

LaDonna's notes from the GIG conference, Minneapolis, Minnesota - June 4-5, 2010

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Jeanne Murdock

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### **Latest Research New in Celiac Disease and Gluten Sensitivities**

**Dr. Joseph Murray**

30 to maybe 40% of the population are genetically predisposed to celiac disease.

Celiac Disease can occur at any time.

Celiac Disease may affect 1 to 2% of the Western population. Most cases unrecognized.

On average it takes adults 11 yrs to be diagnosed in North America.

Children are diagnosed faster.

Children are sicker than adults, have more severe disease and have classic symptoms.

Adults are slower to show symptoms and therefore take longer to diagnose.

Adults are 2 ½ times more likely to die with undiagnosed CD.

Silent Celiacs don't always have classic symptoms. Some have no symptoms at all

There has been a 4 to 5 fold increase in prevalence of CD over the last 50 yrs.

Something in the environment is causing CD to go up. They don't know what.

Type 1 Diabetes is going up at the same rate as CD.

Type 2 Diabetes is going up also.

Children born of C-section are more likely to get CD.

Osteoporosis and hypothyroidism are associated with CD.

The benefits of a GF diet are: improve symptoms, normalize antibodies, induce mucosal recovery, improve quality of life, reduce the risk of complications, and decrease mortality.

95% of children with CD may have complete intestinal recovery within 2 yrs of starting the GF diet.

Persistent atrophy of the small intestine can result in complications like osteoporosis, autoimmune diseases, and lymphoma.

Even without symptoms there is a higher risk of these conditions.

Hidden gluten even once a month can cause damage and not healing. Like eating a cookie, not just a speck.

Possible reasons people don't heal even on the GF diet: inappropriate food labeling, late intervention, American lifestyle with easy access to fast food restaurants, limited availability and high cost of GF diet (no compensation for additional cost).

CD increases medical costs for 4 yrs before diagnosis.

Diagnosis and treatment reduces health care cost in the year after diagnosis.

There is excess health cost with undiagnosed CD. It makes economic sense to diagnosis CD.

#### **In the future:**

Should we test for it like we do cholesterol?

Is it important to society to test?

Will people accept testing?

Will people in the general population follow through if they test positive?

Can they stay on it?

#### **New treatments:**

Worms in Australia

Probiotics in gluten sensitive mice

Vaccination in Australia

Enzymes to break down gluten  
Drugs to block permeability  
Drugs to block immune response

## **Using Whole Grains to Their Fullest - Jeanne Murdock**

*She gave us lots of nutrition information.*

Potato and rice flours in the gluten-free diet are very low in protein quality.

Fortified with vitamins means it was added in and didn't have them to begin with.

Enriched means the nutrients were there to begin with but were lost during processing and then added back in. Whole grain kernels are made up of: Endosperm (has gluten in it) provides energy and has carbohydrates and protein. Bran: is the outer shell and protects the seed. It has fiber, B vitamins, and trace minerals. Germ: nourishment for the seed. Has vitamin E, B vitamins and oil.

All animals and plants have carbohydrates, protein and fat.

Macronutrients: are carbohydrates, protein and fat. They provide calories and give us energy. Need larger amounts in our diet.

Micronutrients: required in smaller amounts - Minerals and vitamins fit in this category

Macro minerals: needed in larger amounts than micro minerals – calcium, phosphorous, sodium, potassium, chlorine. We only need about 500 mg of sodium a day and the max is 2400mg. Most Americans consumes about 6000 milligrams a day.

Micro minerals: iron, zinc, copper, fluoride.

Fat-soluble vitamins – A, D, E, K (they are stored in the liver)

Water-soluble vitamins – B & C – not stored – though they are not stored still can be toxic. B complex- contains several B vitamins.

Rice and potato have limiting nutrients. They are missing fiber. Fiber helps with GI mobility & regulates transit time so it is not too fast or too slow. Transit time helps with diverticulosis which is pouches in the intestine. When the pouches become inflamed then it is diverticulitis.

To increase fiber: eat fruits and vegetables with the skin on.

B vitamins – Niacin – play a role in metabolism and burning calories, DNA & RNA synthesis. Niacin deficiency – Pellagra-symptoms are dermatitis, dementia, diarrhea and death. Whole wheat has it- but not in processed wheat- has to be added back in (enriched). In beans and meats. Folic Acid – plays a role in growth and division of the cell and hemoglobin synthesis (red blood cells) - deficiency – spinal bifida is neural tube defects in the brain and brain stem. And it can also affect white blood cell count (low) and immune system support. Can be found in fruits, vegetables, beans and nuts.

Iron- makes up hemoglobin, oxygen transport. Can decrease intellectual performance and suppress the immune system. 2 kinds of iron- heme and non heme. Heme iron is found in animal products and non-heme is in vegetables. Heme iron is absorbed better than non Heme iron. Non Heme iron is found in spinach, prunes and beans.

Protein: makes up muscle tissue, skeletal, heart and smooth muscle tissue (small and large intestine). Also makes hormones, enzymes, and is the building block of our cells. Can be found in beans and nuts. 20 amino acids make up protein. Only 9 of them are essential. We have to get them from our diet.

### **Flours:**

Amaranth: nutritious flour. Related to beet family. Pseudo grain. It is high in protein, fiber, calcium, magnesium and iron. Can use onion and garlic to flavor. Can be mixed with other flours. Each flour has its own strength and can compliment one another.

Quinoa – similar to beet. It is an ancient grain. Mother of all grains. High in protein, calcium and iron. Use in baking as a flour. Use as a side dish like rice or as cereal.

### Flour Mix:

3 parts Quinoa

3 parts Sorghum

2 parts Potato starch

1 part Tapioca starch

Millet– ancient grain- 6000 varieties- staple in Asia and Africa. Has protein, B vitamins, iron and calcium. Prepare it like wild rice or with other flours. Has a mild flavor. Can use in stuffing.

Soy- from soybeans- has protein, potassium, phosphorous, calcium, vit c and phytoestrogens (plant estrogens). Controversy as to whether it should be used as hormone replacement. Does it increase or decrease breast cancer? Talk to your Dr. She didn't advise us on it. Used as flour, tofu, edamame.

Oats- were banned at 1<sup>st</sup>. Make sure they are gluten-free and not contaminated. Steel cut, rolled oats and whole quick oats (ground to cook faster). High in fiber. Has iron, folic acid. Use at a hot cereal, cookies, granola and flour. Has small nutritional value.

