Why Can Grains be Such a Pain?
Part One

Increasing numbers of people have troubles from eating grains. It's a growing grain bane! Why? Some think we were never meant to eat grains. Others point to the changes made in grain production and processing—from hybridization to pesticide use, refining to industrialized tinkering. Still others believe some grains are fine while others—especially those containing gluten—are villains. There are yet other possibilities. But first, let's look at **gluten** and **wheat** reactions.

One of the 8 most common food **allergies** is to wheat. Only 1½% of Americans have a **true** food allergy, so a true **wheat** allergy is rare. In those who have it, wheat triggers an immune response that can show up in any part of the body, though commonly it affects the respiratory tract or causes a skin rash or digestive upset. Symptoms usually occur quickly, from a few minutes to 2 hours after exposure. A reaction can manifest as nasal congestion, cough, sinusitis, bronchitis, asthma, migraine, headache, hay fever, itchy tongue, hives, eczema, rash, enlarged prostate, nausea, vomiting, diarrhea, irritable bowel colitis, and flu-like joint aches. Really severe cases, anaphylactic shock may occur.

More common and on the rise is *wheat* **intolerance** which doesn't necessarily involve an immune response. It's a reaction to wheat or inability to digest gluten and is often overlooked. It can develop anytime in a person's life, so it's often not suspected because wheat had previously been eaten without a problem. Wheat is in many thins Americans eat, so it's one of the last things people want to do without. Intolerance to a grain or grains can cause almost any symptom you can think of in virtually any part of the body. Reactions can occur quickly or take many hours to appear. Common **symptoms** include fatigue, nasal congestion, headache, migraines, fluid retention, sleep problems, depression, hyperactivity, acid reflux, stomachache, bloating, PMS symptoms, itching, eczema, and achy or inflamed joints. There can be **addictive** reactions—if people affected don't have it regularly; they get withdrawal symptoms (becoming irritable for starters) until their craving is satisfied. Some folks with chronic fatigue syndrome, fibromyalgia, and chronic *Candida* overgrowth feel better when they don't eat gluten, wheat, or perhaps other grains. During the time when Atkins-type (low carbohydrate) diets were popular it became clear that wheat intolerance is more common than thought. Some low-carb dieters felt better, not just due to weight loss, but because they got relief from other complaints. Recent studies estimate that **10 to 15%** of Americans have some sensitivity to wheat and/or gluten. More have intolerance to wheat than to just gluten. Some find other grains bother them as well.

The worst intolerance to gluten is **celiac disease (CD)**—aka celiac sprue, nontropical sprue, or gluten sensitive enteropathy—said to be an immune response specifically to gluten. Gluten is a component of wheat (making wheat flour elastic and smooth) that contains a protein, gliadin. Other grains like rye and

barely, contain a related compound that can also trigger reaction. Considered a genetic or inborn condition, the body is unable to breakdown the peptides (chains of amino acids) in gluten. It's a digestive disorder of the small intestine causing **flattened villis**. Villi are tiny hair-like projections lining the small intestine that are responsible for nutrient absorption. There's also **damage** to the gut lining itself (resulting in increased intestinal permeability), making it more susceptible to toxins, "sick" bacteria, and undigested food particles that can cause problems just about anywhere in the body. Which areas of the body are most affected depend on the individual's susceptibility.

Diagnosis of CD takes an average of **10** years, not just because there may not be symptoms for a long time, but also because symptoms are often attributed to other illnesses or conditions. Doctors may diagnose symptoms as something else or "all in your head." Children born with CD may have mild symptoms or none, and go undiagnosed until adulthood. Symptoms can begin at any age. Trauma (like an accident, death of a loved one, etc.) seems to kick the illness into high gear. CD occurs more often in people of European descent and in women more than men. Textbook **symptoms** include abdominal pain, gas, bloating, diarrhea, constipation, pale and foul-smelling bowel movements, vomiting, muscle wasting, weight loss, lethargy, bone or joint pain, a painful rash of itchy blisters (dermatitis herpetiformis), and in children, delayed puberty or stunted growth. Some people have only symptoms **not** related to the digestive tract like depression, anxiety, fatigue, muscle twitching and cramps, anemia, unexplained osteoporosis, carpal tunnel syndrome, stroke allergies, shortness of breath, migraine headaches, arthritis, or infertility. And damage to the intestinal lining can occur without **any** symptoms at all—called "silent celiac." People with CD are also more likely to have **other** seemingly unrelated disorders such as psoriasis, severe hair loss, liver disease, thyroid disease (Hashimoto's or Graves'), Addison's disease, Down's syndrome, lupus, autism, neurological illnesses, early-onset dementia, schizophrenia, hyperactivity, attention deficits, epilepsy, lymphoma, and type 1 Diabetes. Symptoms **outside** the digestive tract are 15 times more common than those inside.

