

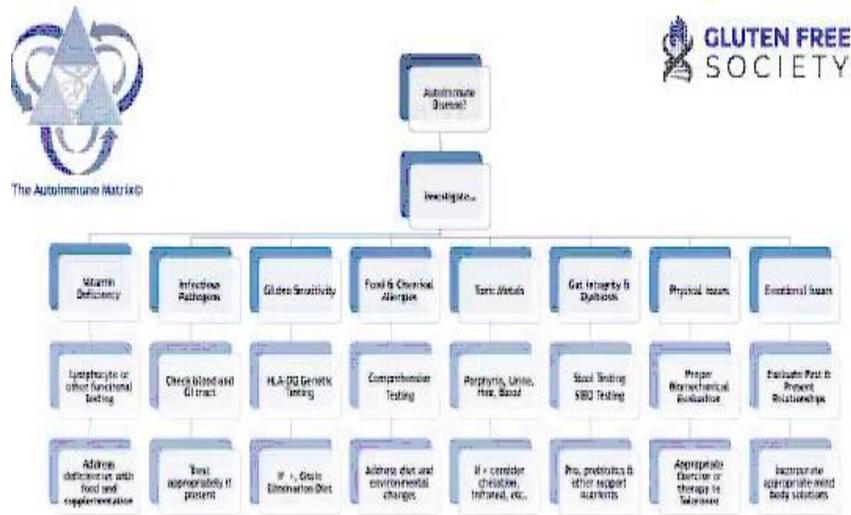
Glutenology MasterClass: Module 10 – Going Beyond Gluten

- The module covers
 - The connection between not just gluten, but the connection between grains as a trigger of autoimmune and chronic degenerative disease
 - The role that grain plays in the generation of chronic problems and autoimmune disease, not just gluten
 - How the traditional medical approach to treating a lot of these problems is actually what keeps people sick
 - The questions that you should ask your provider to have a meaningful, productive conversation
 - Actionable items that you can start on today to reduce your risks of maintaining the chronic illness

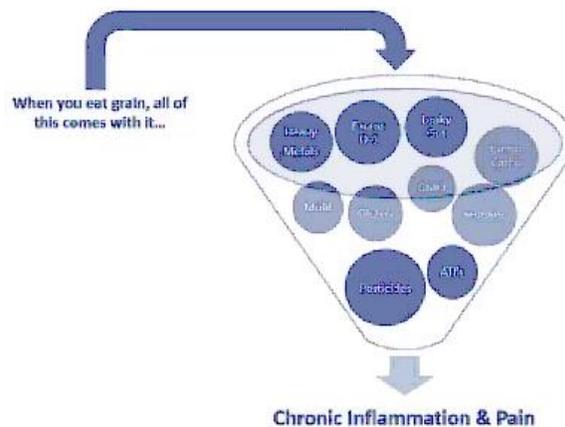
Autoimmune Disease (AI)

- You have to understand there is this kind of pathway to development and that pathway is inflammation
- Diagram from TIME magazine - The Secret Killer
 - This surprising link between inflammation, heart attacks, cancer, Alzheimer's, and other diseases
 - The article was highlighting that inflammation is kind of the mother of chronic degenerative diseases
 - These diseases develop and you got to have chronic levels of inflammation at high levels over time
 - The medical model is not about prevention, it's about treating symptoms
 -
- *What causes the inflammation?*
 - Inflammation is the predominant trigger
 - Because inflammation is a normal biological process
 - Your body uses inflammation to break down old tissues so that you can repair them with new tissue
 - It uses controlled fire to break down old and damaged tissues so that we can come in there with new materials and build new tissue so that our body continues to stay healthy as time goes on
 - One of the biggest environmental triggers of inflammation is grain
 - There are so many different elements to grain that it can generate inflammation. And so all these elements, when combined over time, leads to an inflammation that can contribute to the development of autoimmune conditions
- According to the American Autoimmune Related Disease and Disorders Association, 46 million people suffer from some form of painful autoimmune condition
- The National Institute of Health Research, funding for autoimmune disease in 2003 and funded \$519 million to research autoimmune disease
- In comparison, cancer funding was \$6.1 billion and heart and stroke, heart disease and stroke funding was \$2.4 billion
- Most of the research funding isn't developing preventative elements about these diseases instead the research is funded to develop new drugs