Montana- Proatina Oats, Timtana (timothy grass) high protein value.

Flax is very nutritious. Can be used as seed, whole, ground or oil. Has fiber and polyunsaturated fat (oil). Is the best for the fiber and the oil.

To use flax in place of an egg: Use 1 TBSP ground flax (store in frig). Plus 3 TBSP water.

Almond Meal – has protein, fiber, polyunsaturated fats, calcium, magnesium, phosphorus, potassium.

## **Living Life to the Fullest – How Gluten Affects Neurotransmitters, Depression, & Anxiety – Tom O'Bryan Website: [www.theDr.com](http://www.theDr.com)**

*I loved listening to him. He really pulled on our heart strings. He talked about his Dad, Aunt and Mom, who all have issues with gluten. Impressed upon me how gluten affects the brain. I came home and visited his website and ordered the DVD called Unlocking the Mystery of Wheat and Gluten Intolerance. Anne said she has shown this video at one of the meetings. Watched the video and thought it had some wonderful information. A good tool for family members to watch.*

He started out by talking about his Dad who was a fireman. He participates in a yearly run for fireman. His Dad died of cardiovascular disease. The coroner said he didn't see any reason for his Dad's death. He believes his Dad may have had celiac disease or gluten intolerance because folic acid is deficient in celiac disease and that affects the heart. A Dr. by the name of Macully (not sure of spelling) at Harvard said that we needed folic acid in cereal, because it was a major cause of cardiovascular disease. I didn't write down how long ago this was. Folic acid wasn't added for a long time. When folic acid was finally added to cereal a million and ½ people had already died. His point is that the medical establishment still does see how gluten affects the body and especially the brain.

He gave us specific examples- a 5 yr old girl has Tourettes Syndrome; testing shows elevated antibodies to wheat. In 2 days her symptoms resolve.

His Aunt is diagnosed with high liver enzymes, her doctor tells her not to drink alcohol. She's not drinking alcohol. Eventually she is diagnosed with only 4 % of her liver cells functioning and blood vessels bursting. She's not given very long to live. He puts her on a gluten-free diet and she lives another year and ½. He gets to be there to say good-bye.

There are increased liver enzymes in celiac disease.

There's an 800% (8 fold) increased risk of death with liver cirrhosis and celiac disease.

It's killing people. He kept emphasizing this point over and over.

Dietary factors play major roles in determining whether the brain ages successfully or develops brain damage.

Celiac Disease is one of the most common lifelong disorders in both Europe and the US.

Celiac Disease is a much greater problem than previously thought.

As people get older more damage occurs and they die. But it is a cascade effect from their having it for a long length of time and going undiagnosed.

It doesn't matter if you feel ok; you still need to be treated.

There is a 3.2 times risk for schizophrenia in celiac disease patients.

The brain is highly affected by gluten.

Depression is one of the symptoms of celiac disease or gluten intolerance. The most common neuropsychiatric disorder.

Gluten sensitivity can manifest solely with neurological dysfunction.

Most patients with present neurological problems do not have GI problems.

72 million have autoimmune disease. It's 10 times more common with celiac disease.

Celiac Disease is a typical inflammatory disease.

Gluten is like pouring gasoline on the fire for autoimmune disorders.

ADHD is better after 6 months on gluten-free diet

50% of children with epilepsy go into full remission on GF diet.

Anorexia can be reversed on a GF diet.

All psychological disease can be affected by cd/gluten because it decreases blood flow to the brain.

Gluten causes lesions in the brain. It's killing off brain cells.

There are actually 12 peptides in wheat. I thought he said that there was a new blood test coming out that looked at all 12 of them. But I need to email him and see if that is actually what he said. Also a saliva test coming out.

Blood tests can be wrong 7 out of 10 times unless total antibodies are tested.  
Gluten really does have a profound effect on the brain.  
Physicians need to be educated about gluten.

**Including Aspects of a Mediterranean diet to supercharge the GF diet - Christine Doherty, N.D.**  
**Contact:** [DrD@PointNatural.com](mailto:DrD@PointNatural.com) or her website [www.GlutenFreeVitamins.com](http://www.GlutenFreeVitamins.com)

*She couldn't be there in person, we heard her via telephone. The Mediterranean diet is supposed to be one of the best diets for people.*

She became Gluten Free in 2003. She was very ill and almost died several times. She suffered from neurological issues. She was pale and constantly iron deficient. She had constipation, abdominal pain and constant digestive discomfort since childhood. She had gestational diabetes, high blood pressure, thyroid issues. She had grown a tumor during her pregnancy and had a radical cancer surgery to remove a melon sized tumor in 2001. They removed half of her small intestine, 2/3 of her colon, ten lymph nodes, and her gallbladder. So she basically got interested in eating well and taking care of herself to survive.

Her ideas about the Mediterranean lifestyle are taken from the book called The Blue Zones by Dan Buettner. He looked at cultures around the world who live to be 100 or older and how they live. These people have a vibrant and healthy lifestyle. These are the 9 factors identified by the book:

1. Exercise – should be a natural motion like walking, hiking. Even better if it can be in nature.
2. Stop eating when you are full - eat until you are 80% full, leave 20% for digestion. Pay attention to portion size. Americans eat portions that are actually 2 to 3 portion sizes.
3. Don't eat refined food - we eat lots of chemicals-don't exchange processed wheat foods for processed gluten-free foods.
4. Drink red wine in moderation – 1 glass a day for women and 2 for men. In France the glasses are only 4 oz not the oversized ones we have in America.
5. Define your purpose – sounds easy, but may not be. Figure out your skills, abilities, Talents and passion. What we do for work may not be our purpose.
6. Relax often – we don't relax enough. We have to pay people to help us do that like massage. In France they don't have to-go coffee. They go to the café' to relax and have coffee. People with stomach issues just don't chew their foods well. Relaxation is essential for good digestion.
7. Have a spiritual practice and community – Be part of a spiritual community and have some sort of belief system.
8. Family first – they are very family oriented. Family is important in these places. Senior citizens are revered for their wisdom.
9. And what clan you belong to is critical (we are in the Gluten-Free Tribe). We have a tribal gathering every time we attend a gluten free meeting.

Our USDA food pyramid would look pretty different than theirs would. They eat much more plant fat like olive oil and they are mostly vegetarian.

