

# Foods with baked milk may help build tolerance in children with dairy allergies

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Introducing increasing amounts of foods that contain baked milk into the diets of children who have milk allergies helped a majority of them outgrow their allergies, according to a study conducted at Mount Sinai School of Medicine's Jaffe Food Allergy Institute. The data are reported in the May 23 issue of the *Journal of Allergy and Clinical Immunology*.

Researchers studied 88 children, ages 2 to 17 years old, who were diagnosed with [milk allergy](#), evaluating their tolerance to foods containing baked [milk](#), such as muffins, waffles and cookies. The [high temperatures](#) used in baking cause the proteins in milk to break down, reducing the allergenicity.

Over the course of five years, researchers used a series of food challenges to introduce the children to foods that had progressively less-heated forms of milk. At the end of the study period, 47 percent of the children in the experimental group could tolerate unheated milk products, such as skim milk, yogurt and ice cream, compared to only 22 percent in a control group, indicating that controlled, increased exposure to baked milk products accelerates the rate at which children outgrow their milk allergies.

"This study shows that many children with allergies do not need to completely avoid all milk products," said Anna Nowak-Wegrzyn, MD, co-author of the study, and an Associate Professor of Pediatrics, Allergy and Immunology at Mount Sinai School of Medicine. "It's also an encouraging sign that through careful medical supervision, children can

grow out of their allergies much quicker."

In the study's first food challenge, children were given a plain muffin or waffle containing baked milk. Sixty five of the 88 children, approximately 75 percent, experienced no allergic reactions. Parents of those children were given specific guidelines on how to incorporate baked [milk products](#) such as muffins, cookies and cakes into their child's daily diet. The children who reacted to the muffin continued avoiding foods containing milk.

After a period of six to 12 months, the 65 children who passed the initial muffin food challenge returned to the clinic for the second food challenge and were given cheese pizza. Baked cheese is cooked at a lower temperature than baked goods and contains higher amount of milk protein. Seventy-eight percent of the children in this group experienced no allergic reactions and were told to incorporate baked cheese into their diets. Children who reacted to the baked cheese continued eating muffins and returned after a period of six to 12 months to be re-challenged with pizza. If they showed no [allergic reactions](#), they moved on in the study.

After an average of three years, the study participants who showed no reaction to baked cheese returned for the final food challenge, and were given foods with unheated milk such as skim milk, yogurt and ice cream. Of the 65 [children](#) who passed the initial muffin challenge, 60 percent could tolerate unheated milk.

"While we need to continue our research to determine how to best apply these results to the clinical setting, these data are an exciting step towards our ultimate goal of finding curative therapies for food allergies," said Dr. Nowak.

Provided by The Mount Sinai Hospital

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