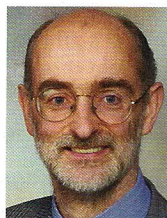
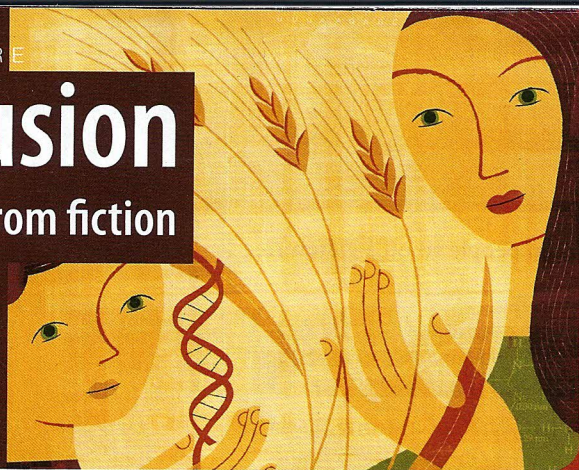


Gluten-Free Confusion

Separating fact from fiction



Joseph Murray is a gastroenterologist and professor of medicine at the Mayo Clinic in Rochester, Minnesota. He is a senior associate editor

of the American Journal of Gastroenterology and the author of a recent study on the rising incidence of celiac disease. Murray spoke to Nutrition Action's Bonnie Liebman by phone from Minnesota.

Q: Is the incidence of celiac rising?

A: Yes. It has increased dramatically in the U.S. since 1950, and now affects 1 percent of the population. There's good evidence that we're not just getting better at detecting celiac. It's also increasing in other countries, even in places where it was historically common, like Finland.

And celiac disease occurs at every age. It occurs out of the blue in elderly people as well as in children.

Q: Why is celiac increasing?

A: There are many theories. For example, something may have changed in the way we grow, process, and eat wheat that may have affected our likelihood of getting celiac disease.

There is a drive to provide higher-gluten wheat because that's what makes bread springy and makes a good sliced loaf. And the ongoing breeding to generate new strains that are disease resistant or higher yield—that's a prime suspect.

Q: What causes celiac disease?

A: If you have a genetic predisposition, your T cells—T lymphocytes—start to see gluten as an enemy. Think of your body's immune system as the FBI. Once it sees gluten as an enemy, it sets up what we call a memory response.

It's like the TSA watch list for people who fly. Once you're on it, it's very hard to get off. Once you're tagged by the immune system, you're tagged forever. You can go off gluten for a year, and your intestine can heal, but once it gets gluten back, bam, here it comes again.

Stomach pain, diarrhea, weight loss. Those are some of the symptoms of celiac disease, which is an autoimmune reaction to gluten, a protein found in wheat, barley, and rye.

At least one out of 100 Americans have celiac. Most of them don't know it. And studies suggest that some people who don't have the disease still can't tolerate gluten. Here's the latest on a problem that is causing much confusion.

Q: How does gluten become an enemy?

A: The gluten probably gets changed by one of our human enzymes called tTG, or tissue transglutaminase, so it becomes more antigenic—that is, it looks more like a foreign invader. Then the T cells get hold of it, and they traffic it to the draining lymph nodes and set up an aggressive immune response.

Q: And something triggers the response?

A: Yes. Thirty percent of the population carries one of two versions of the gene for the disease—HLA DQ2 or DQ8—and essentially everybody eats gluten, yet most of us don't get celiac. So something triggers it—infection, injury to the intestine, surgery, drugs, or something else.

Q: How does celiac harm the intestine?

A: If you have celiac disease and you keep eating gluten, the damage accelerates and you get chronic inflammation. And the body produces cytokines, or chemical messengers, from the inflammation that make people feel crummy. They may not even point to their gut, which is where the problem is coming from. They just say, "I feel terrible."

The inflammation starts to recruit other players, and soon you've got a ruckus going on in the intestine. Eventually, it damages the lining of the intestine and your ability to absorb nutrients. (See "Celiac's Damage," p. 10.)

Q: Is it true that most people with celiac have no GI symptoms?

A: Probably. And most people who have celiac disease don't know it. Some don't know it because they don't have symptoms. Other people go to the doctor with anemia or other problems, but celiac disease is not suspected so they're not tested for it.

But here's the kicker. Let's say you look at people you found by doing a screening. You ask if they've got any symptoms and they say, "No Doc, I feel fine. My digestion is perfect." Then you put them on a gluten-free diet, and when you see them a year later they say, "My bowel habit is much better than it was." You say, "Huh? But I thought you said you had no symptoms."

What they'd accepted as normal, they now know wasn't. That's pretty common.

Q: Do some people without celiac disease react to gluten?

A: Yes. In 1980, researchers in England fed women with chronic diarrhea a gluten-free diet or not. And their symptoms went away on the gluten-free diet.

It's not quite celiac disease, but patients have the celiac genes. They may or may not have the antibodies. They may just have slight damage in the intestine. I would call that celiac *lite*.

Q: They have a mild version of celiac?

A: Yes. There's also a celiac-like condition. We call it non-celiac gluten intolerance. There's a lot of debate about it. Patients have symptoms that look like celiac disease or irritable bowel syndrome, and they get better when they go on a gluten-free diet. But they don't necessarily have the genes for celiac disease. And they don't have antibodies for celiac.

In a very good recent study, an Australian group fed these people either a gluten-free diet or not in a double-blind, placebo-controlled fashion. Those who were fed gluten got their symptoms back.

You can think of it as gluten-sensitive irritable bowel syndrome because it's like IBS, but the symptoms get better