Their serving sizes are different, much smaller than ours.

They have a different concept of sweets. Sweets have little refined sugar; they use fresh dates, nuts, honey. Theirs are more fruit based.

They eat mostly vegetables, fruit, nuts, seeds, plant oil and a small amount of dairy. Some of the Asian cultures eat sea vegetables instead of dairy for the calcium.

Polenta (corn) rice and cous cous are included daily.

Beans and legumes are consumed daily - eat more than Americans. They contain lots of fiber and folic acid.

Olive oil is consumed at about a ¼ of a cup daily.

Goat cheese - their choice.

Red meat in much smaller amounts and less frequently like 1 a month.  
Sweets, eggs, poultry and fish once a week.

### **Good foods to include in our diet:**

Rice- can be used in lots of recipes.

Teff – has lots of nutrients- nutty flavor

Corn – traditional

Buckwheat – nutty flavor-traditional food-can be mixed with pasta

Quinoa – as cereal.

Chia – lots of fatty acids-lots of calcium.

Potatoes – can raise your serotonin level.

Tapioca

Soybeans – Asian perspective- as a whole bean.

Vegetables – are fresh there and locally grown. They have them in the backyard. We have trouble getting 5 to 9 servings a day.

Fruit – is locally grown. Ours is shipped from long distances (especially in the winter) and can have lots of unknown chemicals on them.

Olive oil – is a protective fat. Our brain is pretty much made of fat. Helps reverse metabolism.

Nuts – think small portions sizes. High fat content. Good source of Vit E. Very few sources of Vit E. Helps with hormonal balance and fertility. Can be used on salads.

Goat cheese – is better tolerated than cow's milk cheese. It's not homogenized, pasteurized there. No hormones.

Sea vegetables – like Nori is high in calcium.

Eggs – raw there and is used in mayonnaise and ice cream.

Fish – Atlanta salmon- has DHA- good for the brain and helps memory.

Chicken – free range - and not too often.

Sweets – are fruit based. Are sweetened with honey, dates, nuts, honey balls and grapes. Not every day.

Supplements can make a difference for people with CD and gluten sensitivity. It's hard to get complete nutrients from the diet. Especially if you have malabsorption or if you were undiagnosed for a long period of time. Up to 50% of celiac/gluten intolerant people still have multiple deficiencies even 10 yrs after going gluten free. You can do vitamin injections or IV's for things like iron or B vitamins. She does a B shot weekly. I do B12 twice weekly.

She recommended the TED website- a think tank with thousands of short lectures on many topics. There's one with Dan Buettner on The Blue Zones.

### **Controlling Metabolic Syndrome – Bonnie Presti, Nutrition Educator, Firstline Therapist, [www.thesensitivediner.com](http://www.thesensitivediner.com)**

The Standard American Diet (SAD) is filled with fast food, ready-made meals, eating on the run ( 45% of meals are eaten away from home), irregular or skipped meals, social and emotional eating, and mindless eating.

We eat hydrogenated oils, high fructose corn-syrup (one of the worst offenders), caffeine, alcohol, salt, processed food, less than 12 grams of fiber daily, low-nutrient density.

We want to see whole ingredients.

50 years ago our food looked very different. It was nutrient dense, wasn't shipped long distances. Now our food supply has food additives, preservatives, artificial color, hybridized grain, irradiation, antibiotics, hormones, pesticides, chemicals, genetically modified organisms.

We also ingest nicotine, over the counter medicines, and prescription drugs.

### **She gave us an old time cure for reflex:**

1 cup of water

1 Tbsp apple cider vinegar

1 tsp honey

A dash of cayenne

### **You might have Metabolic Syndrome if you have 3 or more risk factors:**

Abdominal obesity (waist circumference > 40 for men & > 35 for women)  
Triglycerides over 150  
Low HDL (good cholesterol) < 40 in men; < 50 for women  
Blood pressure > 130/85  
Fasting glucose > 100  
On a Rx for dyslipidemia, high BP, or high blood sugar

75% of Americans are now overweight and by 2030 - 90% will be overweight. Obesity increases the risk for diabetes, heart disease, stroke and cancer.

BMI (body mass index) is healthy at 25 but not over 30.

**Losing weight does lots of good for Metabolic Syndrome and reduces all the risk factors:**

Insulin resistance  
Abdominal obesity  
LDL cholesterol  
Risk of type 2 diabetes  
Low grade systemic inflammation as measured by C-reactive protein  
Lowers blood pressure

**Be Physical:**

30 minutes a day improves all components of metabolic syndrome or you can do 15 minutes 2 a day instead. Like at a lunch break. Park farther away and walk instead.  
Improves lipid profile, blood pressure, blood sugar  
Decreases insulin resistance  
Decreases risk of overall mortality

Of 371 Celiac patients over a 10 year period 69% were either overweight or obese. After 2 years on a compliant gluten-free diet 81% of patients gained weight.

**The basics for healthy eating:**

Choose nutrient rich foods (whole plant based foods)  
Balanced meals  
Control portions  
Add variety (the body likes variety)  
Small, frequent meals (about every 3 hrs eat 15 grams of protein)  
Water (should be ½ your body weight in oz) Example: 150lb/2 = 75 oz.  
Pay attention to what you are eating and when (stress) emotional eating

85% of Americans suffer from food intolerances and it can take up to 72 hours to manifest. 5% suffer from food allergies.

**Other suggestions:**

Eat seasonal – the body likes soup in weather and salad in summer.  
Eat organic – if you can't afford everything organic buy the products that have the most pesticides (the dirty list) and buy those organic.  
Non-processed (as close to nature as possible) processed foods cause inflammation  
*90% of the budget is spent on processed foods*  
Local – foods that are in our community

Celiac Disease damages portions of the small intestines and then at a certain point it becomes symptomatic. 70% of the immune system is located in the gut and 95% on serotonin is in the gut.

**Healthy Fats:**

Oils: olive, coconut, peanut, canola  
Nuts: almonds, hazelnuts, pecans, walnuts  
Seeds: Flax seeds, pumpkin, sesame, sunflower  
Avocado

**Protein:**

Organic, grass-fed, free range meats; chicken, turkey, lean beef, lamb, buffalo, wild game  
Wild deep sea fish  
Legumes  
Nuts and seed

She uses Ghee - clarified butter, no lactose or casein.

If you are craving sugar eat protein.