Autoimmune Matrix



- Investigate vitamin deficiency, microbial imbalance, kinds of bacteria, viral or other types of pathogens
 - Rule out gluten sensitivity
 - Look at other food triggers because gluten is just one element of food
 - Food and chemical triggers should also be being evaluated as triggers for chronic and hyper inflammation
 - Toxic metals which many people are exposed to through food and the environment
 - Gut integrity and biases can also be evaluated
- These are factors that can contribute to chronic inflammation and autoimmune conditions
- *Why is removing grain the single most effective way to reduce your risk of developing chronic degenerative autoimmune disease?*

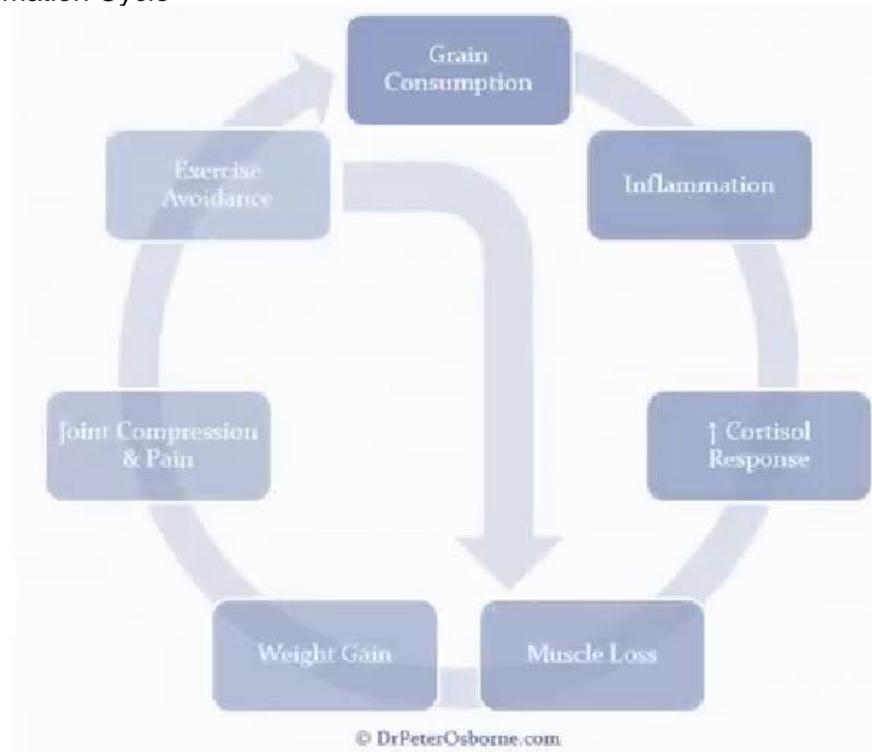


- When you eat grain, it comes with all of the funnels there are other elements within grains, for example, the research on fortification of grain with synthetic folic acid has increased the risk of several different diseases
 - Many grains are produced where they add a chemical compound called bromine, a dough conditioning agent and that also can contribute to thyroid dysfunction and iodine deficiency

Grain

- The seeds are sprayed with fungicides and insecticides
- The fungicides and insecticides act as what are called xenoestrogens which affect hormone balance and contribute to many diseases
 - Example: Plunger's Cat
- The seeds are doused with hormones to aid in their growth
- The grains are stored in bins where they spray additional pesticides on them to prevent things like mold and animals and other things from getting in there and eating it
- The grains are dried out and the drying process is called extrusion which causes damages to its proteins creating a substance known as acrylamide and carcinogen
- Processing the grain, they add
 - Dough conditioners (bromine)
 - Preservatives
 - Soy flour
 - Synthetic vitamins
 - Extrusion creates acrylamide
 - Hydrogenated oils
- The History of Grain in the U.S. Diet
 - 1850 - Processed flour becomes widely available
 - 1855 - the first description of gluten intolerance was delivered in the medical literature by Dr. Gull Guy
 - 1892 - William Henry Ford and Henry Dressel Purkey invented the machine that shreds whole wheat and starts producing a product called Shredded Wheat, the first packaged breakfast cereal
 - 1894 - Dr. John Kellog and his brother invented corn flakes. Corn flakes were being used to irritate the bowel and people who were chronically constipated
 - 1897 - C.W. Post began the manufacturing of grape nuts
 - 1922 - Dr. Robert McCrossin warns medical colleagues about the increase in intestinal disorders
 - 1932 - Dr. B. B. Chron identified a new intestinal disorder linked to grain consumption he calls regional ileitis and now called Chron's disease
 - 1931 - Dr. Wille, Dicke, a Dutch pediatrician, started experimenting with wheat-free diets for children with celiac disease
 - 1940 - Farmers started to use chemical fertilizers to increase yields, reducing the nutrient quantity and content and grains and other crops. Meanwhile, government subsidies for growing corn and soy led to a processed food industry based on these ingredients, as well as high fructose corn syrup, hydrogenated oils, and corn starches
 - 1943 - Due to the diseases, beriberi, and pellagra which is a vitamin B deficiency, the United States government steps in and they ban the sale of processed grain and less. These grains are fortified with B vitamins and select minerals
 - 1953 - Dr. Dicke published an article based on his doctoral thesis linking wheat proteins to damage in the mucosal lining of the intestine also called Celiac disease

