



# GLUTEN AND CASEIN-FREE MEALS



## History

Back in the 1960s, a physician named F. Curtis Dohan speculated that people who had celiac disease were more likely to have schizophrenia. Celiac disease is an autoimmune disorder in which the body cannot tolerate gluten, a protein found naturally in wheat, as well as rye, barley, and sometimes oats that are processed in the same place as these other grains. Later studies have not established that reducing the amount of wheat in the diet of people with schizophrenia significantly reduces their symptoms. Dohan's writings marked the beginning of the proposed link between diet and psychiatric and neurologic illnesses.

## Link Between Gluten and Casein and Autism

The suggested link between gluten and casein and autism emerged in the 1970s. The theory—which remains unproven—was that children who have ASDs are unable to break down the dietary proteins in gluten and casein, causing the formation of opioid-like peptides (amino acids that are similar to proteins). Children with autism are also believed to have “leaky gut syndrome.” Because of this syndrome, these peptides are then able to escape from the digestive tract, cross the intestinal membranes, enter the bloodstream, and go up to the brain, causing the neurobehavioral symptoms that we know as ASDs. By eliminating foods that contain gluten and casein from a child's diet (known as the gluten-free/casein-free [GFCF] diet), it was believed that you could diminish the symptoms of autism.

Some parents say that the GFCF diet has lessened their child's symptoms. Research, however, has found little support for the GFCF diet and “leaky gut” theory. Several studies of the GFCF diet in children with ASDs have shown that removing gluten and casein from a child's diet did not improve social skills or communication, nor did it help with sleep duration and activity levels. Even so, it's possible that some children with ASDs who have significant gastrointestinal problems may reap some benefits from the GFCF diet, especially if they, coincidentally, also have celiac disease (gluten-sensitivity autoimmune disorder).

Still, many parents try removing gluten and casein from their child's diet. In fact, the GFCF diet is the most popular CAM intervention among children who have ASDs. It's generally considered safe, and some parents report that the diet has actually made a difference in their child's behavior. But it's hard to know if these behavioral changes are directly related to the GFCF diet or if they are the result of another intervention that the child may be undergoing at the same time.

It's possible, too, that some children are lactose intolerant, meaning they can't tolerate the sugar in milk, which may cause gastrointestinal distress leading to irritability. Others may actually have celiac disease, which can also cause behavioral disturbances. By removing lactose and gluten in children who have these conditions, you may also notice behavioral improvements.



## Should You Try It With Your Child?

While the available science does not support the GFCF diet, it is understandable that some parents will want to try this intervention. After all, it's something that you can control and do on your own, and it is thought to be relatively safe. Before you do anything, though, talk with your child's pediatrician first. You may also want to speak with a nutritionist because the GFCF diet may place your child at risk for some nutritional deficiencies.

For example, eliminating all milk products from your child's diet removes a critical source of calcium and vitamin D, key nutrients essential for strong bones. New evidence suggests that vitamin D may also play a role in the immune system and preventing infections, cancer, and diabetes. In addition, your child may require additional sources of protein because dairy products are often a major source of protein in a child's diet. Of note, however, is that these needed minerals are not always included in the now-popular "gummy" type vitamins.

Taking gluten out of your child's diet can pose challenges too. Removing grains like wheat, barley, rye, and oats from your child's diet eliminates important nutrients such as the B vitamins, iron, and fiber. Children who do the GFCF diet may benefit from vitamin and mineral supplements to make up for the nutrients missing from their daily diet.

Doing the diet can be difficult too. Gluten isn't always easy to detect, and reading labels can be challenging. While some sources like bread, pasta, and cereal may be obvious, others such as deli meats, salad dressings, and broths may be less so. And if your child is already a picky eater, it may be a challenge to convince him to adopt this new way of eating. Food preparation may be more time-consuming for children on a GFCF diet, and the cost of the diet can be higher than a traditional diet for children.

While the GFCF diet is certainly among the most popular eating plans used in children with ASDs, you may also hear about diets that restrict certain foods or nutrients. Before putting your child on any type of diet, talk with your child's pediatrician first. You'll need to make sure your child is receiving all the nutrients important for his growth and development.

## Alternative Sources of Key Nutrients For Children on Gluten-Free/Casein-Free Diets

If you decide to put your child on the gluten-free/casein-free diet, it's important to pay attention to certain nutrients such as vitamin D, calcium, iron, protein, and fiber, which may be lacking in this eating plan. The following chart offers other options for getting these important nutrients:

<b>Vitamin D</b>	Fortified rice, soy, and almond milk; cod liver oil; tofu, eggs; short-term exposure to sunlight; supplements
<b>Calcium</b>	Fortified rice, soy, and almond milk; fortified orange juice; beans, broccoli, spinach, kale, tofu, tempeh; supplements
<b>Iron</b>	Red meats, pork, chicken (mainly in dark meat), shellfish, egg yolks, spinach, soybean nuts, prunes, raisins; supplements
<b>Protein</b>	Eggs, nuts and seeds, lean meats, beans, peanut butter
<b>Fiber</b>	Legumes, fruits, vegetables, nuts, seeds; supplements