**Leafy & Crunchy Vegetables**

Can have unlimited amount

Should be the basis of the diet

Ways to enjoy them: salad, wraps, to soups, stir-fry, steam, mineral broth

**Leafy:** Kale, spinach, mustard greens, collard greens, chard, romaine lettuce, spinach, arugula

**Crunchy:** broccoli, cucumber, carrots, peppers

**Starchy Veggies & Healthy Grains:** These turn into sugar

Beets, carrots, corn, squash, acorn, zucchini, yellow, yams, sweet potatoes

**Grains:** Amaranth, Buckwheat, Garbanzo, Millet, Quinoa, and Rice: brown and wild

She recommended only having 1 grain a day.

**Fiber:** Improves components of metabolic syndrome

- Can lower blood cholesterol
- Improves blood sugar control in patients with diabetes
- Helps with weight loss by providing a feeling of fullness
- Our SAD has only about ½ the recommended amount of fiber per day of 35 grams

**Planning Meals:**

- Control blood sugar: Glycemic index/load
- Break-the-fast!
- Eat 5 small meals/day that contain: 15 gr of protein, 20 grams of health promoting carbs (low or moderate GI), 6 gr of high quality oils, fats.
- Water
- Take time to eat

**Conclusion:**

Don't stress on a gluten-free diet. Take time to adjust to it. Focus on wellness and what you can eat. Find out about GF substitutes.

**Visualize your plate:** should have ½ of crunchy, leafy vegetables, ¼ plate meat or protein and ¼ plate of whole grains &/or starchy vegetables.

**Dietary Supplements might include:**

Multivitamin, Digestive Enzymes, Probiotics, Omega 3 Fish Oil, Vitamin D3 (most of us are very deficient), Antioxidants, L-glutamine.

**Inflammation and Celiac Disease: The Role, Consequence, and Strategies for Managing Inflammation - Dr. Jillian Sarno Teta, ND; The Naturopathic Health Clinic of North Carolina; [www.nhcnc.com](http://www.nhcnc.com)**

*My comments: I was very impressed with her. I think the ND's have more training in nutrition and with our gluten-free diet; we really need some good nutritional advice. She was a good speaker and presented the material well.*

Inflammation is both a necessary response by the body and the source of many diseases.

It is a normal, predictable response by the immune cells.

White blood cells create inflammation in a very organized sequential way.

Cytokines are the hormonal messengers of the WBC's and create the immune response.

We would die quickly without inflammation.

Inflammation creates heat, redness, swelling and pain- normal responses.

The immune system responds to viruses, bacteria and pathogens.  
A balanced immune system is critical for optimal immune response.  
The primary roles of a balanced, healthy immune system are:

- Identify potentially infectious or injurious substances.
- Distinguish self-antigens (nonthreatening) from non-self (threatening).
- Assess the level of threat associated with infectious, toxic or non-self antigens.
- Mount an appropriate response to the level of threat.
- Repair any damage that occurs as a result of the immune response.

The immune system is a highly evolved system, more so than the central nervous system and even more evolved than the brain.

When the immune system becomes overactive, underactive or dysfunctional, it causes body-wide systemic effects. This is Celiac Disease.

Inflammation is the largest player in the destruction of the intestinal villi and systemic consequences of CD.

It's an abnormal immune/inflammatory response to a "normal" food particle.

In people with CD, the immune system when it is exposed to gluten treats gluten as an invader or pathogen and attacks.

#### **The Consequences of an abnormal immune response in CD are:**

- Flattened villi.
- Nutrient deficiencies like iron, calcium, folic acid, fat soluble vitamins A, D, E, K.
- Clinical syndromes like anemia, osteoporosis, infertility, dental enamel defects, neurological issues, skin manifestations, neuropathies, bruising, easy bleeding.
- Creates functional GI disorders like "leaky gut", additional food sensitivities, lactose intolerance,
- Pancreatic insufficiency (lack of digestive enzymes), bacterial overgrowth, gastric mobility issues/ reflux, diarrhea, colitis, constipation or IBS-like symptoms. IBS is not a clean cut diagnose.
- Mental/emotional instability from malabsorption.
- Blood/brain barrier compromise.
- Inflammatory brain compounds.
- Compromised brain chemistry.
- Increased risks for autoimmune conditions – Type 1 Diabetes, Hashimoto's Thyroiditis, Graves Disease, Sjogren's Disease, Lupus, RA, MS, ADHD, Raynaud's Syndrome, Cardiomyopathy, AI Liver Disease.
- A 2-fold risk for esophageal and small intestine cancer, non-Hodgkin's-lymphoma, melanoma.
- Increased cancer risk from increased intestinal permeability (injurious toxicants, substances can pass more readily into the bloodstream), abnormal inflammatory response, compromised immune surveillance, nutritional deficiencies and generic predisposition.
- Cardiovascular risk increased from excess inflammation in the arteries.
- Increased risk for cardiovascular events in Diabetics.

#### **Some nutritional strategies she gave us:**

- A simple formula is to increase the foods that help you and decrease the foods that hurt you.
- What you put into your mouth is 85% responsible for how you will feel – she couldn't highlight this point enough. It's also responsible for how your skin looks and fat and lean muscle mass.
- Celiacs have more oxidative stress than the normal population. Free radicals can do damage to DNA.
- Eat lots of brightly colored vegetables and fruits that are rich in anti-inflammatory phytochemicals and antioxidants.
- Eat several cups a day of rainbow colored fruits and veggies. The superstars are: cruciferous vegetables (broccoli, cauliflower, brussel sprouts, cabbage), spinach, blueberries, cherries, squash, Raw organic cocoa powder, spices (turmeric, rosemary, oregano, and clove).
- Eat adequate lean clean proteins such as: grass fed beef, hormone free chicken/eggs, wild salmon, white fish, pork tenderloin.
- Fiber is the easiest and cheapest way to clean up the inflammatory molecules & excess hormones in the bloodstream.
- Fiber adds bulk to the stool and improves bowel mobility.
- Good sources are: artichokes, kale, leafy greens, apples, pears, pomegranates.

- Drink more clean filtered water. It has the most underestimated healing powers. *A 5% increase in dehydration will result in a 25% energy deficiency.* We need ½ our body weight in oz of water a day.
- Plus an addition 4 oz for each vice like drinking coffee, alcohol, tea, cigarettes.
- Green tea, herbal tea, and broths count toward this amount.
- Decrease foods that cause inflammation: sugar, refined sugar, refined carbohydrates (including GF baked goods), trans fats, additives, synthetic flavors and colors, artificial sweeteners (splenda, aspartame).

