

Early introduction of gluten may prevent celiac disease in children

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Introducing high doses of gluten from four months of age into infants' diets could prevent them from developing coeliac disease, a study has found.

These results from the Enquiring About Tolerance (EAT) Study, published today in *JAMA Pediatrics*, by researchers from King's College London, Guy's and St Thomas' NHS Foundation Trust, St George's, University of London, and Benaroya Research Institute, Seattle, suggest the early introduction of high-dose [gluten](#) may be an effective prevention strategy for the [disease](#), though researchers say further studies are needed before being applied in practice.

Coeliac disease is an autoimmune disease whereby eating gluten causes the body's immune system to attack its own tissues. There are currently no strategies to prevent coeliac disease and treatment involves long-term exclusion of gluten from the diet. Even very small amounts of gluten in the diet of those with coeliac disease can cause damage to the lining of the gut, prevent proper absorption of food and result in symptoms including bloating, vomiting, diarrhea, constipation, and tiredness.

Previous studies exploring early introduction of gluten in infants have varied in the amount of gluten consumed and the timing of the introduction. The EAT study investigated the effects of gluten alongside breastfeeding, from the age of four months. The results were compared to children who avoided allergenic foods and consumed only breast milk until age six months as per UK government guidelines.

Infants in the intervention arm of the EAT study were given 4g of wheat protein a week from four months of age. This was in the form of two wheat-based cereal biscuits such as Weetabix, representing an age-appropriate portion of wheat.

1004 children were tested for antitransglutanimase antibodies, an indicator of coeliac disease, at three years of age. Those with raised antibody levels were referred for further testing by a specialist.

The results showed that among children who delayed gluten introduction

until after six months of age, the prevalence of coeliac disease at three years of age was higher than expected—1.4% of this group of 516 children. In contrast, among the 488 children who introduced gluten from four months of age, there were no cases of coeliac disease.

Lead author Professor Gideon Lack, Professor of Paediatric Allergy at King's College London and head of the children's allergy service at Evelina London Children's Hospital said: "This is the first study that provides evidence that early introduction of significant amounts of wheat into a baby's diet before six months of age may prevent the development of coeliac disease. This strategy may also have implications for other [autoimmune diseases](#) such as Type 1 diabetes."

Author Dr. Kirsty Logan, Researcher in Paediatric Allergy at King's College London said: "Early introduction of gluten and its role in the prevention of [coeliac disease](#) should be explored further, using the results of the EAT Study as the basis for larger clinical trials to definitively answer this question."

More information: Kirsty Logan et al. Early Gluten Introduction and Celiac Disease in the EAT Study: A Prespecified Analysis of the EAT Randomized Clinical Trial. *JAMA Pediatr*. Published online September 28, 2020. [DOI: 10.1001/jamapediatrics.2020.2893](https://doi.org/10.1001/jamapediatrics.2020.2893)

Provided by King's College London

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