of non-choking forms of peanut to high-risk infants when they are around six months old, but not before they reach four months of age.

And for infants with no particular risk for peanut allergy? Parents and caregivers should feel reassured about offering peanut early to them too, Dr. Simons advises. "Some parents are still worried about giving their infants potentially allergenic foods. If our study helps parents overcome this fear, it will have done its work," she says.

As she continues to follow the CHILD cohort children as they grow and develop, Dr. Simons expects more answers to the puzzle of peanut allergy to fall into place. "We're planning to follow these children to see if the benefit of early peanut introduction persists as they get older," she says.

In the meantime, in the fight against peanut allergy, "early introduction of peanut is an easy and natural tool that parents can use for all children." 

Give babies
allergenic foods as
first foods to stop
allergies.



Poster (detail) by CHILD participant Benjamin (8 years old), from Winnipeg, MB