We've only been doing grains for 10,000 years and it was not the food that we evolved on. Our hunter-gather ancestors ate clean lean meat, fruits and vegetables, nuts and not a lot of dairy.

**Exercise strategies:** how you use your body will determine your hormones.

- Muscles act as an endocrine organ, releasing myokines into the blood to decrease inflammation with application of appropriate movement.
- Our ancestors were sprinters not marathon runners. Sprinters run seconds to minutes not hours like marathon.
- Use resistance training, high-intensity interval training, burst training. This is subject to the person and their health concerns though. Most people do the wrong kind of exercise. Too much cardio with not enough strength training and exhaustion of muscles.
- Long duration, low intensity exercise like jogging releases excess cortisol, which remains unopposed, breaking down muscle in the periphery and depositing fat in the middle, all while promoting inflammation and oxidation.
- Short duration, high intensity movement and resistance training also release cortisol, and release human growth hormone and testosterone, which oppose the action of cortisol.
- Weight training releases a powerful anti-inflammatory molecule called Interleukin-10, when you get to the point that you exhaust the muscle and just can't squeeze out that last rep. This is where you want to be.
- To release the body's feel good hormones and improve your mood - do short duration, high intensity, burst training and resistance training.

**Sleep:**

- Sleep is crucial for decreased inflammation.
- Prime fat-burning time.
- Fat secretes inflammatory cytokines-losing extra fat can decrease inflammation.
- Regular bedtime routine.
- Use Sleepy Time tea or natural sleep aids if needed like certain herbs, melatonin.

**Lifestyle Strategies:** When you change the way you look at things, the things you look at change.

- Identify/reduce your stress
- Stressful thoughts=Negative Emotions=Stress Hormone & Inflammatory Compound Release=Psychological Changes (increased heart rate, constriction of arteries, etc. Our thoughts really do have an effect on our body.
- Identify & manage adrenal, thyroid and depression issues.
- Autoimmune disease sets the stage for more autoimmune disease and autoimmune disease causes depression.

**Supplemental Strategies:** Add to a good solid program, should not be the core.

- A multi-vitamin
- Probiotics- powerhouse for CD; helps gut bacteria & villous atrophy. Down regulates receptors that react to inflammation. Her brand recommendations: Farmax, Designs for Health, Xymogen. And at least 3 different strains of bacteria.
- Fish oil – anti-inflammatory- omega 3 fatty acids affect every system in the body.
- Vitamin D – huge for autoimmune. Works more like a hormone than a vitamin.
- Curcumin (turmeric) complex – with other antioxidants to quench the free radicals. Devils claw, cats claw also are good.
- Acacia fiber for IBS symptoms.
- Slippery foods like okra, mushrooms and the amino acid L-glutamine can help to heal the gut.

How to use the raw cocoa powder (has very little caffeine) that she recommended earlier: 1 to 2 tbsp with water/rice milk/almond milk. In a smoothie, or sprinkle on coconut macaroons.

**Conclusion:**

- Work on your gut issues like leaky gut, poor digestion.

- Look at the body as a functional system rather than a compartmentalized system. As a whole not as parts.
- The GI system affects the brain and the brain affects the GI system.
- GI system has connections everywhere.
- How we live our life until the end of our days is our choice!
- We are not victims.
- We can choose, with each bite and each day, to reduce our inflammation or increase it.
- Don't be too hard on yourself; we are our own worst critics.

## **ADA Nutrition Recommendations for Celiac Disease & Label Reading: Putting It All Together- Cynthia Kupper, RD**

Medical Nutrition Therapy by an RD is strongly recommended for CD and gluten intolerance people. Dietitians can make the diet work for people.

Recommend bone density testing for adults with CD within the 1<sup>st</sup> year.

Nutritional deficiencies – people with gluten intolerance are missing fiber. We need to be using whole grains. Our diets are as bad as everyone else's.

If nutritional deficiencies are not helped by diet then a multi-vitamin/mineral is needed. Age and sex specific.

Vit D and iron supplements may be needed in individualized therapeutic doses.

RD's need to provide resources and education about label reading, cross-contamination in food preparation, manufacturing plants, restaurants and home kitchens. The resources need to be less than 2 yrs. old.

Evaluate dietary compliance – potlucks, family, and business events. We need to be as strict and compliant with the GF diet as possible.

Most of the patients only get 45 minutes with the dietitian. More time is needed. It is not an easy diet.

If no improvement then rule out other causes like leaky gut, lactose, fructose and carb intolerances, bacterial overgrowth, refractory sprue, related cancers.

There is currently no gluten free labeling law.

Allergen statement – if an ingredient contains protein from wheat, the word “wheat” must be included on the food label either in the ingredient list or “Contains” statement.

“Food” includes medical foods, dietary supplements and infant formula, but does not include prescription or OTC.

Medications need to be verified gluten-free.

“May contain” is not an allergen statement. Just covers the company in case someone gets sick.

Proposed FDA rule for labeling foods gluten-free would be voluntary.

Should contain less than 20 ppm of gluten. May contain wheat starch if contains less than 20 ppm.

If the wheat starch is not labeled gluten-free don't eat it.

Same goes for oats. If they are not labeled gluten-free don't eat them.

Potential ingredients derived from wheat include modified food starch and dextrin.

5 key words to look for on labels: wheat, rye, barley (malt, barley malt) & oats also.

Consume whole or enriched gluten-free grains and products.

Adherence to the GF diet may result in a diet: high in fat, low in carbs and fiber & low in iron, folate, vit b-12, calcium, phosphorous and zinc. Recommendation to take a multi-vit/min supplement.

Quinoa has more calcium per serving than a glass of milk.

Eat a colorful plate. Eat fresh locally grown foods. Eat naturally gluten-free. Use GF products in moderation (processed foods). Use portion control. Exercise. Drink plenty of water and get enough sleep.

Think of yourself as not being deprived but special.

It doesn't have to be about food. It's about mind-set.

