



Understanding **WHEAT & GLUTEN:** **Issues in Today's Clients**

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It is currently and conservatively estimated by food industry analysts that one-third of the U.S. population has voluntarily gone gluten free within the last two years. For many health care providers this movement may smack of a fad diet, but is it? Before jumping to the conclusion that it's no different from the grapefruit plan or dozens of other weight loss schemes from the last two to three decades or that clients are suffering from unhealthy eating habits and poor self-image; please keep reading.

ALLERGY VS. SENSITIVITY

For the last fifteen plus years I have been helping clients understand the role food plays in their health. With this has come volumes of research and personal experience on how a once innocuous protein called “gluten” is now the villain at the heart of autoimmune, endocrine, respiratory, musculoskeletal, mental, digestive, and cancer health concerns. Not possible, some might think, for one item to influence so many body systems—here is where I begin to challenge some of those deeply held beliefs.

The days of health care providers viewing health by organ, system, location, or function, needs to change. The human body is a mysterious, complex, and integrated marvel. Every function is fed, or fueled if you prefer, by the digestive system. Within this, 85% of your body’s immune system resides. The immune system, which is made up of special cells, proteins, tissues, and organs, protect against germs and microorganisms introduced through food, water, air, and skin contact. A substance that triggers the B lymphocytes to produce antibodies is recognized as an antigen. Antibodies and their responding antigens fit together like a lock and key. When an antigen is detected, several different types of cells come together as a team to recognize and respond.

Although antibodies can recognize an antigen and lock onto it; they are not capable of destroying it without help. This is the job of the specific T cells, also called “killer cells.” The T cells are part of the system that destroys antigens tagged by antibodies or cells that have been changed. T cells are also involved in helping signal other cells of the immune system to do their jobs.

Many clients come in and say, “I have a wheat allergy,” when in fact they have a sensitivity driven by their immune system’s inability to differentiate between friend and foe. The gluten proteins passing through their digestive system carry DNA of foreign bodies not naturally found in wheat. These foreign bodies are the result of genetic splicing and manipulation of foods; primarily wheat. Gliadins, the offending proteins, are also found in rye, barley, spelt, triticale, and oats through cross contamination. Some individuals are sensitive to polypeptides found in the whole grass family, which includes corn and rice.

As time goes by, these individuals will begin reporting a wide range of foods they are reacting to, once thought to be impossible, but today we are beginning to understand that the delicate villi structures of the small intestine lose their ability to trap or stop large proteins from entering the blood stream. No longer is it just wheat and dairy causing issues but a whole host of totally unrelated foods. These polypeptides or Gliadin trigger the lymphocytes in the small intestine, driving inflammation and what has been referred to as “leaky gut syndrome.”

So what has changed to bring about the marked increase in individuals reporting wheat and gluten challenges? This brings us to the 50/50 phrase used by many wheat and gluten sensitivity experts. Over the last 50 years, we have seen major changes in wheat hybridization, genetic engineering, herbicide and pesticide usage, soil husbandry, food manufacturing, and populace awareness. The 50/50 refers to researchers’ discovery that the protein content of wheat has increased by 50 percent over the last 50 years. Additionally, the protein found in wheat is commonly used as an additive, along with lactose, in medications, creating additional complications for children and adults.

Definition of System

A regularly interacting or interdependent group of items forming a unified whole.

Definition of Immune System

The bodily system that protects the body from foreign substances, cells, and tissues by producing the immune response, and that includes especially the thymus, spleen, lymph nodes, special deposits of lymphoid tissue (as in the gastrointestinal tract and bone marrow), macrophages, lymphocytes (including the B cells and T cells), and antibodies.

Definition of Allergy

Exaggerated or pathological immunological reaction (as by sneezing, difficulty breathing, itching, or skin rashes) to substances, situations, or physical states that are without comparable effect on the average individual.

Definition of Sensitivity

The capacity of an organism or sense organ to respond to stimulation; the quality or state of being hypersensitive.

APPENDIX I
CELIAC DISEASE SYMPTOMS

- Diarrhea or constipation; often both
- Abdominal pain, bloating, and gas
- Nausea and vomiting
- Weight loss/gain
- Chronic fatigue and weakness
- Iron deficiency with or without anemia
- Vitamin and mineral deficiencies
- Mouth ulcers
- Vitamin D deficiency
- Bone/joint pain
- Osteoporosis
- Type 1 & 2 Diabetes
- Skin rashes
- Thyroid illnesses
- Depression
- Lactose intolerance
- Easy bruising of the skin
- Dental enamel defects
- Concentration/learning difficulties
- Lupus

The increase of protein within the grain impacts our food in ways we have never encountered before; however, our human digestive system has not been able to adapt to these forms of protein, which instead act as a toxin. Upon digestion, the gluten proteins break down into smaller units, called peptides, polypeptides or peptide chains, and are made up of strings of amino acids.

