

Glutenology MasterClass: Module 4 – Gluten Free Whiplash

Gluten-Free Diet

- *Why has the gluten-free diet, as it is traditionally defined, has such poor outcomes?*
 - **Traditional Gluten-Free Diet** - this is what you get from the mainstream media, or what you get in the grocery aisle
 - This includes wheat, barley, rye, processed junk foods that are labeled gluten-free and generally keep people sick
 - **True Gluten-Free** - this is when you understand what gluten is and where gluten is found
 - They are not just found in wheat, barley, and rye
- *In a study conducted and published in 2019, almost half of the people said that they have experienced symptoms despite following a gluten-free diet*
- *In another study conducted by the American Journal of Gastroenterology about “Why are gluten-free diets failing to heal so many patients?”*
 - They showed that more than 30% of the patients with celiac disease that follows a gluten-free diet failed to exhibit recovery of intestinal damage after 5 years on the diet
 - Their guts are still inflamed, they are still mal-absorbing, and they are still struggling with chronic issues
 - Findings showed that *mucosal recovery was absent in a substantial portion of adults with celiac disease after treatment with a gluten-free diet*
- *In another study in 2009, the medical research showed that 8% of the patients in this study recovered from intestinal damage while following a traditional gluten-free diet*
 - This was a 16-month study and 92% of them failed to have the intestinal recovery
- *Why are these individuals who are so diligently trying to follow a gluten-free diet failing to get the outcome of gastrointestinal villus re-emission, and inflammation emission?*
 - They are breaking the **cardinal rule of nutrition in which you cannot achieve health by eating foods that is not healthy**
 - No matter how gluten-free the product is labeled, if it is junk food, and it is not good for you, it will not help you to recover from the damage that gluten has created in your body
 - Highly processed foods are not healthy regardless of whether the label claims to be gluten-free
 - Eating unhealthy food leads to poor health
 - Many over the counter packaged foods are cross-contaminated with gluten
 - Many “gluten-free” products contain other types of grain-based glutes that have not been studied to be safe for those with celiac and gluten-sensitivity
 - Many processed foods contain additives, dyes, preservatives, GMO ingredients, pesticides, hydrogenated fats, heavy metals, and a large quantity of sugar
 - Many of the individuals are on multiple medications that can inhibit their recovery
 - Many of them have microbial imbalances in their gut, even though they are gluten-free, and it is hard for them to recover not until they address the imbalance
 - There is also a thing called hyper-hygiene
- **Many with gluten sensitivity and celiac disease are misinformed**
 - The average person when they get diagnosed with this disease, they get a gift basket filled with highly processed gluten-free food
 - These are products from the food industries that are marketing to get more new customers
 - The fact that gastroenterologist would allow junk food to be given as a gift to the chronically sick with autoimmune disease is a testament to lack of nutritional knowledge

- **If you have gone on a traditional gluten-free diet, it is common to feel better but it is also common to develop new and additional issues**
 - **Gluten-free Whiplash Effect** - this typically occurs 3-6 months after starting a gluten-free diet
 - After starting a gluten-free diet, there is an initial state of dietary distress and confusion
 - The typical gluten-free diet learning curve is about 8-12 week learning curve in which you study the ins and outs of the gluten-free diet
 - Once this learning curve is conquered, people tend to gravitate towards the processed package gluten-free food
 - At first, they embark on a serious gluten-free diet, but after 3-6 months in the diet, they tend to loosen up because they temporarily feel better
 - This includes the laziness and the lack of diligence and choices around the gluten-free diet
 - **Gluten-free whiplash is when we let gluten exposure whiplash right back into potential symptoms**
 - This is when patients start to develop new symptoms after being free for several months which coincides with the liberal use of gluten-free products
- **One cannot achieve good health by consuming food that is not healthy or by consuming unhealthy foods**
 - Health - this is the state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity
 - Just because you do not have a disease, it does not mean you are a healthy person
 - It is the complete physical, mental, and social well-being that also include nutritional well-being
 - Nutritional well being - feeds the physical frame, the mind, and how you interact socially with peers
- **Why do we eat?**
 - People eat for nourishment and we have created an industry around why we eat and it has nothing to do with why we are supposed to eat
 - The premise of eating is to provide nourishment and fuel so that the body can heal and maintain itself in a healthy state
- **Food Choice Matters**
 - One of the most profound causes of disease and poor health is poor diet choice
 - Humans have the freedom and intelligence to choose wisely
 - However, we also allow social pressure to cloud our thinking and there is a social norm that is used to justify the bad choices
 - Food choice matters and who you hang out with matters
- **Why are you going gluten-free?**
 - The answer should be the same that you wanted to be healthy
 - This could be because you have an issue with gluten and it has deteriorated your health
 - It has come to a point where the pain of your illness is greater than the pain of you changing your diet
 - For those with gluten sensitivity, going gluten-free is a necessity to achieve and maintain health
 - *Why do so many choose unhealthy foods?*
 - Gluten-free food is a multi-billion dollar industry but you need to ask yourself if that gluten-free processed food is good for you or not