## **Traveling Gluten Free – Cpt. Glenn Heironymus**

No notes

## **Allergies, Celiac Disease and Gluten Intolerance- What's the Difference? – Dr. Stephen Wangen, ND** [www.IBSTreatmentCenter.com](http://www.IBSTreatmentCenter.com)

*This is the 2<sup>nd</sup> time I've gotten to hear him speak. I think he does a good job. I didn't know that he was on the board of GIG until now. I bought his book called Healthier without Wheat. Good speaker with lots of good information.*

He repeated some of the things Dr. Teta said about wheat being a relatively new food in our diet. It's only been around 10,000 yrs.

Only in the last few hundred years have we eaten it anywhere near the volume we consume now.

We are supposed to be healthy.

We changed a lot of things trying to be healthy but we are still not.

A majority of the people who react to wheat are reacting to gluten, but not everyone.

Gluten contains gliadin.

Gluten is a whole lot of peptides.

Oats is the most closely related to the gluten family.

Millet is the father of the grass family.

An allergic reaction to wheat or gluten involves the same kind of reactions that we normally think of as allergens: hives or a rash, anaphylaxis, or asthma

This is an immune reaction and thought of as IgE antibody reactions.

Gluten intolerance would technically be an allergy because the immune system is involved. It is reacting to gluten.

In CD it results in an autoimmune (self) reaction.

These reactions involve IgA and/or IgG antibodies (are different ways the immune system reacts to food). A different class of antibodies.

Immune reaction to gluten = malabsorption of nutrients and inflammation.

There are no consistent standards for allergy vs. intolerance.

Lactose intolerance is an enzyme deficiency.

Gluten intolerance is an immune reaction.

These are 2 completely different mechanisms.

*Definitions:* allergy- a reaction that involves the immune system. Intolerance/sensitivity: a reaction that does not involve the immune system. Not sure why you react to it.

In CD, gluten intolerance leads to villous atrophy. Which is autoimmune, meaning the body is attacking itself.

The immune system attacks the enzyme (tissue transglutaminase) that repairs the villi.

Then the villi atrophy (become damaged).

The villi can heal when gluten is removed from the diet.

Tests used for CD: endoscopy biopsy for small intestine

Blood tests: Tissue transglutaminase antibodies, endomyisal antibodies, reticulon antibodies, gliadin antibodies.

If the blood tests are positive then the biopsy doesn't tell you any more information.

Gliadin antibodies don't diagnose the damage to the villi.

The biopsy is the gold standard test for CD, but it is not as golden as perceived.

There is a significant potential for false negatives. The pathologist might not read the slide right. You can't see very much from small samples of 30 ft of small intestine.

These tests are all just tools. They are not perfect.

He thinks we should be testing everyone.

Genetic testing for CD doesn't really work.

HLA DQ2 and DQ8- most people with CD have these genes, but not everyone.

30% of the population has these genes.

But not all people with the genes have CD.

Less than 1% of the population has CD.

It neither confirms nor rules out CD.

The tissue transglutaminase antibody is the best blood test for assessing CD.

Celiac Disease is one type of gluten intolerance.

Celiac Disease (villous atrophy) is only 1 potential result of gluten intolerance.

You don't have to have villous atrophy to have gluten intolerance.

There are over 200 conditions associated with these food reactions. He has a long list in the outline and presentation.

They are located in his book- Healthier without Wheat. He didn't go through them all. But the list is impressive.

If you test positive to gliadin antibodies, IgA & IgG- your immune system is reacting to gluten.

These tests are often ignored if celiac test comes back negative.

Celiac Disease is only a small portion of the gluten intolerance population.

He estimates that 10% of the population is gluten intolerant.

No one knows for sure what the % is because it hasn't been studied in detail.

An immune reaction to foods is not normal.

Elevated gliadin antibody levels are meaningful.

There are genetic and environmental factors involved with allergies.

You don't have to have villous atrophy to have malabsorption. If you are attacking your food, you are not breaking it down correctly. You don't have to have digestive problems to not break down your food.

He doesn't believe that CD is the end-stage of gluten intolerance or the worst form of gluten intolerance.

Elimination diets are hard.

The challenges are: truly eliminating all gluten from your diet, long enough elimination period to notice the difference (could take 2 to 3 months); not improving could mean other food allergies not just gluten, or something else like thyroid, adrenal issues etc.

A lot of celiac and gluten intolerance people are asymptomatic or unaware of it. People with a reaction to gluten can also react to other foods like, dairy, eggs, soy, corn etc. They often have a dairy allergy, which can be as significant as gluten. His recommendations: anyone can be gluten intolerant and everyone should be tested. Eat simply: vegetables, healthy proteins and healthy fats.

## **Gluten-Free Desserts-Healthy & Flavorful Too – Donna Washburn & Heather Butt**

Contact: [bread@ripnet.com](mailto:bread@ripnet.com); [www.bestbreadrecipes.com](http://www.bestbreadrecipes.com) Phone: 613-923-9116

*(They were very funny and very entertaining)*

*They gave us very specific recommendations from recipes. They have a picture of two cookbooks on the first of the presentation and two of the back. Not sure if they all came out of these cookbooks though. They said to contact them and they would give us the pg no. and recipe book for the specific recipe used.*

Showed us how to make GF desserts more healthy by increasing the flavor, calcium, fiber and iron, reducing the sugar, sodium and fat (has to be replaced).

To increase the flavor in a recipe called Mango Ginger Cream Tart – they used complimentary flavors like gingerbread crumbs (crust) and candied ginger (filling) and added mango.

To increase flavor in Banana Flaxseed muffin: they used banana, applesauce or pumpkin puree or prune puree which increased the moisture content and they keep fresh longer also.

Instead of salt and sugar in their Cranberry Crumble Coffee Cake: they used fortified orange juice and citrus zest, fruit juices, sweet spices. Need to double the amount of sweet spices because gluten free flours absorb things.

Sorghum, amaranth, flax and millet have a higher nutritional value than white bread.

In Rhubarb Cobbler – they used fruits for the higher fiber content (5 gr of fiber per serving) - figs, pears, apples, rhubarb, raspberries, apricots, blueberries, peaches, bananas. Fiber makes you have to chew more and you are more satisfied when you have to chew your food.

In their Peach Pecan Pie – they used Pecan Flour and Brown Rice flour for the higher fiber content.

Pineapple Carrot Cake – they increased the fiber by leaving the peel on fruits and veggies such as these zucchini, carrots, apples, pears. Can use walnuts and pineapple for more fiber. For sugar you can use the water or fruit syrup that comes packed in the fruit like canned pineapple.

