

Milk is safe, even encouraged, for some children after treatment for milk allergy

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Some children with a history of severe milk allergy can safely drink milk and consume other dairy products every day, according to research led by the Johns Hopkins Children's Center and published in the Aug. 10 online edition of the *Journal of Allergy and Clinical Immunology*.

Investigators followed up with a subset of children who were part of an earlier Hopkins Children's-led study published in 2008 in which patients allergic to milk were given increasingly higher doses of milk over time. For many of them, continuous exposure to milk allergens - the proteins that trigger bad reactions - slowly and gradually retrained their immune systems to better tolerate the very food that once sent those systems into overdrive.

The follow-up of 18 children ages 6 to 16 whose severe milk allergies had eased or disappeared found that all children were able to safely consume milk at home, and that reactions, while common, were generally mild and grew milder and milder over time. The follow-up varied from three to 17 months, depending on how long it took patients to increase their milk intake.

These findings also suggest that regular use of milk and dairy foods may be needed for children to maintain their tolerance.

"We now have evidence from other studies that some children once successfully treated remain allergy-free even without daily exposure, while in others the allergies return once they stop regular daily exposure

to milk," says Robert Wood, M.D., the study's senior investigator and director of Allergy & Immunology at Hopkins Children's. "This may mean that some patients are truly cured of their allergy, while in others the immune system adapts to regular daily exposure to milk and may, in fact, need the exposure to continue to tolerate it," he adds.

After up to 17 months of at-home consumption, 13 of the 18 children who could tolerate increasingly higher doses were asked to return to the clinic for milk-drinking tests. Of the 13, six showed no reaction after drinking 16,000 mg (16 ounces) of milk, twice the highest tolerated dose during the initial study. Seven children had reactions at doses ranging from 3,000 mg to 16,000 mg. The reactions ranged from oral itch to hives, to sneezing to mild abdominal pain, but none was serious. One child developed cough requiring medications.

Investigators also continued to follow three children who could not tolerate doses higher than 2,540 mg (2.5 ounces) - the cutoff set by the investigators at the beginning of the follow-up - which made them ineligible to continue the at-home part of the study. All three continued to drink milk daily with minimal reactions, and two of the children were eventually able to increase their consumption beyond 2,540 mg.

Sensitivity to milk was also measured with traditional skin prick testing, which showed gradual decreases in reactions over time. Seven children had no reactions at eight to 15 months of follow-up. Blood levels of milk IgE antibodies slowly decreased over time too, another sign of better tolerance to milk. At the same time, a different type of antibody, IgG4 - one that signals immunity to a particular [allergen](#) - went up over time, a maker of improved tolerance.

Children and their parents also kept daily logs of milk and dairy consumption and recorded symptoms, such as hives, abdominal pain, sneezing and cough. During the first three months, consumption of milk

triggered reactions 49 percent of the time, with some children experiencing as few as two reactions for every 100 doses of milk consumed. The figure dropped to 23 percent in the subsequent three months, and some children had no reactions at all.

Milk allergy is the most common type of food allergy. Three million U.S. children have food allergies, according to the Centers for Disease Control and Prevention.

More information: *Journal of Allergy and Clinical Immunology:*
www.jacionline.org/

Source: Johns Hopkins Medical Institutions

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