Grainflammation Cycle



- Grain consumption leads to inflammation
- Inflammation causes changes in hormones
- One of those changes is an increase in cortisol production
 - o Cortisol elevation tells your liver to dump more sugar into your bloodstream, so blood sugar levels can go up
- Chronic elevations in cortisol contribute to diabetes, water retention, and weight gain
 - o Cortisol is a catabolic steroid and can cause muscle loss
- A combination of these things can cause joint compression and joint pain

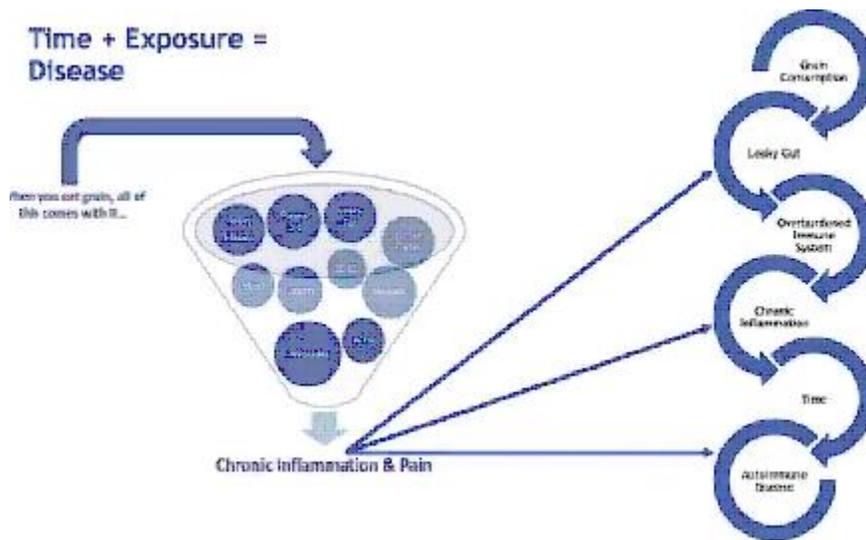
Other Elements of Grain

- o Heavy Metals
 - Many grains can be contaminated with heavy metals
 - Heavy metals can wreak havoc on intestinal health and systemic health
 - Corn
 1. Processed corn products can contain **mercury**
 2. Mercury is a carcinogen and it increases the risk for the development of cancer
 3. Mercury can contribute to leaky brain and leaky gut
 4. Mercury can cause systemic inflammation
 5. It can displace calcium and magnesium and zinc and other minerals with a similar valence of minerals
 - Rice
 1. It was found to contain arsenic, cadmium, and lead in high quantities
 2. A study was published in 2017, showing high levels of arsenic, cadmium, and lead in rice samples imported from India and Pakistan
 3. It is good at detoxifying the metals out of the soil

