

# Twenty percent of children with celiac disease do not heal on a gluten-free diet

November 7 2016

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Even after a year on a gluten-free diet, nearly 20 percent of children with celiac disease continue to have intestinal abnormalities (enteropathy) on repeat biopsies, reports a study in the *Journal of Pediatric Gastroenterology and Nutrition*, official journal of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition.

Symptom status and laboratory results do not predict which children will have persistent celiac enteropathy despite a [gluten-free diet](#), according to the new research by Dr. Maureen Leonard of MassGeneral Hospital for Children, Boston. "These findings suggest that a revisitation of monitoring and management criteria of celiac disease in childhood," Dr. Leonard comments.

## **New Questions on Assessing Response to Gluten-Free Diet in Celiac Disease**

The researchers reviewed the records of 103 children and adolescents with celiac disease treated at two medical centers. Patients with celiac disease have a characteristic pattern of intestinal damage caused by exposure to gluten, contained in wheat and other grains.

The main treatment for celiac disease is a gluten-free diet—careful elimination of all gluten-containing foods from the diet. The children in

the study had followed a gluten-free diet for an average of 2.4 years. About 90 percent were rated as having "excellent" adherence to their diet.

The children also underwent intestinal endoscopy and biopsy (sampling of intestinal tissue) at least two times: when celiac disease was diagnosed and after at least one year on a gluten-free diet. The main reasons for repeat biopsy were persistent or new symptoms or abnormal laboratory test results.

The study focused on the rate of persistent celiac enteropathy: gluten-induced damage to intestinal cells. Current guidelines for celiac disease treatment rely on laboratory tests to assess healing, rather than follow-up endoscopy and biopsy.

The repeat biopsy results showed persistent celiac enteropathy in 19 percent of children. The presence of enteropathy could not be predicted by the presence of symptoms or by levels of IgA tissue transglutaminase antibodies (IgA tTG)—the main laboratory test used for monitoring celiac disease. At the time of the second biopsy, IgA tTG was elevated in 43 percent of children with persistent enteropathy and 32 percent with normal biopsies.

In the past, children with celiac disease had routine follow-up biopsies to monitor healing in response to a gluten-free diet. In more recent years, laboratory tests such as IgA tTG have been used instead of biopsies. The study was prompted by growing evidence that many adults with celiac disease have persistent enteropathy, despite having no symptoms and normal IgA tTG levels.

The results suggest that 1 out of 5 [children](#) with celiac disease may have persistent enteropathy, despite following their recommended gluten-free diet. Dr. Leonard and colleagues write: "While the long-term effects are

not known, persistent enteropathy may predispose pediatric patients with celiac disease to future complications and suboptimal growth."

While current guidelines do not recommend repeat biopsy, Dr. Leonard and colleagues note that it is the only way to confirm that celiac enteropathy has resolved. "These findings suggest the need not only for a baseline endoscopy to confirm the diagnosis of [celiac disease](#) but also consideration of a repeat biopsy to evaluate for remission," the researchers add. They call for further studies to confirm their findings, to better understand the response to a gluten-free diet, and to evaluate further treatment options.

**More information:** Maureen M. Leonard et al. Value of IgA tTG in Predicting Mucosal Recovery in Children with Celiac Disease on a Gluten Free Diet, *Journal of Pediatric Gastroenterology and Nutrition* (2016). [DOI: 10.1097/MPG.0000000000001460](https://doi.org/10.1097/MPG.0000000000001460)

Provided by Wolters Kluwer Health

Citation: Twenty percent of children with celiac disease do not heal on a gluten-free diet (2016, November 7) retrieved 26 April 2024 from <https://medicalxpress.com/news/2016-11-twenty-percent-children-celiac-disease.html>

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