- If the premise of eating was for you to help regain your health, trading regular junk food with gluten-free junk food is not going to get you anywhere
 - It is important to ground yourself in truth before you get started
- **History**
 - *Why is it that when people learn that food is unhealthy, they immediately seek out an unhealthy, processed alternative to replace it with?*
 - **Example: Hydrogenated Oils**
 - Butter was causing heart disease, which was a myth but was believed at that time, and entrepreneurs created hydrogenated oils
 - The hydrogenated oils which are made up of corn and soy, and they termed it as margarine which they said was better because it was vegetable
 - People bought this idea, but through time has developed more heart disease and are now going back to butter
 - Butter is not necessarily unhealthy if made from the right cow, the right food and environment, and the right circumstance
 - **Example: sugars**
 - Sugar is not necessarily bad, and people have come up with artificial sweeteners
 - People came up with Splenda, aspartame, and sucralose which eventually was unhealthy
 - Every time people learned that something is unhealthy, we look for a quick alternative that is also unhealthy in a different way
 - **Example: meat**
 - People in the 60s and 70s were told to be vegetarians but they created genetically modified soy burgers and tofu dogs
 - They have also created a big premise in eating tons of grains which is why there is an increase in gluten sensitivity
 - Trading 1 food out with another food that we perceive as healthy and will turn out to be not healthy
 - **Examples:**
 - **Soda** - instead of drinking soda, there is a diet soda
 - **Fats** - instead of eating fats, there are fat-free substitutes
 - Fat-free substitutes cause leakage and other fat absorption problems and vitamin E deficiency
 - **Carbs** - carbs are now perceived as bad and people are gravitating towards ketone products
 - If it is a processed package of food and it is full of chemicals, you will not be able to regain your health regarding its gluten status
- To regain your health, you need to start from ground zero
 - **Ground Zero** - this looks like eating raw foods, or foods that are natural and not compressed with chemicals in the shape of food or chemicals with some food that is not real food
 - These are non-GMO or non genetically modified organisms, and these are organic if possible
 - These are hormone and steroids free, chemically free, and are minimally processed or not processed at all
 - These are food that is appropriately raised and cared for like the cows are not in mass production farms
 - These are foods that are low in calories and high in nutritional density