Some folks diagnosed with **irritable bowel syndrome** may actually have CD; symptoms can be quite similar. People with **osteoporosis** have CD more than people who don't have osteoporosis—3 to 4% opposed to 0.2%. The more severe the CD, the more severe the osteoporosis. Avoiding gluten for a year may not only improve digestive problems, but bone density as well. People diagnosed with **lupus** (systemic lupus erythematosus) are sometimes found to be gluten sensitive; after several months on a gluten-free diet, symptoms may subside or disappear. Sixty-five percent (65%) of parents of children with **autism** report that their children "got better" when both gluten and casein (a protein in milk products) were removed from their diets. A screening of 143 people with **ataxia** (unsteady gait, clumsiness, slurred speech) of unknown origin showed that 41% had gluten sensitivity. Ataxia and peripheral **neuropathy** (numbness, weak muscles) are the most common nerve problems seen in people with CD. About 40% of people with

ataxia or neuropathy have CD, but only 1 out of 3 has gut complaints. Avoiding gluten is essential—80% of people who continue to eat wheat get “brain rot”: the cerebellum (brain center for balance and control of most body functions) deteriorates as does the brain stem (which carries nerves from the brain to the rest of the body). The **brain** can sometimes be damaged permanently. A form of **epilepsy** or **dementia** can develop. Research shows that 1 out of 3 damaged permanently. A form of epilepsy or dementia can develop. Research shows that 1 out of 3 (34%) people with neuropathies numbness, tingling, pain, intermittent paralysis) have some sort of gluten sensitivity, whether CD or not. Children with CD are more likely to be diagnosed with **ADHD**. Folks with **psoriasis** or persisting **arthritis** may, in some cases, nation have CD and experience relief after avoiding gluten. An association between CD and **diabetes** is well established.

Although CD is considered genetic—a label questioned by some—more is involved. Whether and for how long an infant is breastfed may affect the development of CD. The longer a baby is breastfed, the later symptoms tend to appear. The gradual introduction of gluten-containing foods to infants while they are still being breast-fed reduces the risk of CD in early childhood and probably also during later childhood. Babies given foods containing wheat, barley, or rye in the first 3 months of life have a 5-fold increased risk of CD compared with children given gluten-containing foods later on. All of this indicates that inheriting the susceptibility for CD is not a condemnation for developing the condition or severe characteristics of it. The hereditary tendency may be there, but the manifestation and harm don’t have to occur. Only 70% of identical twins share the condition, so other factors have to be involved. Add to this the fact that most people never develop symptoms until after the age of 50.

CD is now known to affect ½% to 1% of the population—1½ to 3 million Americans or 1 in every 133 people—10 times more than previously thought. The first “Scientific” description of CD was made in 1888. Blame was put specifically on gluten in 1950. Yet to date, the cause is “not fully understood.” The problem is believed to be **autoimmune**—that the immune system mistakenly sees gluten as a threat and tries to destroy it by making anti-bodies that attack the lining of the small intestine where absorption of nutrients takes place. There **is** chronic inflammation, but the purpose of inflammation is to get rid of dead, damaged, or foreign particles and set things up for cellular replacement and repair. That the body would try to harm itself doesn’t seem to fit. Despite much research on the CD immune response, scientists haven’t been able to come up with a clear-cut explanation. “Relatively little is known about this condition and misinformation abounds.” Instead of “an inappropriate immune response,” why couldn’t the reaction be an ill-equipped immune response, over-taxed immune response, and hampered ability to digest? Chronic inflammation can reflect long-standing, frustrated attempts to heal. There may be a deterrent in the body’s repair ability or a lack of energy or fuel for repair, so the body keeps trying to heal by persistent inflammation. Immune cells and substances are burdened; the cells

lining the intestinal tract are burdened and need to be renewed. Burdened and abnormal cells result in an intestinal wall that becomes chronically weak. An excess of foreign material overloads the trapping system of the intestines. Foods cannot be digested. Without sufficient nutrients to allow repair and relieve this burden, healing cannot fully take place. Thus avoiding gluten or wheat is often not the sole solution.