One particular peptide has been shown to be harmful to celiac patients when in-stilled directly into the small intestine. This peptide includes 19 amino acids strung together in a specific sequence. Research currently shows these peptides additionally affect individuals, who have silent celiac, the form that encompasses the auto-immune diseases: diabetes, thyroiditis, Sjogrens,

Lupus, rheumatoid arthritis, and possibly brain disorders.

For years celiac was believed to be a disease of children under the age of five, as listed in the Merck Manual. It should be noted that celiac disease can come on at any time in an individual's life, as a result of trauma or injury. I have routinely met individuals who have suffered for years with a diagnosis of IBS, Crohn's disease, ulcerative colitis, psoriasis, or asthma well into their retirement years before someone realized they had a problem with wheat.

At one point or another, clients (which are predominately female) had all been prescribed antidepressants. Of the hundreds of clients I have met with clear wheat sensitivities, I have only met one person

who had an allergy, as in "goes into anaphylaxis over a crouton." The majority of silent celiacs are often labeled as difficult, angry, belligerent, anxious, nervous, confused, non-compliant, drug seeking, depressed, and histrionic when reading through their medical records from other health care providers.

The populations with the highest prevalence of gluten sensitivities are those of Northern European and Jewish ancestry. The current statistics indicate numbers ranging between one in seven to one in three Americans expressing celiac sprue or silent celiac; the numbers are similar for Canada, which shares the same predominant population genetics with the United States. The manifestation in these clients exhibits in forms such as fibromyalgia, schizophrenia, anxiety, depression, peripheral neuropathies, rheumatoid arthritis, Sjogren's syndrome, migraines, thyroiditis, type one diabetes, Crohn's disease, IBS, lupus, and osteoporosis. I found one million search results listed on *PubMed* alone.

There are equal numbers of results to be found when searching for the perceived common symptoms of gluten sensitivity: gas, bloating, pale stool, anemia, weight loss, and failure to thrive. It is important to understand that Gluten-free is not a fad or an eating disorder for the majority of individuals.



Enter the Client

When it comes to clients, especially those who seem to never get better with conventional therapies, ask them some of the following questions:

- ✓ What is your genetic ancestry?
- ✓ Have you had a vitamin D3 test? Do you know if you were low? (optimum ranges are 65-85ng/dl)
- ✓ Has anyone in your family complained of digestive problems, such as your mother, father, or grandmother?
- ✓ Have you been hospitalized and placed on long course steroids or antibiotics?
- ✓ Have you had gastric surgery?
- ✓ Do you have a family history of colon cancer?
- ✓ Do you or any of your family members have a history of anemia?
- ✓ Do you or any first-line family members have any form of autoimmune diseases?
- ✓ Do you have any rashes or psoriasis that never resolve?
- ✓ Do you have chronic low to moderate grade body pain?
- ✓ Do you feel your brain is slow and in a fog, hard to concentrate, articulate, or problem solve?

This is certainly not an exhaustive list of questions to provide insight into possible gluten sensitivity; and there may be others that will provide the same information. I routinely have these as part of my intake forms for clients to fill out in the form of simple check boxes to alert me to potential patterns. Know also that blood testing and biopsies are inconclusive at best and useless for most, the average tests can run from 20 to 80% accuracy depending on the lab. If the clients have voluntarily stopped gluten, blood tests will be of no value. Specialists who know lymphocyte staining and have a clear understanding of what to look for

APPENDIX II GLUTEN-CONTAINING INGREDIENTS TO AVOID

(Gluten and Lactose are the most common fillers for medications)

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|---------------------|---|--|
| • Barley | • Oat bran *** | • Flavorings |
| • Bulgur | • Oats *** | • Soy sauce, ketchup, barbeque sauce |
| • Cereal binding | • Oat syrup *** | • Turkeys may be injected w/gluten for moistness or have gravy packets |
| • Couscous | • Rye | • Commercial lunch meats |
| • Durum | • Semolina | • Starch |
| • Einkorn * | • Spelt * | • Modified food starch |
| • Emmer * | • Triticale | • Dextrin |
| • Filler | • Wheat | • Maltodextrin |
| • Farro * | • Wheat bran | • Medications |
| • Graham flour | • Wheat germ | |
| • Kamut * | • Wheat starch | |
| • Malt * | • Hydrolyzed plant or vegetable protein (HPP/HVP) | |
| • Malt extract ** | • Seasonings | |
| • Malt flavoring ** | | |
| • Malt syrup ** | | |

- * type of wheat
- ** from barley
- *** oats are commonly cross-contaminated with gluten from other grains.

when doing a biopsy are the key to accuracy with these tests.