- If you have understood the premise of the ability to change the future and the outcome of the disease that you are struggling with if you do it right and you must take the 1st step
- **Take a Deep Breath**
 - You must re-evaluate your relationship with food in which you learn to “eat to live” and not to live to eat”
 - Not everyone can roll their sleeves and go cold turkey, and some people have to face it in
 - Some people have to grieve the loss of something you love and many people love food
 - What you want is to get to it immediately because the longer you wait the more you suffer
 - The average gluten-sensitive person is very confused because until now, there has been no good consensus of information available to help educate them on gluten sensitivity
- **Stages of Grief**
 - **Denial** - this is when you think that it should not be happening to you
 - This can go for a week and there is nothing wrong with grieving the loss of gluten as long as you come around the truth of acceptance
 - **Anger** - this is where you are mad at the world that you have to give up gluten
 - **Bargaining** - this is when you say that you are going to eat less or will just have one cookie are an example of bargaining
 - **Depression** - this is your pity party and say that life is unfair
 - **Acceptance** - this is where you roll your sleeves and get to work
 - These stages of grief are like a shifted curve that occurs over weeks and month
- **Gluten can be broken down into opioid compounds**
 - Opiates are addictive and powerful, and proteins are a natural source of opiates that can create natural addiction to food
 - *What to expect when you are going gluten-free?*
 - You may experience symptoms of withdrawal and gluten has addictive quantities
 - Some of the symptoms can be:
 - Low-grade fever
 - Malaise
 - Fatigue
 - Irritability
 - Severe Cravings, particularly to gluten foods
 - Nausea
 - Skin rashes
 - Chills
 - The severity of gluten withdrawal is not the same as what is seen with meds
- Some nutrients have been studied regarding addiction, and doctors who deal with chronic addiction has found a way to help overcome addiction
 - **Vitamin C**
 - Take 3-5 grams of vitamin C in adults is a reasonable amount to help support you
 - **Vitamin B complex**
 - Vitamin B complex especially with niacin or vitamin B3 is helpful to overcome the addiction withdrawal phase
 - Gluten can be degraded into morphine-like substance and these are called gluten exorphins that could mask their toxicity by exorphins that are produced through gluten protein digestion
- **Do not expect to be Gluten-Free by tomorrow**


- **Set realistic expectations for yourself**
 - Setting unrealistic expectations and unrealistic goals and don't meet them you are going to beat yourself up emotionally
- **Understand that this is a learning curve that takes 8-12 weeks**
 - You are going to make mistakes and the key is not beating yourself up over these mistakes
- **Commit to educating yourself about food and its integral relationship to health**
 - Understand that food is an integral part and an integral component of your relationship with health
- **The focus should be not eating gluten on purpose as you move forward**
 - The mistake may come in a form of not knowing you should learn from the mistake and move on
- **Expect People to Feel Sorry For You**
 - Many people do not understand why you want to change your diet but what is important is that you do not feel sorry for yourself
 - Do not allow social reactions to seep into your mentality and these are just going to hold you back
 - Not everyone will understand your commitment to your health, and it is not their job to understand it
 - It is also not your job to justify your choices to other people
 - Ignore them and move on and become a role model of health
 - When you become a role model, this is when people will start coming to you
 - Some people know they are not eating healthy and sometimes they justify their bad choices by having a buddy that have bad choices with them
- **How Long Before I Feel Better?**
 - This depends on whether your illness is being caused or contributed to by gluten
 - Do not set your outcomes based on somebody else's outcomes and set your outcomes based on your consistent behavior and action
 - Remember that exposure to gluten can cause inflammation that last 1-2 months
 - On average for most people with autoimmunity take 18 months to go to quiescence
 - It does not take 18 months to 3 years to feel better, and most people feel better after a week or after a month
 - This will still depend on the variables of life
- **When Looking to Buy Food**
 - Highly processed foods are not healthy regardless of whether the label claims to be gluten-free
 - Be wary of grain-based fillers
 - Some people do not read the label carefully to be able to identify the grain fillers
 - Be wary of things you cannot pronounce
 - When you cannot pronounce something it could mean that you do not know what they are
 - This can be a hidden source of gluten that can affect you
 - Be wary of ingredients that are not real food
 - Be aware that many processed foods can be cross-contaminated with gluten
 - Some studies show that up to 40% of processed foods have gluten-contamination that can cause damage to people with high gluten sensitivity

Gluten and Food Additives


- There are obvious and non-obvious additives
 - Examples:
 - Wheat and Flour - these are obvious additives

- *Triticum aestivum* - this is not an obvious additive but this is a gluten-containing grain
- Do not forget the non-edibles or the ones that are placed in the mouth but are not eaten
 - Chewing gum
 - Toothpaste
 - Mouthwash
 - Lipstick
 - Lotions

Ingredients: Water, tomato paste, **rice pasta** (white rice flour and water), pinto beans, **non-GMO corn** maltodextrin, onion puree, evaporated cane juice, olive oil, chili powder, sea salt, spices, **sweet rice flour**, garlic powder.




