

Gluten and Casein

What Are They?

GLUTEN is the protein in many whole grains such as wheat, barley, rye, oats, semolina and spelt. It is also found in malt, grain starches, hydrolyzed vegetable/plant proteins, textured vegetable proteins, grain vinegar, grain alcohol, modified food starch, caramel, maltodextrin, soy sauce, flavorings, and can be the ingredient for binders found in medication. The texture of gluten is elastic and it also appears in many processed foods as well as in the gum substance on envelopes.

CASEIN is the protein found in dairy products. It is present in small quantities in bread, processed cereals, instant soups, instant potatoes, margarine, salad dressings, sweets and mixes for cakes. Casein is also found in some medication.

People can be allergic to dairy, wheat, etc. or have difficulties with digestion in which the body cannot break down the proteins that these foods produce. With allergies, histamine is released, impacting on brain function. With poor digestion, the partially broken down peptides resemble opiates on the molecular level.

Reaction When Caused by Food Allergy

Food allergies occur when the body reacts to certain foods or food components. That is, when a food allergen such as wheat or dairy is ingested, the immune system may mistakenly treat it as a harmful substance or toxin.

In the attempt to protect the body, the immune system may trigger a cascade of biological responses, including the release of histamine.

Reaction When Caused by Digestive Issue

Some individuals cannot properly digest gluten and casein, which form substances that act like opiates in their bodies. It is speculated that this alters a child's behavior, perceptions and responses to their environment. Enzyme supplements are being recommended for some individuals along with a strict diet to help the child's body digest foods that cause problems.

Physical and Behavioral Problems from Allergies

- Stomach aches
- Bed wetting
- Aggression
- Sound sensitivity
- Fatigue
- Depression
- Intestinal problems (gas, diarrhea, constipation)
- Muscle aches in the legs
- Ear infections
- Seizures
- Appearing “spaced out”
- Stuttering
- Temper tantrums
- Excessive whining and crying
- Sleeping problems
- Hyperactivity

Physical Appearance from Allergies

Sometimes a person will have changes in physical appearance as a result of food sensitivity. These can include:

- Pink or black circles around the eyes
- Bags under the eyes
- Rosy cheeks and/or ears
- Rapid heartbeat
- Shallow breathing
- Fluid in the ears (a cause of ear infections)
- Excessive perspiration

Autism and Allergy

- People with autism are more susceptible to allergies and food sensitivities than the average person, likely due to their impaired immune system.
- Many children with allergies modify their diet and become “picky” eaters. They choose the foods they are allergic to because the allergy response activates endorphins, and the child will then crave the foods that activate the endorphins.
- In the autistic child, certain types of food may not be broken down properly, causing the body to identify the food as “foreign” and activating an allergic reaction.
- For many, dietary intervention will help to improve sensory, physical and behavioral problems.

Autism and Digestion

- Partially broken down gluten and casein act like morphine. If a child can't digest these two foods or if the child has a leaky gut, the partially broken down proteins impact on all aspects of development.
- Noted changes from following a strict GFCF diet are improved eye contact, decreased constipation/diarrhea, better behavior, fewer tantrums, increased focus, increased fine motor control, increased social interaction, increased flexibility, and increased self regulation (to name only a few).

Latest Recommendations

- The Autistic Network for Dietary Intervention (ANDI) highly recommends that parents try a GFCF diet for least twelve months, as it can take six to twelve months on a GF diet for the body to rid itself of all gluten. Milk/casein is easier to remove, as the body will clear itself quicker (usually in one to three months).
- DO NOT CHEAT! Traces of either protein can cause major setbacks.
- Watch for hidden sources.
- Many doctors and nutritionists recommend enzyme supplements to aid digestion.

Hidden Sources of Milk

- Deli machinery is frequently used for both meat and cheese products.
- Some brands of canned tuna fish contain casein.
- Many "non-dairy" products contain casein.
- Some meats may contain casein as a binder.
- Check labels on lunch meats, hot dogs and sausages.
- Also watch for the words "caseinate" and "whey".

Hidden Sources of Wheat

- "Modified food starch" is a vague term which does not indicate the source of starch (i.e., wheat or corn).
- Cross contamination, especially from airborne flour dust.
- "Natural flavorings" and "hydrolyzed vegetable protein" are other vague terms that often include hidden gluten.
- Read labels carefully!