Organizations are arguing over: do you have to have a positive biopsy with positive blood antigen tests or will one or the other suffice for a diagnosis? If the client has eliminated gluten from their diet and their health and mental functions are improving, the clinician has all the testing needed.

So is everyone gluten sensitive? At this juncture in time I would have to say no, with the following caveat—we haven't seen anything yet. Why do I believe this? Let's go back to that 50/50 hypothesis from earlier. As I so often ask participants in my classes, "what has changed?" It does not take long for these individuals to recognize the rapid change in food manufacturing, production, availability, and proliferation that has occurred over the last 50 years. The supermarket is filled with snack crackers, chips, sauces, soups, pastas, breads, cereals, drinks, and candies with the word wheat or hydrolyzed vegetable protein and added gluten on the label. The introduction of a wide range of chemicals not naturally occurring within foods has transpired within the last 25 years and is now affecting three generations of individuals. The population as a whole currently consumes hundreds of food products that contain wheat protein

and not just any wheat—90% of it is from genetically modified sources.

Secondly, we always ask is there any harm? In the case of adopting a gluten-free lifestyle, in my opinion, it is a win-win situation for many. The incorporation of fresh foods reduces over-all inflammation, improves blood sugar, cholesterol, and hypertension. The added side effects of weight control, clearer thinking, improved digestion, and immune response are far better than the average side effects of prescription medications. The only down side to gluten-free choices is the abundance of commercial products loaded with sugar. Clients should be cautioned away from these foods, especially if they are children or have brain chemistry imbalances. "You cannot replace wheat with sugar and achieve balance, vitality, and health".

When you suggest to clients they go wheat-free for two to four weeks; they break out in a cold sweat thinking they will starve to death because over 75% of their diet may involve some form of wheat-containing foods. This is when you provide them with information about the abundance of foods available to them and the potential cost savings of fresh vegetables, free-range lean meats, and organic fruits. The ancient grains, such as quinoa and amaranth, as well as many types of beans,

provide additional health benefits. Today there are scores of gluten-free websites such as, www.TriumphDining.com, www.Celiac.com, www.foodreactions.org, www.gluten-free-around-the-world.com and one of my favorites is www.theDr.com. These sites provide recipes, information, product guides, phone apps, reviews, and resources. In the last two years, the number of books available on the topic has gone from five or six to hundreds, many of which are available as electronic downloads. There is no reason for any health care provider to leave his or her clients adrift with today's resources available on the internet and through book vendors.

Not only has the availability of wheat increased in the marketplace, the chemicals on and in foods being produced, manufactured, and consumed are increasing as well. With this in mind, researchers are finding levels of bacteria in the digestive tract of those who are wheat intolerant has dramatically increased and changed within the small and large intestines. There are currently as many as 200 new, of which many are virulent, forms of bacteria in Strep, Staph and E. coli families being found and cataloged within the guts of wheat-compromised clients.

If you have clients who are autistic, or any one of the other health challenges listed within this article, it is a must for them to not only have gluten-free diets but gluten-free medications. The addition of dietary adjuncts of prebiotics/probiotics and digestive enzymes designed for the breakdown of gluten and lactose proteins, and vitamin D3, are additionally needed for gastric repair and health to occur. Without these, oftentimes clients will continue to develop additional sensitivities and conditions.

Many authors and researchers refer to the current issue of Celiac Disease being a Hidden Epidemic, as being overlooked and ignored by healthcare providers. Today gluten intolerance is being reported in populations in developing countries and in areas never before found. As we spread genetically engineered grain throughout the world in the race to halt starvation and poverty, we must also acknowledge the hidden consequences of disease from the immune systems rejection of these foods.

As health care practitioners, are we prepared?

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TAMMERA J. KARR, DAAIM, BCIH, BCHN, CNC, CNW, CHN, Certified Gluten Practitioner, holds national board certifications through the National Association of Nutritional Professionals (BCHN), the American Association of Integrative Medicine (BCIH), the American Association of Nutritional Counselors (CNC), American Naturopathic Certification Board (CNW), and the American Association of Drugless Practitioners (CNH). In 2012, Tamera became a Diplomate of the College of Biologically Based Practices in the American Association of Integrative Medicine. Additionally, she serves on the Board of Directors for the National Association of Nutritional Professionals and on Think Local Umpqua Executive Board and has several positions with AAIM.

A Native Oregonian, Tamera established an Integrative Medicine Partnership in 2006 and currently works in a clinical setting with DO's, FNP-C, and others to provide clients with tools to take control of their health.