Ingredients: Beef Flavor (hydrolyzed soy protein, **maltodextrin**, beef broth, beef extract, yeast extract), **maltodextrin** (from corn), salt, **dextrose** (from corn), dried onion, caramelized sugar, spices




NUTRITION FACTS
Serving Size 8 crackers (50g)
Servings per container 6
Amount per serving
Calories 240 Calories from fat 100
%DV
Total Fat 11g - 17%
Saturated Fat 5g - 25%
Trans Fat 0g
Cholesterol 0mg - 0%
Sodium 330mg - 14%
Total Carb 29g - 10%
Dietary Fiber 2g - 8%
Sugars 1.5g
Protein 5g
Vitamin A 0%
Vitamin C 0%
Calcium 0%
Iron 0%

- **Labels**
 - The ingredients highlighted in blue are those potentially grain/gluten-based
 - **Maltodextrin** - This is a form of derivative sugar
- Some ingredients are not obvious and they do not adhere to the standards of your gluten-free diet
 - More than 90% of soy in the US is loaded with GMO crops
- The FDA definitions are based on older science and need to be updated

Ingredients: Corn starch, potato starch, soy flour, palm oil, **rice flour**, sugar, salt, yeast.
May contain egg, milk and tree nuts.



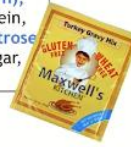
Ingredients: Peas (golden brown), Vegetable Oil (canola oil), Icing Sugar (**contains corn starch**), Hydrogenated Vegetable oil, To Prevent Oil Separation (blend of rapeseed canola and cottonseed oils), Monoglycerides from Vegetable Oil.



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Calcium 0%
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- - There are cornstarch and rice flour that have gluten but sometimes these are market to be gluten-free
 - This creates potential issues and problems to evolve

Ingredients: Modified corn starch and rice flour, maltodextrin (from corn), turkey flavor hydrolyzed corn protein, yeast extract, cooked turkey, dextrose (From corn), salt, caramelized sugar, onion powder, spices.



Ingredients: Water, corn starch, rice flour, palm oil, sugar, guar gum, hydroxypropyl methylcellulose, lupine protein, yeast, salt, psyllium seed husk powder (vegetable fiber), diacetyltartaric acid esters of mono- and diglycerides of edible fats.
*May contain EGG & SOY



- Looking at these without the concern of gluten, what you can see are unhealthy ingredients
- A study showed that “mTG treatment increased reactivity to wheat and maize prolamins in patients with celiac disease”
 - When processed foods are treated with chemicals substances mTG makes the protein and the wheat and the corn more dangerous and reactive to the patients
 - mTG (microbial transglutaminase) or also known as meat glue are bacterial slime that is used as a thickening agent and texturizing agent in processed food
 - This is added to corn-based products and wheat-based products because it changes the palatability of the food
 - A lot of industries are using mTG and they treat the corn gluten with mTG
- A journal published in nutrition reviews talks about meat glue

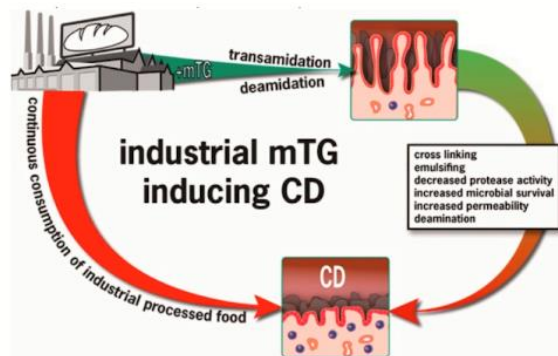


Image from: *Nutrition Reviews*. 73(8), 544-552

- - Continuous consumption of industrially processed food has lead to the increase in the prevalence of the celiac disease
 - 1 of the reason is the addition of meat glue that changes the nature of the proteins in the product
 - The protein looks more like an enemy to the immune system creating the same damage in celiac disease