Use fruits and vegetables that are naturally high in fiber like the raspberry filling in their Raspberry Almond Crumb Tart or you could use peaches. Has 5 grams of fiber per serving.

Amaranth has higher fiber content than most other gluten-free flours. But flax is 2 as high as amaranth and teff is high also.

Crunchy Chocolate Chip Cookies – 2 grams of fiber per cookie. They used sorghum flour, GF oat flour, ground flaxseed, GF oat bran and millet seeds to increase the fiber.

**To increase iron** – Recipe – Cranberry Pumpkin Seed Bread. You can use seeds and nuts like almonds, hazelnuts, cashews, pumpkin seeds (toasted). Pumpkin is very high in iron.

Recipe is Oatmeal Raisin Cookie - snack on cookies, squares or muffins made with oatmeal, nuts and seeds. Can use figs and dates and raisins, but raisins are not as high in iron as figs and dates. Can substitute molasses for sugar. Of the gluten free flours- amaranth, soy, quinoa and teff have higher iron content.

**To increase calcium:** Recipe is Lime Poppy Seed Cake. They used seeds and nuts like almonds, flax, poppy sesame, and sunflower seeds and figs. You can use yogurt or non-fat yogurt in this recipe.

You can use dairy products like milk, yogurt, fortified soy beverage, cheese, buttermilk, fortified orange juice. Almond, amaranth and soy have higher calcium contents.

**To decrease fat:** – Recipe: Cheesecake with Peach Sauce: You can use low-fat cream cheese (not ultra low), replace 1 whole egg with 2 whites, use low-fat milk, yogurt or sour cream. Top with fruit fresh not whipped cream.

In general recipes use bananas, applesauce, flaxseed (to replace eggs). They reduce the number of eggs from 3 to 2. Can lower the amount of vegetable oil in a recipe by a couple of tablespoons without hurting the recipe.

You can cut the salt in traditional recipes by ½ but it will taste flat. But you can increase flavor by adding fruits then you wouldn't notice and you will look forward to that other flavor. Can use apple juice, apple sauce and lemon zest. For yeast bread though, you can't leave the salt out. Also increase the flavor with less sodium by increasing herbs and spices. Use lots of cardamom, cranberry juice and orange.

They gave us specific examples of recipes side by side with the nutritional content to show how much difference there was in fat, calories, sodium, carb etc.

## **Osteoporosis & Celiac: Beyond Bone Mineral Density - Dr. John Neustadt, Medical Director, Montana Integrative Medicine, President, Nutritional Biochemistry, Inc. (NBI) and NBI Testing and Consulting Group (NBITC)**

Osteoporosis is one of the manifestations of CD.

Osteoporosis is a T-score of -2.5.

Osteopenia is a T-score of -1 to -2.5.

35 million people have osteoporosis or osteopenia.

By 2020, it's estimated that 14 million cases of osteoporosis will be diagnosed.

Celiac doubles the risk of osteoporosis.

The general population has 17% and celiacs have 35% osteoporosis.

Men and premenopausal women with osteoporosis should be tested for celiac even if they don't have calcium malabsorption.

In some studies men have more osteoporosis than women.

In celiacs there is 30%-47% increase in fracture risk (all fractures)

A 90% in hip fracture risk.

77% increase in forearm (ulna or radius) fractures.

In 2005 of the 2 million osteoporosis fractures- 73% were nonvertebral (not the spine) fractures, 71% of all fractures were in women.

20% who sustain a hip fracture die within a year.

Of 1<sup>st</sup> year survivors, 20% require nursing home care.

For people 65 yrs or older, 1 in 5 are dead in a year.

Personal, family and social cost are very high.

Bone Mineral Density test (DEXA) explains less than half (44%) the risk for hip fracture. It doesn't show the complete picture.

There is equal or greater chance of fractures with osteopenia.

Bone is a complex living tissues. It continually rebuilds and remodels itself.

Osteoblasts – create bone (build)

Osteoclasts – break it down (remodeling)

The 2 major components of bone are: cartilage and minerals.

Bone cartilage provides flexibility to bone and provides a model for the formation of the bones.

Medicines (glucocorticoids) cortisone, predisone, hydrocortisone, dexamethasone, and methylprednisone increase the risk of osteoporosis. Oral glucocorticoids (< 2.5 mg/day over approximately 6 months) is associated with a 20% to 200% increase in the risk of vertebral fractures.

Every 10 mg increase in the dose increases the fracture risk by 62%.

Fracture risk decreases by stopping the medication.

Fracture risk factors: advanced age, low bone mineral density, previous fracture, history of hip fracture in a parent, thinness (body weight < 127 or low BMI <21 kg/m<sup>2</sup>), current smoking, any amount, low calcium or vit D intake, more than 2 alcoholic drinks per day, oral or intramuscular glucocorticoid use for >3 months.

Increased fall risk from: impaired vision, dementia, poor health/frailty, low physical activity, history of recent falls.

Acid blockers like Prolisec, Prevacid, Nexium, Protonix, and Aciphex increase the risk for fracture.

These medicines were never intended to be taken more than 14 days and people take them for years.

### **Recommendations for prevention and treatment:**

- **Medicine** – Antiresorptive medicines like Fosamax, Actonel, Boniva- 3 studies have concluded that continuous treatment with bisphosphonates may increase fracture risk after 4 to 7 years of use. Risk by these medicines is increased by 1000%. Fractures occurred from normal activities like walking, standing, or turning around. He does use medicines sometimes but prefers not to if at all possible. Fractures also healed slower. They do help some though. Ask Dr. about pros and cons of the medicine.

- **Diet** – risk is increased by low intake & malabsorption of calcium, potassium, magnesium, Vit K, Vit D. There's a 16% decrease in fracture with calcium and Vit D. Not a great increase.
- **Exercise** – can decrease the risk of falling by increasing muscle mass, strength and balance. In community living women ages 66 to 87, 1 year of weight-bearing exercise training increasing bone mineral density by 8.4%. Chi Gong and Tai Chi are good exercises for muscle strengthening and balance.
- **Targeted nutrients:** calcium, vitamin D, vitamin K, strontium – he really talked the rest of the time about Vit K (MK4) and Strontium Ranelate (SR).