There's a blood test that checks for gluten "antibodies" in the blood. If it comes back positive, the next step used to be a biopsy of the small intestine (to identify flattened villi). Now there are newer blood tests with increased sensitivity and specificity, making the invasive intestinal biopsies unnecessary in most cases. Even when the blood tests (transglutaminase and antigliadin antibodies) are normal, it doesn't mean the intestines have recovered. And one test may be positive and the other negative.

CD is a disease of **malabsorption**. If not helped, nutrients primarily absorbed in the small intestine become darned low. If you're nutritionally deficient you can't create energy, heal, function, sleep well, or think straight. You'd be at risk for all sorts of disease and ailments. People with CD are told to completely avoid gluten for their entire lifetime. Bad effects can occur by eating as little as 1/48th of a slice of wheat bread. A gluten-free life often-but not always—slows or stops symptoms and allows for healing of the intestinal damage. For some, staying on a gluten-free diet helps the increased gut permeability and villi to return to normal. Yet even if the permeability improves, several abnormalities in the intestinal wall may persist. Symptoms in some people don't respond at all to a gluten-free diet. Nutritional deficiencies that developed can certainly play a role in the varied complications; yet just improving nutrient intake often has limited benefits. The digestive tract must be really **healed** to get best results. Toxicity may be involved or other food intolerances as well as disturbances of the organic life in the intestines—microorganisms like bacteria. There can be intolerance for a certain form of carbohydrate (present in all grains and a few other foods) as well as intolerance for milk protein or lactose. CD is twice as common among people with dyspepsia (indigestion) as in the general population. One reason is that they produce fewer digestive enzymes than normal. And, surprise! Some folks have their sensitivity to gluten totally reversed after healing their gut.

Remember that gluten intolerance does occur in the absence of CD. Incomplete digestion of wheat proteins or an increased permeability of the intestines ("leaky gut") may cause it. Symptoms can be vague and take up to 3 days to appear. A broad range of symptoms may occur including small ulcers on the lining of the mouth, various nerve-related conditions, diarrhea or other digestive complaints, and more. In many people with diarrhea-predominant irritable bowel syndrome, gluten intolerance is the main cause. Also, an intolerance for wheat other grains may be the problem—not necessarily gluten, but other components of wheat or other grains. There's no definitive test for such intolerances. The best way to determine if gluten or wheat is a problem is to carefully avoid for 3 or 4 weeks.

Where's the Gluten and Wheat?

Obvious sources of gluten and/or wheat are items like breads, muffins, flour tortillas, pastries, pizza crust, and so on. But did you know that gluten is hidden in many processed foods? For example, frozen French fries are frequently coated with a dusting of wheat flour. Some brands of baking powder contain wheat flour. Soups, sauces, gravies, and pie fillings may contain it as a thickener. Label ingredients like modified food starch, unidentified starch, malt, hydrolyzed vegetable protein (HVP), hydrolyzed plant protein (HPP), texturized vegetable protein (TVP), binders, fillers, excipients, and extenders can indicate gluten or wheat components. Avoiding processed foods would help. Getting "gluten-free products" may too. Other ingredients that mask the possible presence of gluten include acacia, annatto-coloring, caramel coloring, cellulose gum, garlic salt, malt vinegar, monosodium glutamate, natural flavors, onion salt, tomato paste, and vegetable broth. Gluten can be lurking in alcohol made from wheat like beer, ale and some hard liquor; in bouillon cubes, chocolate milk, communion wafers, cream soups, croutons, dried fruits, egg substitutes, instant coffee (flavored types like Postum), ketchup, licorice, Ovaltine, roux, salad dressings, soy sauce, and Worcestershire sauce. Also watch out for imitation bacon, veggie burgers, marinades, processed meats, mustard, fried foods, chewing gum, and laxatives. Even the glue on stamps and envelopes can contain gluten.

Most cereals, breadcrumbs, bulgur, couscous, cracker meal, and seitan mean wheat. All members of the wheat family are likely to cause problems in people -- with CD including spelt and kamut that are closer relatives to wheat—and contain gluten—than are rye and barley. Some people with gluten intolerance claim they can eat spelt or kamut, but this may be due to improvement after eliminating all wheat proteins for a while. Then, even if ordinary wheat in reintroduced, it can take weeks or months before symptoms appear (though damage may be taking place inside). Most tablets and capsules in prescription and over-the-counter drugs contain fillers (excipients) that contain wheat-based starches as well as lactose, refined sugars, and calcium sulfate. Check out your nutritional supplements too.

