Background
For egg allergy, dietary avoidance is the only currently approved treatment. We evaluated oral immunotherapy using egg-white powder for the treatment of children with egg allergy.

Methods
In this double-blind, randomized, placebo-controlled study, 55 children, 5 to 11 years of age, with egg allergy received oral immunotherapy (40 children) or placebo (15). Initial dose-escalation, build-up, and maintenance phases were followed by an oral food challenge with egg-white powder at 10 months and at 22 months. Children who successfully passed the challenge at 22 months discontinued oral immunotherapy and avoided all egg consumption for 4 to 6 weeks. At 24 months, these children underwent an oral food challenge with egg-white powder and a cooked egg to test for sustained unresponsiveness. Children who passed this challenge at 24 months were placed on a diet with ad libitum egg consumption and were evaluated for continuation of sustained unresponsiveness at 30 months and 36 months.

Results
After 10 months of therapy, none of the children who received placebo and 55% of those who received oral immunotherapy passed the oral food challenge and were considered to be desensitized; after 22 months, 75% of children in the oral-immunotherapy group were desensitized. In the oral-immunotherapy group, 28% (11 of 40 children) passed the oral food challenge at 24 months and were considered to have sustained unresponsiveness. At 30 months and 36 months, all children who had passed the oral food challenge at 24 months were consuming egg. Of the immune markers measured, small wheal diameters on skin-prick testing and increases in egg-specific IgG4 antibody levels were associated with passing the oral food challenge at 24 months.
CONCLUSIONS
These results show that oral immunotherapy can desensitize a high proportion of children with egg allergy and induce sustained unresponsiveness in a clinically significant subset. (Funded by the National Institutes of Health; ClinicalTrials.gov number, NCT00461097.)

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SOURCE INFORMATION
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