

Chronic intestinal damage raises hip-fracture rate in celiac disease patients

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Celiac disease patients who experience chronic damage in the small intestine may be more likely to break a hip than those whose intestinal tissues have begun healing, according to new research accepted for publication in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

Celiac [disease](#) is an autoimmune condition that affects about 1 percent of the U.S. population. When people with the condition eat gluten—a protein found in grains like wheat—it triggers an immune response in the [small intestine](#). Patients with this condition face a higher risk of breaking a bone, but studies have reached contradictory conclusions about whether the fracture risk remains elevated long after the disease is diagnosed and managed with a gluten-free diet.

"We believe that giving the mucous membrane—the moist tissue lining the small intestine—a chance to heal can lower the risk of complications, including bone fractures, in celiac patients," said one of the study's authors, Jonas F. Ludvigsson, PhD, MD, of Karolinska University Hospital and Karolinska Institute in Stockholm, Sweden. "Our research confirmed that patients had a higher rate of [hip](#) fractures when [tissue damage](#) persisted over time. Sticking to a gluten-free diet is crucial for minimizing tissue damage and reducing the risk of a serious fracture that could cause other complications."

The cohort study analyzed tissue samples from 7,146 Swedes who were diagnosed with celiac disease from July 1969 to February 2008 and

received follow-up biopsies within five years of diagnosis. Researchers examined intestinal tissue from the biopsies to determine the level of damage. Among this population, 43 percent had persistent villous atrophy where the intestinal tissue did not heal. (The villi are tiny structures that project from the lining of the small intestine.)

Researchers analyzed patient records to determine how many had broken bones. Patients were monitored for a median of 10.3 years after being diagnosed with celiac disease. The study found that people who had persistent tissue damage were more likely to break a hip. All [patients](#) faced a similar risk close to the time of the follow-up biopsy. The group with persistent tissue damage had a heightened risk of hip fracture beginning five years after the follow-up biopsy, indicating a higher long-term risk.

"Physicians have debated whether people with [celiac disease](#) actually benefit from a follow-up biopsy to determine the level of tissue [healing](#) taking place," said one of the study's authors, Benjamin Lebwohl, MD, MS, of the Celiac Disease Center at Columbia University Medical Center in New York. "These findings suggest that a follow-up biopsy can be useful for predicting complications down the road."

More information: The study, "Persistent Mucosal Damage and Risk of Fracture in Celiac Disease," appears in the February issue of *JCEM*.

Provided by The Endocrine Society

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