Rye and barley must be avoided if there is gluten intolerance, not if there is only wheat intolerance. Oats—a member of the same botanical family as wheat, barley and rye—contain a protein that differs from that of other gluten grains. Many (not all) people with CD or gluten intolerance can tolerate oats. For some, eating oats can result in intestinal damage or other symptoms. One reason may be because oats can accumulate traces of wheat in manufacturing plants where wheat is also processed. Other grasses less related to wheat, such as rice and corn (maize), and other grains not related at all, such as millet, sorghum, teff, buckwheat, wild rice, quinoa, and amaranth seem to be "safe" for most people with CD and others with gluten or wheat intolerances or allergies. But some folks

with CD or others with wheat intolerance cannot eat other grains as they also cause reactions. There is even controversy over what constitutes being “gluten free.” Distilled alcohol, distilled vinegar, and products made with distilled vinegar may or may not be okay, as they are made with wheat, rye, or barley. Trouble is, there are obviously more difficulties than gluten o wheat for some people.

Why is Food an Enemy?

CD is on the increase. So are intolerances to wheat and other grains. Why? Perhaps toxic **pesticides** and/or **herbicides** may be a factor. During the time just preceding the great increase in gluten intolerance, there was an almost 100% practice of treating nearly ripe wheat crops with “an unhealthy dose of Round-Up herbicide during the final ripening period.” The farmers use such herbicides to “brown out” the unripe or “green” kernels so they don’t get docked by the big grain brokers and mills.

Conventional synthetic **fertilizers** are simple chemical compounds that supply only a few nutrients. One is **nitrogen**. When there is a lot of nitrogen in the soil, plants increase protein production and decrease carbohydrate production. When the plant has had its “fill” of protein, the remaining protein produced is a storage form containing lower amounts of essential amino acids. Gluten in wheat is a storage protein. As the wheat protein increases, the overall quality decreases. However, when gains or other plants are raised organically, the soils release nitrogen in smaller amounts over a longer time. Then the quantity of protein is lower than conventional crops, but the nutritional quality is better.

Wheat has had a longer modern history of **hybridization**. Recent forced and accelerated hybridizations “have changed wheat nutritionally in ways that no one seems to have considered, while research into the health effects of these transformations has barely begun,” says Katherine Czapp. The last issue of this newsletter mentioned the “white” whole wheat now on the market. This is a hybrid (containing fewer phenols than hard red wheat), which is put through a new-patented milling process (pulverizing the grain so much that the particles are almost microscopic). With such tiny particles and improper processing methods, this new flour may be potential trouble, contributing to wheat intolerance.

Most of us grew up eating **refined** grains, especially bleached white flour products and white rice. On average, 80% of the precious nutrients are lost—B and E vitamins, minerals, and more. These are not only losses; they are distortions, possibly affecting a person’s reaction to the grain.

Industrialized food production is geared to maximizing profits by keeping production costs low—using the cheapest ingredients and cutting time spent in actual production. Machines do the work of making grain products. Harmful chemical additives and dough “improvers” are added to produce consistency. Most flourmills use bleaching chemicals—ether benzoyl peroxide (the active

ingredient in acne crèmes and hair dyes) or chlorine dioxide (a toxin also used to bleach paper products and textiles). Bleaching chemicals **preserve** the flour, so commercial whole grain flours (more prone to rancidity) often contain larger amounts. Some mills add potassium bromate (a recognized carcinogen) to artificially strengthen flour so it can stand up to violent and/or brief mixing times. Anti-staling and moisture-retentive chemicals may be used too. Extra gluten may be tossed in for better texture and doughiness. High-speed mixers, chemical oxidants, solid vegetable fat, lots of commercial yeast and municipal water all help produce a loaf of bread from flour to sliced-and-packaged form in about 3½ hours. This isn't the way grandma made her bread of wholesome, simple ingredients that spent many hours in natural fermentation and rising. Mass production of industrial bakery and cereal products have created "taste standards and expectations" that have nothing to do with real, honest whole grains. Whole grain sourdough may not taste good to those used to white, fluffy, pasty mush bread.

Industrialized cereals and pasta products may contain **transglutaminase**—a cross-linking enzyme used as a "glue" to form larger particles from smaller ones. One group of researchers concluded that the addition of this enzyme could generate the molecule responsible for CD! Other research suggested that it might change wheat flour enough to cause allergies to it.

