

FROM THE NATIONAL DIGESTIVE DISEASES INFORMATION CLEARINGHOUSE

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A service of the National Institute of Diabetes and Digestive and Kidney Diseases, NIH

## FREE Feature Article

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## Dental Enamel Defects and Celiac Disease

Celiac disease manifestations can extend beyond the classic gastrointestinal problems, affecting any organ or body system. One manifestation—dental enamel defects—can help dentists and other health care providers identify people who may have celiac disease and refer them to a gastroenterologist. Ironically, for some people with celiac disease, a dental visit, rather than a trip to the gastroenterologist, was the first step toward discovering their illness.

Not all dental enamel defects are caused by celiac disease, although the problem is fairly common among people with the condition, particularly children, according to Alessio Fasano, M.D., medical director at the University of Maryland Center for Celiac Research. And dental enamel defects might be the only presenting manifestations of celiac disease.

Dental enamel problems stemming from celiac disease involve permanent dentition and include tooth discoloration—white, yellow, or brown spots on the teeth—poor enamel formation, pitting or banding of teeth, and mottled or translucent-looking teeth. The imperfections are symmetrical and often appear on the incisors and molars.

Tooth defects resulting from celiac disease are permanent and do not improve after adopting a gluten-free diet—the primary treatment for celiac disease. But dentists may use bonding, veneers, and other cosmetic solutions to cover dental enamel defects in older children and adults.

### Similar Symptoms, Different Problem

Tooth defects that result from celiac disease may resemble those caused by too much fluoride or a maternal or early childhood illness.

“Dentists mostly say it’s from fluoride, that the mother took tetracycline, or that there was an illness early on,” said Peter H.R. Green, M.D., director of the Celiac Disease Center at Columbia University. “Celiac disease isn’t on the radar

screen of dentists in this country. Dentists should be made aware of these manifestations to help them identify people and get them to see their doctors so they can exclude celiac disease.”

Green just completed a U.S. study with his dental colleague, Ted Malahias, D.D.S., that demonstrates celiac disease is highly associated with dental enamel defects in childhood—most likely due to the onset of celiac disease during enamel formation. The study, which did not identify a similar association in adults, concluded that all physician education about celiac disease should include information about the significance of dental enamel defects.

### Other Oral Symptoms

Checking a patient’s mouth is something primary care physicians also can do to help identify people who might have celiac disease. While dental enamel defects are the most prominent, a number of other oral problems are related to celiac disease, according to Green. These include

- recurrent aphthous stomatitis, or canker sores or ulcers that recur inside the mouth
- atrophic glossitis, a condition characterized by a red, smooth, shiny tongue



- dry mouth syndrome
- squamous cell carcinoma—a type of cancer—of the pharynx and mouth

Additional feature articles about celiac disease are available at the National Institutes of Health Celiac Disease Awareness Campaign (CDAC) website, [www.celiac.nih.gov/articlearchives.aspx](http://www.celiac.nih.gov/articlearchives.aspx). All of the articles are copyright-free and can be reproduced for newsletters, websites, and other educational purposes.

## Educational Materials and Resources

The following titles are available from the National Digestive Diseases Information Clearinghouse.

### **What I need to know about Celiac Disease**

An easy-to-read booklet defining celiac disease and outlining its symptoms, diagnosis, and treatment. The booklet includes some examples of a gluten-free diet. Also available in Spanish. (16 pages) 2007.

### **Celiac Disease**

A fact sheet that provides general information about celiac disease symptoms, diagnosis, and treatment. Explains how celiac disease can disrupt the absorption of nutrients in the small intestine. Includes examples of a gluten-free diet from the American Dietetic Association's latest guidelines. (12 pages) 2008.

### **Celiac Disease: What You Need to Know**

Designed to make you ask yourself, "Could this be me or someone I care for?" this National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Awareness and Prevention Series fact sheet defines celiac disease, provides a list of symptoms, and describes treatment. (4 pages) 2007.

### **Testing for Celiac Disease**

Part of the NIDDK's Provider Points Series, this fact sheet describes serological and genetic tests to assess a patient's need for an intestinal biopsy to diagnose celiac disease. (2 pages) 2009.

To view these publications online, download PDF versions, or order copies, visit the CDAC website at [www.celiac.nih.gov](http://www.celiac.nih.gov) or call 1-800-891-5389.

## The National Institutes of Health Celiac Disease Awareness Campaign

The National Institutes of Health Celiac Disease Awareness Campaign provides current, comprehensive, science-based information about the symptoms, diagnosis, and treatment of celiac disease, also known as celiac sprue, nontropical sprue, and gluten-sensitive enteropathy. The Awareness Campaign is an initiative of the National Digestive Diseases Information Clearinghouse, a service of the National Institute of Diabetes and Digestive and Kidney Diseases.

Download this publication and learn more about the Awareness Campaign at [www.celiac.nih.gov](http://www.celiac.nih.gov).

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts.

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