What is Meat Glue AKA mTG? (Microbial Transglutaminase)



Microbial transglutaminase (mTG), is produced from a bacterial strain, *Sterptomyces* sp. Over the decades, it was isolated from the livers of guinea pigs for commercial use. Today, it can be sourced from the blood plasma of cows or pigs, at a cheaper cost. It is cultivated and dried into a powder.
mTG is sprinkled on any type of meat or fish where it forms the protein cross links, binding small scraps of meat together to form seamless large chunks of meat. The meat is then rolled, wrapped and refrigerated. A few hours later, you have a "braised new steak". It is also used in manufacturing cheese, dairy products, gelatin, edible films, and in baked goods.

MEATS	<ul style="list-style-type: none"> Steaks Chicken nuggets Chicken pieces Hot dogs, sausages Filets Roasts 	<ul style="list-style-type: none"> Cutlets Sliced ham and beef Deli products Pizza toppings Boneless wings Boneless barbecue ribs 	<ul style="list-style-type: none"> Roast beef Pastrami Turkey meat Gyro meat
DAIRY	<ul style="list-style-type: none"> Yogurt Ice cream Fermented dairy products Cheeses 	<ul style="list-style-type: none"> Cheeset Frozen dessert Dressings 	
PROCESSED FOODS	<ul style="list-style-type: none"> Baked goods Pasta Cereals 	<ul style="list-style-type: none"> Tofu Gluten free processed foods 	
SEAFOOD	<ul style="list-style-type: none"> Imitation crab Fish balls Fish sticks 	<ul style="list-style-type: none"> Shrimp noodles Sashimi (Brankensushi) Crab cakes 	
RESTAURANTS	<ul style="list-style-type: none"> Meat combinations (tomb and scallops) Bacon wrapped Rie Meat noodles 	<ul style="list-style-type: none"> Turkey breasts Turducken 	

Aside from meat and dairy products, mTG is often used to make "gluten free" baked goods, cereals, pasta, and breads. If you find yourself feeling like you have been "glutened" after eating these products, remember that meat glue may be the reason why.

- These are common products that contain meat glue, and this is one of the times that you are buying processed food where you call the company and get more details
 - Meat is mostly treated with meat glue but it is not specific to meat it can be in dairy products as a thickening and enhancing agents
 - Even non-dairy food can contain mTG
 - Restaurants can serve food that has meat glue and it is recommended to eat more at home and control your food
- A study about meat glue has shows that the substantial luminal activity of the mTGs leading to cross-linking of naive proteins can potentially generate neo-epitopes that are not only immunogenic but may also contribute to the activation of some undesirable inflammatory pathways involved in an autoimmune process
 - Meat glue can alter proteins like new enemy proteins that your body reacts to leading to another autoimmune disease

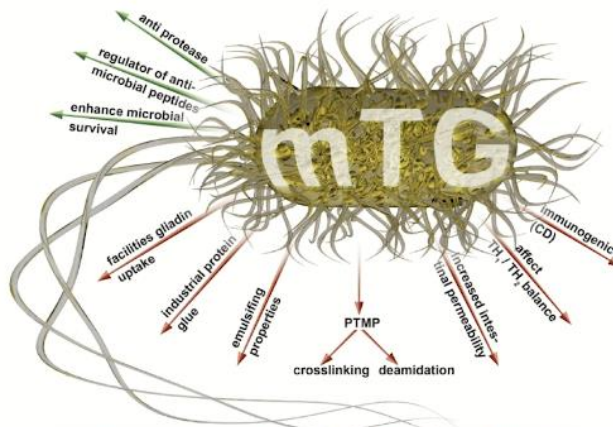
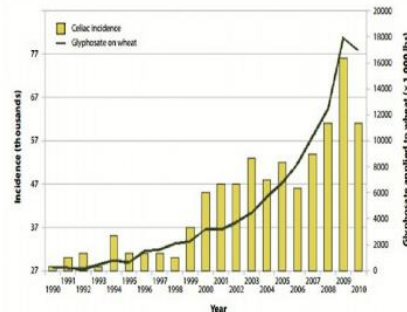


FIGURE 1. Luminal (green arrows) and systemic (red arrows) effects of the mTGs that may drive autoimmunity (adapted from Griffin et al., 2009; Kiehlbeck and Mielert, 2014; Martin et al., 2014; Lerner and Shulman, 2014; Lerner et al., 2016). mTG, microbial transglutaminase; PTMP, post-translational modification of proteins.