Cultures throughout the world have long **traditions** for preparing all grains for human consumption and benefit. Soaking, sprouting (germinating), fermenting, and souring are common, ensuring the neutralization of enzyme-inhibitors and nutrient-inhibitors with which grains are naturally endowed.

Many people with gluten or wheat or other grain intolerance have **dysbiosis**—damaged gut flora. Why? From taking antibiotics, non-steroidal anti-inflammatory drugs (aspirin, ibuprofen, etc.), steroids (birth control pills, prednisone, cortisone, etc.), sleeping pills, heartburn pills, antipsychotic drugs, some antidepressants, and other medications that can cause various kinds of damage to the digestive tract, gut flora, and immune system. Eating lots of refined sugars and refined grains disturbs microorganisms in the digestive tract. Eating insufficient fruits and vegetables can have a very negative effect on gut flora and the digestive tract. Babies who aren't breastfed don't get the healthy mixture of bacteria that lays a foundation for future health. Overeating and parenteral (tube) feeding can alter the composition of gut flora and trigger a chain of problems. Serious defects in gut flora often accompany chronic illnesses such as diabetes, neurological conditions, obesity, or glandular diseases and are common after-effects of surgery, chemotherapy, radiotherapy, and hormone therapy. Long-term physical or psychological stress can seriously damage intestinal flora. Alcoholism, exposure to toxic substances, and pollution can all have a big effect on healthy bacteria in the digestive tract.

Gut dysbiosis can lead to overgrowth of the fungus, *Candida albicans*, which is always accompanied by various “sick” bacteria, protozoa, other yeasts, and other micro-creatures. In healthy people, *Candida* and “sick” microbes (such as bacteria that have engulfed toxins, debris, and foreign particles) are limited and/or controlled by beneficial healthy flora. But when the gut wall is damaged, healthy flora are reduced and the “sick” microbes can get out of control. Some scientists have postulated that *Candida* A*lbicans* is a trigger for the onset of CD. Many researchers have given evidence that the addition of probiotics (natural healthy micro-creatures) helps. Healthy bacteria, in addition to keeping “sick” microorganisms in check, serve to benefit digestion, nutrient absorption, and immune function.

Bacteria such as lactobacilli found in fermented milk products like yogurt and in fermented grain products like sourdough cultures have the ability to hydrolyze or break up protein parts in wheat (giladin) and milk (casein). People with CD have been found to be able to eat wheat bread—with no reactions—when it has been fermented over 24 hours with selected lactobacilli. This is because the lactobacilli bacteria arising from the fermentation break down the wheat protein. When barley seed is soaked and ready to sprout (kicking off the germination process), it produces an enzyme that can break down the glutamine in gluten, freeing up the starches to nourish the growing plant. This enzyme and a digestive enzyme that breaks down proline, another gluten component, have been shown to dampen any “alarm” (defensive) immune response in the digestive tract. Does this mean folks with CD can now eat gluten-containing grains? Not necessarily. But certainly people with **other** gluten or wheat intolerances may be able to eat naturally fermented or soaked grains.

Although gluten and wheat intolerances other than CD don’t always mean malabsorption, they often share the leaky gut feature, indicating intestinal damage. Milk protein intolerance is also common in folks with CD, other gluten intolerance may be involved, but part of the reason for this is pasteurization of milk. In healthy people, certain digestive enzymes break down most of the chains of amino acids (peptides) in wheat and milk protein. But in people with CD or other intestinal problems, the peptides are not broken down and undigested remnants can irritate the intestinal lining, resulting in damage. Support to healing the intestinal walls is an essential adjunct to re-establishing normal balance of flora.

So far we see that the problem in many cases of gluten or wheat or other grains intolerances is, not so much the grain itself, but how it was developed or grown or milled or processed, a lack of preparing it properly, and the idiosyncrasies or health issues of the individual person who eats it.

Those with gluten or wheat intolerance may, under professional supervision and accompanying an appropriate diet, use the following supplements to support healing processes for the digesting tract:

Just Before Each (3) Meal:

1 or 2 SP Green Food
1 Echinacea-C – chew or break in mouth
1 Thymex – chew or break in mouth
1 Nutrimere (80 capsules only)

Midway through Lunch & Supper

1 Lact-Enz

After Lunch & Supper:

1 Chlorophyll Complex
1 Tuna Omega-3 Oil

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