Commonly Asked Questions

Q: If I take milk away, what will my child do for calcium?

A: Four-fifths of the world's population is allergic to milk. The majority of these people are allergic to lactose (milk sugar). If milk was the only good source of calcium, then most of the world would have a problem. Milk intolerance is the most common food intolerance in children under age five. Children ages one to ten require 800 to 1000 mg of calcium per day. If a child drinks three eight-ounce glasses of fortified rice, soy or potato milk per day, the requirement would be met. Adding an additional calcium supplement may be necessary.

Q: How long will it be before I see the results of the diet?

A: Most parents start seeing improvements within a few days of removing milk from the diet. With gluten, it can take months. Keep in mind that a child can appear to get worse (regress at first) as they are experiencing withdrawal from the proteins. This can last a few days to several weeks.

Q: Milk and wheat are the only two foods my child will eat. If I take these away, I'm afraid he'll starve.

A: There may be a good reason the child "self-limits" to these foods. Commonly, children will crave what they are allergic to or with a gluten/casein issue, what gives them a "morphine high." Although it seems as if your child will starve if you take away these foods, many parents report that after the initial "withdrawal" reaction, their children become much more willing to eat other foods.

Q: What is the difference between Celiac disease and wheat allergy?

A: Celiac disease is a permanent adverse reaction to gluten. Those with Celiac disease will not lose their sensitivity to gluten, and it requires a lifelong restriction. Wheat allergies can be outgrown if wheat is avoided for three months to a year, then slowly added back into the diet.

Starting the Diet

- Talk to other parents, check the ANDI website. Read about it!
- Medical support may be helpful (general practitioner, pediatrician, nutritionist, etc.).
- A urine analysis can identify gluten and casein peptides if they are present in your child's urine. Be aware that this test can give false negative readings.
- Prepare yourself. Start by making a list of the foods that your child is currently willing to eat and set about finding their GFCF alternatives.
- Decide your approach: remove all gluten and casein in one go, or stagger the removal of the foods, one at a time.
- Inform others: You will need to advise everyone who shares responsibility for looking after your child what you are doing. Supply them with GFCF alternatives and give them a list of forbidden foods.

Testing

Applied kinesiology

This is primarily a chiropractic technique that uses muscle testing while a substance such as a food extract is placed in the patient's mouth. If the muscle becomes weak with specific substances, it is an indication that this particular substance is challenging the system. Treatment typically will include special diet, supplements and spinal manipulation.

Blood and urine analysis

Blood can be analyzed for allergies as well as for nutritional status. Urine analysis can indicate if peptides are present for gluten and casein.

Traditional allergy testing

Skin testing and blood work can indicate delayed response sensitivities as well as immediate reactions. However, it is important to realize that false negatives are possible with this type of testing. Many physicians recommend doing an elimination diet as a place to start exploring reactivities to foods. Many different systems of elimination diets are available. For example, once a food of concern is identified, it is eliminated from the diet for five consecutive days. Then the system is bombarded with that food and behaviors such as sensory defensiveness and motor control are observed for three days.

Resources

Testing:

Dr. Troy Spurrill

(Dr. Spurrill received his B.S. in Molecular Science from the University of Manitoba in 1995, was an International Lecturer in Neurology and Kinesiology, and was awarded early entry into the Functional-Neurology Diplomat program in 1997. He has also earned his Doctor of Chiropractic Degree from Northwestern Health Sciences University, and has earned a degree in Applied Kinesiology).

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Books:

- *Diet Intervention and Autism* by Marilyn LeBreton
- *Feeding your Allergic Child* by Elisa Meyer
- *Your Food-Allergic Child* by Janet E. Meizel
- *Children with Starving Brains* by Jaquelyn McCandless
- *Special Diets for Special Kids* by Lisa Lewis

Websites:

www.gfcfkids.com

www.gfcfdiet.com

www.autismdiet.com (Allergy Induced Autism)

www.glutenfreemall.com

www.sanoviv.com

www.foodallergy.org

www.autismndi.com (ANDI website)

www.usana.com (supplements and health products)

Local Vendors

Bread Art

110 3rd Street North

Bayport, MN

651-351-1475

River Market Co-op

221 North Main Street

Stillwater, MN

651-439-0366

Valley Natural Foods

13750 County Road 11

Burnsville, MN

952-891-1212

Whole Earth Grocery

126 S. Main Street

River Falls, WI

715-425-7971

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