4. A number of these different chemicals that are sprayed on the grains have these heavy metals
 5. A study in 2001, reports levels that are high of cadmium, lead, and mercury in imported rice grain samples
 6. The concentration of some heavy metals and rice types
 7. Low-level toxic metal exposure and healthy weaning-age infants are associated with growth and iron deficiency
 8. A lot of these heavy metals interfere with how iron is supposed to work in your body, and that can create iron deficiency leading to failure to thrive and poor growth rates in children
- *Are you poisoning your baby?*
 - Marketers turned people on to products that are loaded with corn, rice, and genetically modified, but also full of sugars, hydrogenated oils, and heavy metals
 - A study demonstrated that products for celiac children had a high concentration of arsenic
 - Excessive quantities of omega 6 fatty acids
 - High levels of omega 6 fatty acids promote inflammation
 - High omega 6 also increases the development of obesity
 - Grains are extremely high in omega 6
 - 50% of total calories in the United States comes from wheat alone as a grain
 - Excessive carbohydrate
 - High levels of carbohydrates found in grain, especially refined or processed grains contribute to metabolic syndrome, and hypertriglyceridemia
 - It creates a metabolic syndrome issue, which is weight gain, high blood pressure, central adiposity
 - All those things that come with it increase the risk for the development of diabetes
 - This is one of the reasons why the **ketogenic diet** has become so popular
 1. It is the antidote to high carbohydrate
 - Leaky Gut
 - Leaky gut is a pre autoimmune state
 - It is also known as intestinal hyperpermeability
 - Doctor Alessio Fasano is one of the first to do it as it relates to gluten
 - 70 to 80% of the immune system is in your gut
 - There are several different things that we know can trigger leaky gut and many of those things are in grain
- Pesticides - Another common ingredient found in today's grains
 - Atrazine, which is a weed herbicide, is one of the predominant estrogen-based chemicals
 - In men, estrogen can cause the masculinization disruption of their testosterone, gynecomastia fertility issues
 - In women, too much estrogen can contribute to cancer
 - These types of estrogens can potentiate leaky gut
 - Glyphosate
 - It can lead to lymphoma, which is an intestinal cancer glyphosate
 - It is also suspected to disrupt the microbiome and something in your body called the shikimic pathway, which is very important in the amino acid metabolism pathway that helps your body produce thyroid hormone and serotonin, regulate mood, regulate

gastrointestinal motility, and regulate a lot of important functional processes within your body

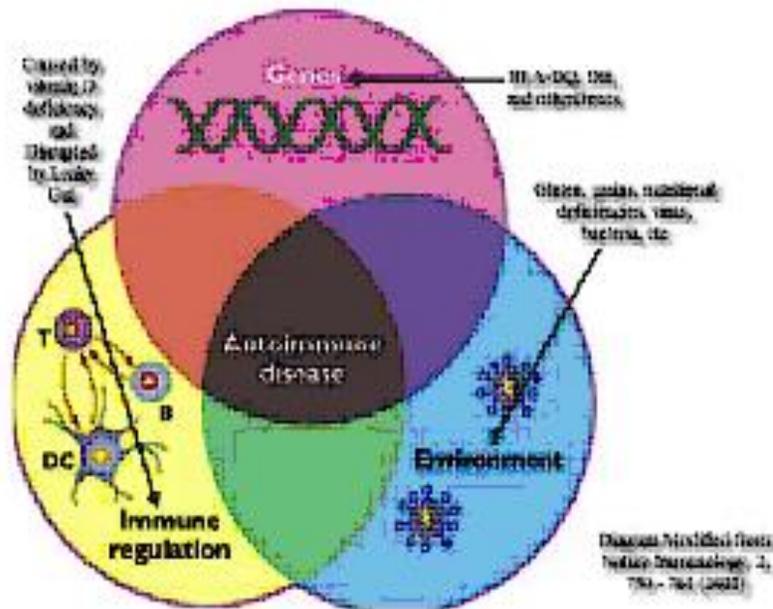
- Glyphosate can act as a chelating agent
- Many of your grains are genetically modified (Genetically Modified Organisms)
 - Altered the seeds to survive better and it includes surviving your ability to digest them
 - Manipulated genes have the potential to cross with your microbial genome
 - Manipulation has led to new types of proteins being found in these grains that are more difficult to breakdown, which can lead to potentiation of inflammation
 - Transference of the genetic benefit of the gene can lead to your microbiome and starting to poison you.