Vit K has 2 natural forms – K1 (phylloquinone) and K2 (menaquinone). Vit K2 has 2 major forms - MK4 and MK7. K2 is more active than K1 at promoting bone formation. K2 (unknown form) also protects against arterial calcification and oxidation of LDL cholesterol. Vit K1 & MK4 helps build bone and helps it from breaking down in test tubes. MK4 increases Vit D3 with bone mineralization by osteoblasts in test tubes. MK7 is made exclusively by bacteria. MK4 is made in the testis, pancreas, and arterial walls. These tissues have mostly MK4. Taking 45 mg of MK4 a day can decrease fractures by 87%. There is no tolerable upper intake limit set (safe at all doses). Once the body has enough Vit K it goes into the bone. *Can't take it with anti-blood-clotting medicines.* MK7 didn't seem to change the fracture rates. MK7 is made from soy so anyone which a soy allergy would have problems with it.

Although green leafy vegetables have the most Vit K, we may not be absorbing it well enough to do us very much good. Supplementation is needed.

Strontium Ranelate (SR) is sold in Europe as a medication under the name Protelos. After a 3 yr study with 1442 postmenopausal women average age 69. Strontium Ranelate was given at a dose of 2 g + 1000 mg calcium and 400-800 IU's of Vit D. The study concluded a 41% lower risk of new vertebral fracture compared to placebo.

## **Owning the gluten free lifestyle; A holistic approach to life with celiac disease- Daniel Leffler, MD, MS Director of Clinical Research at The Celiac Center at Beth Israel Deaconess Medical Center**

*He didn't say much that someone else hadn't already said. So I didn't take many notes.*

We can't just take the gluten out of food because there are 100's of proteins involved.

The transglutaminase family is all over the body and that's why there can be damage anywhere in the body.

CD is a disease of the entire body, starting in the intestine.

Lots of the non-GI symptoms are produced by intestinal inflammation – like fatigue/malaise, poor concentration/brain fog, and pancreatitis.

Non-classical symptoms now accounts for 60% of the newly diagnosed. Some are alopecia, headaches, dental defects, cognitive impairment & constipation.

Up to 60% of patients with IBS will report improvement on a GF diet.

Less than 50 mg of gluten (1/30<sup>th</sup> of a slice of bread) can cause significant sustained mucosal inflammation in CD.

Some challenges to staying gluten free: hidden gluten/cross contamination; psychological well-being, health, label reading, access to gluten-free foods, diet education and health, social and professional life.

Ongoing support and education is crucial to keeping a successful GF diet.

There can be coexisting food intolerances: soy, lactose, fructose intolerance- as much as 30% of patients.

Unique difficulties in the US are: many insurance plans, including medicare don't cover nutrition visits for CD.

In other countries visits to a Registered Dietitian for CD are covered.

The cost of the GF diet is at least partially covered by national health services in other countries, but not so much in the US.

CD is easier to study than other inflammatory disorders because of these two unique factors: Both the instigating antigen and end-organ damage are known and the disease can be turned on and off at will by doing gluten again or stopping gluten.

**New drugs** are being studied to help with CD. None of these treatments replace the GF diet though. They are only for temporary use for travel, cross-contamination etc.

Larazotide (Alba) - used to tighten the spaces in the intestine (leaky gut).

ALV-003 (Alvine) – breaks down gluten. 90% was broken down in the studies. Probably help with symptoms and prevent intestinal damage.

NexPep– vaccine (shots) benefits persists for 3 years.

## **A Gluten Free Planet – Dr. Rodney Ford, MD, MS, BS, FRACP**

The Food Allergy clinic [www.DrRodneyFord.com](http://www.DrRodneyFord.com)

*My comments: He was the last speaker to speak at the conference. He spoke at our banquet on Saturday night. I thought he was a very good speaker and very entertaining. I bought Dr. Ford's book called The Gluten Syndrome. I haven't read very much of it yet. But it looks good. I came away from his talk really thinking about all the other symptoms that people have, not just gut issues. It really impressed upon me the brain issues involved with gluten. I knew that already with what I have read, but I needed to be reminded of it.*

Gave us specific examples of his patients which were children, since he is a pediatrician.  
He would like to see a Gluten-Free Planet by the year 2060. 50 years from now.

First example he gave us was a girl named Molly. She was 18 months old at her first visit. She had these symptoms-poor growth, gastric reflux, fussy eater, cranky, diarrhea, not walking. The testing showed positive for the celiac gene, the antibodies for celiac were ok, gluten was high and endoscopy was not done. At age 4 she is happy, growing, walking, normal bowel movements and eating. Does Molly have to stay gluten-free the rest of her life? Yes if she doesn't want to be sick and have gut damage and all the complications that go along with it.

Another example was a boy with short stature. He began to grow after being put on the gluten-free diet and is now normal height for his age.

He learned an important lesson from a patient named Elizabeth. Her mother brought her in around age six I think he said. She had reflux. Her gluten antibodies (IgG test was high at 55). Symptoms resolved on a gluten-free diet. That's when he decided to start testing on everyone. The other Drs she had seen couldn't find the problem. She is now about age 26 and doing well on the gluten-free diet. Still gets sick if she eats gluten.

Most of his patients have stomach, skin and brain trouble.

In 1982 gluten was pretty much unknown. He was criticized by his colleagues for pursuing gluten issues & thinking outside the box by the medical community.

Gluten interferes with growth receptors whether you have celiac disease or not.

Lots of people have non classic celiac disease or gluten sensitivity. They don't have classic GI symptoms.

Now he does blood test everyone for gluten because of all the cases he's seen. His theory is test and do; don't wait and see.

He does a variety of tests, some come back positive and some don't. But if they have symptoms then they do the gluten-free diet and he sees improvement.

Just because the tests are negative doesn't mean they don't have an issue with gluten.

60% of his patients + parents tested positive for gluten.

The body doesn't digest gluten very well.

If the nervous system doesn't work very well the gut won't work very well.

Gluten affects the brain.

Some brain-gluten problems are: ataxia, mood, neuropathy, myopathy, autonomic, epilepsy, migraine, behavior.

Other symptoms can be: tired, headache, nerves, irritable, anger, learning problems, behavior, ADHD, anti-social, crime, war, prison.

Quote from Dr. Marios Hadjivassiliou / Lancet/Neurology March 2010 – "To improve diagnosis rates, the perception of physicians that gluten sensitivity is solely a disease of the gut must be changed".

Closing statements: We need to be treating the symptoms not gut tissue.

Gluten illness is a brain disease.

Celiac tests do not identify gluten sensitivity.