- Meat glue is not healthy and should be avoided as much as you want to avoid gluten
- A journal has published that changes in intestinal junction permeability are associated with industrial food additives explain the rising incidence of autoimmune disease
 - The author believes that some additives are glucose, salt, emulsifiers, organic solvents, gluten, microbial transglutaminase, and nanoparticles are used by the food industry
 - The food industry is putting chemicals into our food making us want to eat them more and this chemical can make addictive qualities

- **Processed chemicals can contribute to leaky gut**
- **Glyphosate** - this are used in crops
 - The ground is sprayed with this chemical and the seed are dosed in pesticides so the grain-based food is so poisoned by the time they get out of the ground

Increased risk of celiac correlates with
Glyphosate use...



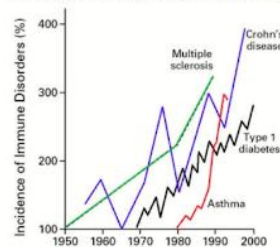
- - **Glyphosate is a piece of a multi-faceted puzzle and it is not responsible for this**
 - **What can be said is that when the use of glyphosate has increased so is the incidence of diagnosis of celiac disease**
- There was a lawsuit against the producer of glyphosate because the court found out that it was responsible for the man's cancer
 - They were lying about the documents, and they have documents that showed that there is a higher risk of cancer

Hyper-hygiene

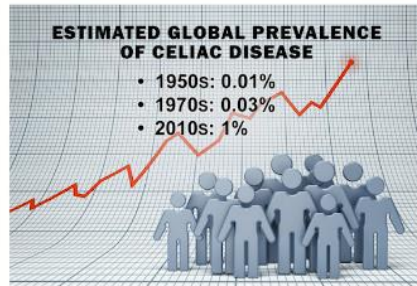
- **Are we too clean?**
 - There are antibiotics in the meat, there is antibiotic residue in the water that is chlorine and fluorine
 - There are food that undergoes radiation and there are sanitizers and germaphobia
 - Some researchers believed that all the effort outward germ-free is one of the reasons for increased gluten sensitivity and higher incidence of autoimmunity
- Too much hygiene may be contributing to the rise in autoimmune disease
 - *Do we wash our hands frequently, do we live in a sterile environment, are our bodies not exposed to germs?*
 - The body's immune system needs to train and to learn what to fight against and what is okay
 - *In a study titled: lower economic status and inferior hygienic environment may protect against celiac disease*
 - It concluded that the prevalence of transglutaminase antibodies and celiac disease is lower in Russian Karelia than in Finland

Autoimmunity Increasing Exponentially

Figure 1: Rising Incidence of Autoimmune Disorders



From: Bach JF. The effect of infections on susceptibility to autoimmune and allergic diseases. N Engl J Med. Sep 2002;347(12):911-920.