- - Grain as a food in the human diet got more than 50% of total calories coming from grain in most people's diets
 - Within that grain, there is exposure to heavy metals, excessive omega, excessive carbohydrate, mold in mycotoxins, gluten, genetically modified elements, pesticides, and proteins that are all known to contribute to inflammation and can contribute to leaky gut

Gluten

- Gluten was the first medically proven cause of autoimmunity
- Gluten contributes to pretty much every major form of autoimmune disease there is
- Testing antibodies to gluten are misleading
- Gluten sensitivity is not a disease
- It is a genetic predisposition that can lead to disease
- Identification can be performed with genetic testing
- All patients with autoimmune disease should be screened for gluten sensitivity



- Diseases Caused by Gluten Sensitivity
 - Diseases include the autoimmune family of disorders, aside from anemia and osteoporosis and nerve damage and nerve disease and infertility
 - Autoimmune conditions are highly linked to gluten
- It's Not Just Gluten
 - There are certain plant-based proteins aside from gluten that can cause inflammation in the intestine
 - From a Study: Wheat amylase trypsin inhibitors drive intestinal inflammation via activation of toll-like receptor-4
 - A protein and grain potentially or particularly in wheat called amylase trypsin inhibitor
 - This protein will dock to this little antenna in the surface of your gut and it will trigger inflammation
 - ATI's and other proteins that create GI inflammation
 - Non-gluten proteins are novel target antigens in celiac disease is a humoral response
 - There are different ways that the immune system reacts to grain that doesn't have anything to do with gluten
 - Families of protein such as serpins, purines, α-amylase/protease inhibitors, globulins, farinin can create inflammation by a different mechanism
 - Molds and mycotoxins
 - Molds and mycotoxins as contaminants can make people very sick
 - Different types of mycotoxins are found at higher levels and there's a suspicion that they cause cancer
 - Cancer is the bombardment of toxins on your immune system over time until your immune system can't continue to keep up
 - Many of these mold toxins are found in grain-based foods and some are found in coffee
 - The regulation of mycotoxins in food is quite limited
 - Some regulation is in the dairy industry and foods like peanuts and pistachios
 - The higher level of mycotoxins exposure in the grains, the higher the level of potential inflammation that you can create in one of the mimics of gluten sensitivity is mycotoxins exposure.

Barriers of the GI Tract

- 5 barriers
 - Galt immune
 - Tight junctions
 - Mucosal IgA
 - Friendly bacteria
 - Stomach acid
- Grains can disrupt all five of these barriers and not just gluten
- Gluten can cause leaky gut that there are other proteins and other components within the grain that can damage all of these barriers

Medicines

- It can contribute to the autoimmune process
 - If you're following a gluten-free diet in an effort and attempt to alleviate or overcome an autoimmune disease, and you're also taking medications for that same autoimmune disease, you should know that some medications contribute to autoimmune disease
- Aromatase inhibitors
 - A medicine for breast cancer
 - Doctors oftentimes will put women on aromatase inhibitors for 5 years as a preventative for cancer to come back
 - But 5 years of use of that medication is linked to the development of autoimmune disease
- Medicines are the third leading cause of death in the United States
- Many medications cause vitamin and mineral deficiencies
- Gluten damage the gut creates, an inflammatory digestion problem, that leads to malnutrition
- Many of your medications cause nutritional blockage
 - They can either block the absorption of vitamins and minerals
 - They can inhibit the mechanics of how vitamins and minerals work inside your body
 - They can cause depletion of vitamins and minerals
- Diuretics
 - The classics are diuretics given for people to take that are given to people to lower their blood pressure
 - Many of these diuretics cause magnesium, calcium, and zinc deficiency
 - High blood pressure can be caused by calcium and magnesium and zinc deficiency
 - The diuretic treating the symptom but inducing a deficiency that causes the disease
- Many medications can interfere with the function of the gastrointestinal tract
 - Medications can alter the way that you taste and smell, thus altering your food choices
- Some of the drugs inhibit your ability to digest the food or to break the food down
 - Some drugs can interfere with your pancreas, liver, and gallbladder's ability to be able to help you digest or break down the nutrients from the food that you're eating
- The average person annually feels more than 16 prescription medications

Biochemistry

- Biochemistry is how your nutrients work to maintain your health
- *"Each of the 100 trillion cells in the human being is a living structure that can survive indefinitely and in most circumstances can even reproduce itself, provided its surrounding fluids contain appropriate nutrients."*
 - The text highlights the importance of appropriate nutrition and appropriate nutrients for cellular growth and repair and turnover the actual curriculum is largely ignored