

Study finds asthma and food allergies predictable at age 1

November 15 2017



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Children at one year old who have eczema or atopic dermatitis (AD) and are sensitized to an allergen are seven times more likely than other infants to develop asthma, and significantly more likely to have a food

allergy by age three.

This new finding from the Canadian CHILD Study will help doctors better predict which children will develop [asthma](#) and allergies, according to a paper published today by the *Journal of Allergy and Clinical Immunology*.

It has long been known that infants with eczema or [atopic dermatitis](#) (AD) are more likely to develop asthma and [allergic rhinitis](#) in later childhood, a progression known as "the atopic march." But predicting precisely which children with AD will go on to develop these conditions has been difficult.

The CHILD researchers did find that having AD alone, without sensitization to an allergen, did not significantly increase children's risk of developing asthma.

"Over the years, the clinical community has struggled to explain the atopic march," said Dr. Malcolm Sears, founding director of the CHILD Study, a professor of medicine at McMaster University and a researcher at the Firestone Institute for Respiratory Health at St. Joseph's Healthcare Hamilton.

"These findings help us to understand the interactive effects of AD and early allergic sensitization on the risk of asthma and [food](#) allergy, and show that in combination they pose a significant risk for future allergic disease."

Using data from more than 2,300 children from across Canada participating in the CHILD Study, the researchers evaluated the presence of AD and allergic sensitization at age one. When the children were three years of age, the researchers performed a clinical assessment to determine the presence of asthma, allergic rhinitis, food allergy and AD.

The combined effect of AD and allergic sensitization was found to be greater than the sum of their individual effects, both on the risk of asthma and on reported food allergy.

"Our findings are useful to help predict which children may develop asthma and allergies," said the study's first author, Maxwell Tran, a BHSc graduate from McMaster University and AllerGen trainee who is now studying medicine at the University of Toronto.

"There are certain genetic variants that we know are risk factors for [allergy](#), but genotyping is not widely used in clinical practice, so this research offers healthcare professionals an alternative method of identifying at-risk children."

The findings build on another CHILD study finding, which showed that children who avoid cow's milk products, egg, and peanut during the first year of life are at increased risk of [allergic sensitization](#) to these foods later on. Contrary to previous advice for parents to avoid feeding these foods to infants, it is now known that early introduction is beneficial in promoting tolerance and reducing the risk of food sensitization and [food allergy](#).

"Much of what happens to us later in life is related to the exposures we encounter in early childhood," said Sears.

"Governments are realizing that we cannot learn about healthy aging if we don't understand what happens to a child during the first few years of life and even to the mother during pregnancy," added Dr. Judah Denburg, a professor of medicine at McMaster University and Scientific Director and CEO of AllerGen NCE, the national research network funding the study.

"That's why CHILD, which has been following 3,500 Canadian [children](#)

and their families from before birth, has such enormous value in answering questions about the origins of chronic diseases."

Provided by McMaster University

Citation: Study finds asthma and food allergies predictable at age 1 (2017, November 15)
retrieved 25 April 2024 from

<https://medicalxpress.com/news/2017-11-asthma-food-allergies-age.html>

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