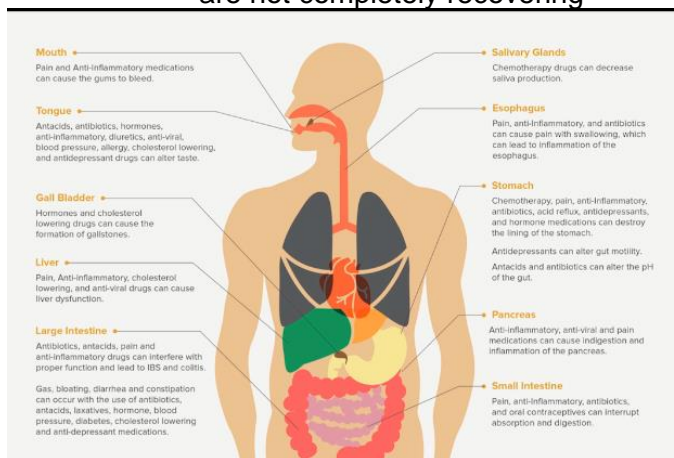


- It can be seen from the graph that multiple sclerosis, Crohn's disease, Type 1 Diabetes, and asthma are increasing since the 1950s, and this was published in 2002
 - *Why are we seeing an increased rate?*
- 50% of the caloric intake comes from wheat for standard people in an industrialized country

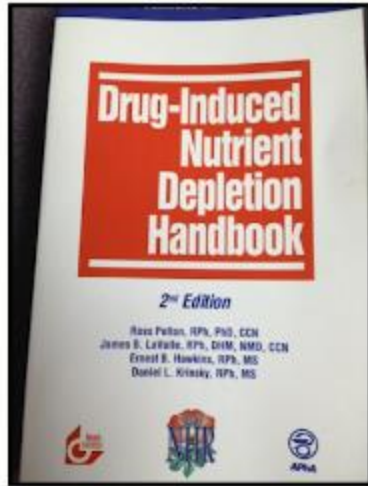


- *Why does gluten create autoimmune disease?*
 - This is because it can cause a leaky gut
 - Other things on the list can also lead to leaky guts
- **What Does Leaky Gut Damage Do?**
 - It overstimulates the body's immune system that can lead to autoimmune disease
 - It allows bacterial and viral toxins across gut quarantine zones and bloodstream directly
 - It can create hypersensitivity to food and can set a stage for molecular mimicry
 - This can turn your tissue to attack your tissue
 - This is linked to an abnormal microbiome
 - Inflammation of GI tract and vitamin E deficiency
 - Leaky gut, trigger leaky brain
 - This can change the way we think or feel or can affect our decisions
 - This can perpetuate gluten-like symptoms
- Giving a drug to chemically manipulate the way you feel does not solve the problem of you feeling that way
 - A lot of medicine contains gluten and people do not realize it
 - There are an active ingredient and an inactive ingredient in the drug
 - Many of the fillers in the inactive ingredients are gluten-based or starch-based
 - Talk to your prescribing doctor, and you need to analyze them together

- You can request your doctor to give you a compound list of the medicine and you can choose what does not have gluten-based fillers
- Generic Prescription versus Named Drug
 - Many generic prescriptions are made in China and are produced in India and looking at how they process it you would not want to buy it
 - Generic overseas production of the medicines caused an issue of quality in terms of medicine
- The solution that is not a solution - pseudo compassion
 - **Medication when improperly prescribed is the 3rd leading cause of death in an industrialized country**
 - Most of the medicines are symptom manipulator, and the side effect of the long term used is profound to the degree of 3rd leading cause of death
 - If your goal is to get healthy, then you need to ask the fundamental question, is the medicines goal is to make me healthy
 - Medicine is there to mitigate your symptoms, but it is you that makes you healthy
 - Nobody develops disease due to medication deficiency, and this never happens
 - Many medicines affect the gut, so check them, just like steroids that can cause leaky guts
 - Several medications can cause leaky gut, so the medicine can be a reason you are not completely recovering



- You want to be aware to make good decisions for your health
- In a study published in Mayo Clinic proceedings in 2012
 - Olmesartan - this may be associated with a severe form of sprue-like enteropathy
 - These drugs can damage the gut and mimic celiac disease
 - A sprue is a form of gastrointestinal flattening of the villi
 - Tropical Sprue - parasite cause villi atrophy
 - Gluten Sprue - this causes the Iliac Sprue atrophy
 - Sprue - these are other than parasite or gluten is creating
- Some medicines cause drug-induced deficiencies that affect the body's biochemistry and it leads to a deficiency of nutrients
 - This is common in the antacids group that can cause calcium and magnesium deficiency



- - This is a good handbook where you can talk to your doctor about the medicines you are taking