

Gluten-free diet may not reduce intestinal damage in all children with celiac disease

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Adapted Media Release 

In surprising findings, researchers from MassGeneral Hospital for Children (MGHfC) and Boston Children's Hospital (BCH) have discovered that nearly one in five children with [celiac disease](#) sustained persistent intestinal damage, despite strict adherence to a gluten-free diet. The findings are consistent with recent research in adults, which showed that more than 33 percent of adult patients on a gluten-free diet have persistent intestinal damage, despite a reduction of symptoms or the results of blood tests.

"This study confirms that we need to look more aggressively for mucosal healing in all patients, not just adults," says Maureen Leonard, MD, MMSc, clinical director of the Center for Celiac Research and Treatment at MGHfC and co-lead author of the report published online in the *Journal of Pediatric Gastroenterology and Nutrition*. Findings from the study have already been translated into revised clinical care practices at MGHfC, where most pediatric patients over the age of 10 will be monitored for mucosal healing with a repeat [endoscopy](#), along with follow-up blood testing, after one year of treatment with the gluten-free diet.

Current guidelines for pediatric celiac disease patients recommend a single biopsy at diagnosis and follow-up blood testing to monitor recovery of the intestinal mucosa. In a related commentary that has also been published online in *JPGN*, Ivor Hill, MD, of Nationwide Children's Hospital and the Ohio State University School of Medicine echoed the call to revisit current treatment guidelines and also raised questions about the prevalence of intestinal damage in children with celiac disease and the best way to move forward, considering the results of the current study. "Until we have a reliable non-invasive means of determining mucosal healing in children with CD, it seems the biopsy will remain important both for initial diagnosis and subsequent monitoring," Hill wrote.

Although the long-term risks for children with persistent intestinal damage are not clear, such damage in adults has been linked to an increased risk of [lymphoma](#), low bone density and [fracture](#). The study authors also note, "malabsorption and [inflammation](#) in children may have negative repercussions on physical and cognitive development."


Alessio Fasano, MD, director of the MGHfC center and co-senior author of the study, was also surprised by the results, which were based on a retrospective examination of the biopsy and medical records of 103 children with celiac disease treated at MGHfC or BCH. The children had been on the gluten-free diet for at least one year and were determined by dietitians and other hospital health care practitioners to have complied well with the diet. But repeat biopsies found persistent intestinal damage in 19 percent of them. "The number of children who don't heal on the gluten-free diet was much higher than what I expected," Fasano says.

Another finding that surprised Fasano was that blood levels of the autoantibody IgA tTG - the primary lab test used to monitor celiac disease - did not accurately measure mucosal recovery. In fact, the authors note, neither blood test results nor tTG antibodies that are most effective at monitoring the rate of mucosal healing.

Fasano explains, "In the 1970s, patients were biopsied after a year on the gluten-free diet. Then, when the patient had been re-exposed to gluten, we used the screening tools in the 1990s, the repeat biopsy and, most recently, to none in a subset of patients. When a patient was put on the gluten-free diet, we were not implementing the gluten-free diet.

The study was carried out by men and women at Harvard Medical School (HMS), a collaboration between MGHfC and HMS. In light of the current findings, the Center for Celiac Research and Treatment and children with celiac disease and other gluten-related disorders plans to undertake a collaborative, prospective study on the rate of mucosal healing in children.

Article: [Value of IgA tTG in Predicting Mucosal Recovery in Children with Celiac Disease on a Gluten Free Diet](#), Leonard, Maureen M., Weir, Dascha C., DeGroote, Maya., Mitchell, Paul D., Singh, Prashant, Silvester, Jocelyn A., ... Fasano, Alessio, *Journal of Pediatric Gastroenterology and Nutrition*, doi: 10.1097/MPG.0000000000001460, published 3 November 2016.



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repeat biopsy results, and the monitoring the rate of mucosal healing. Biopsies - one at diagnosis, one after one year, to check for healing after one year. When we developed robust blood test results, standard care was reduced to one biopsy. Healing would occur once a year. It is not the case for all celiac disease patients after one year of the gluten-free diet.

Harvard Medical School
Massachusetts General Hospital
Medical Center. As a result of the current findings, MGHfC - which treats both adults and children with celiac disease and other gluten-related disorders plans to undertake a collaborative,

References

Source: [Massachusetts General Hospital](#)

Additional source: [EurekaAlert!](#), the online, global news service operated by AAAS, the science society

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