

FOOD SENSITIVITIES, ALLERGIES & GMOS



Food sensitivity

- Both food sensitivity and food allergies both involve the immune system
- Food Sensitivity – Reaction localized to the GI Tract
- Inflammatory chemicals are produced by the immune system and cause symptoms
- If the food is removed for a period of time – then reactions can stop even if food is consumed
- Food sensitivities are caused by dysbiosis



Foods and Sensitivity

- The food is not the issue
- No food is more susceptible to being an allergy or sensitivity than any other food
- There are three factors:
 1. Frequency of consumption – more opportunity for reaction
 2. Prone to developing mold spores and aflatoxins
 3. Lack of good bacteria



Food Sensitivity

- There is no such thing as an inflammatory food – the inflammation belongs to the person, not the food
- Dysbiosis promotes inflammatory reactions to foods and the foods with large protein, fat and carbohydrate molecules take long to digest and therefore, there is more opportunity for an inflammatory reaction to occur
- Certain chemicals in food also can cause inflammatory reactions (nightshades, salicylates foods)
 - Part of the foods immune system
- Good bacteria must act upon these to render them neutral or even make them beneficial

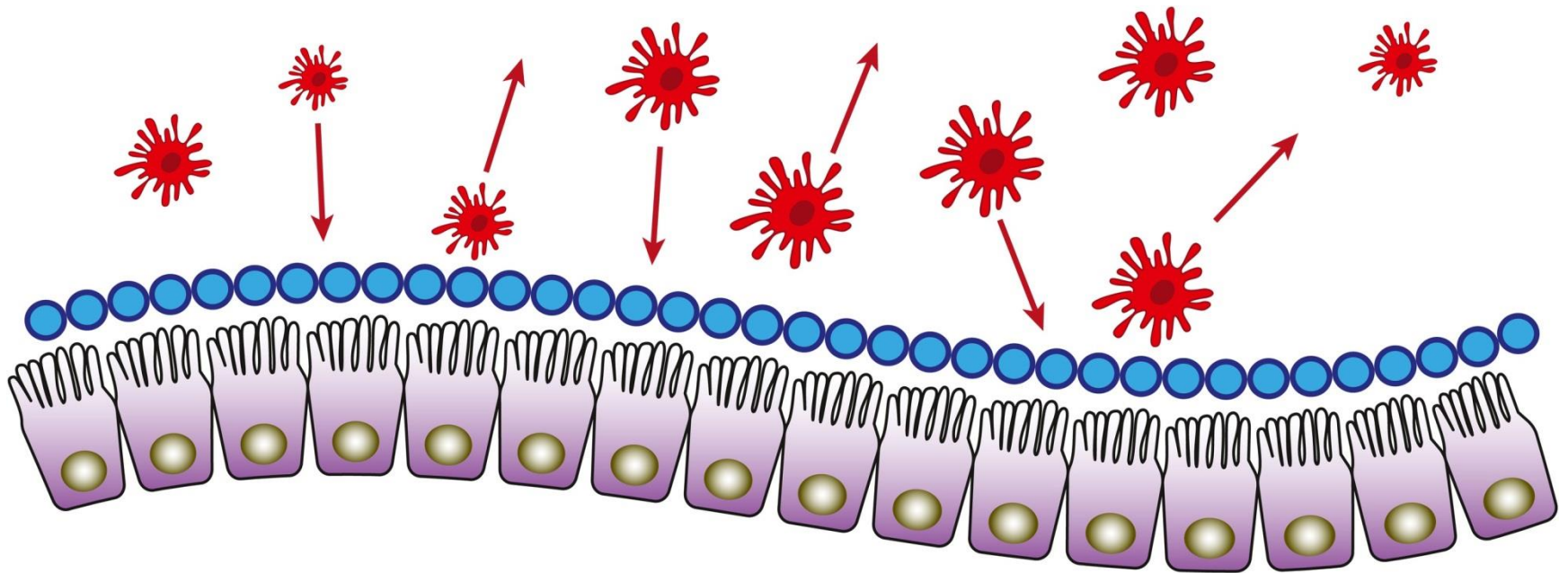


Dairy Study

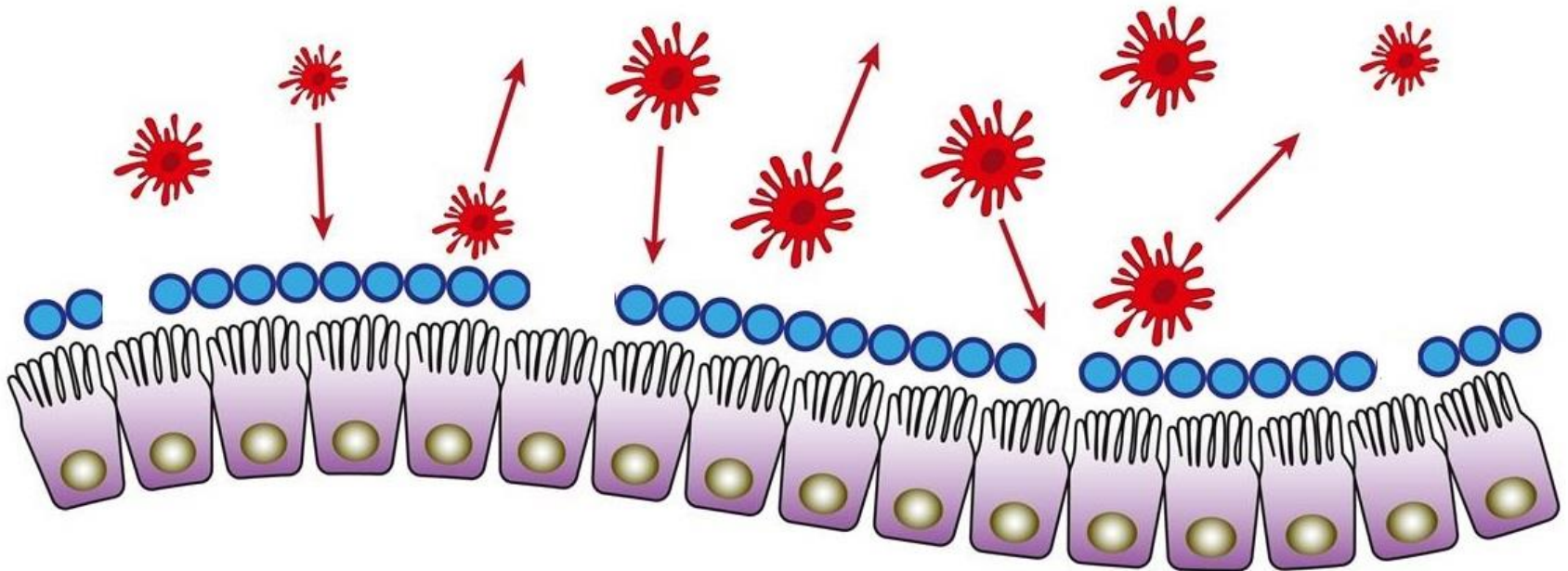
- Effect of dairy products on biomarkers of inflammation –
- Meta-analysis of 7 randomized controlled studies
- High consumption of dairy lowered C-reactive protein, Interleukin 6, TNF-alpha in 3 of the studies and showed dairy was neutral in the other 4



Dysbiosis



Dysbiosis

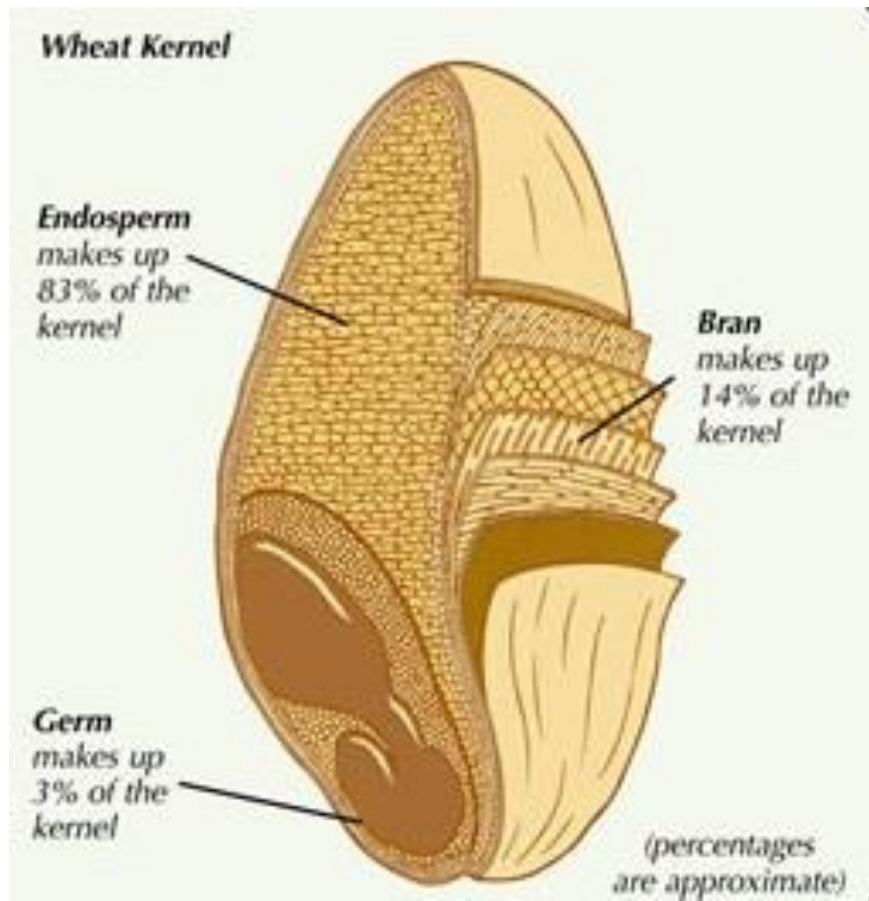


Gluten

- 10 healthy adults were put on a GFD for one month
- Colon bacteria was analyzed before and after
- Good bacteria had decreased and bad bacteria had a parallel increase
- Also suppressed immune system function
- The key here is to understand why someone is having an issue with gluten instead of blaming the gluten
- Celiacs and other with gluten issues go on to develop other more serious conditions
- If gluten was the cause – then why do they continue to have health issues



A Whole Grain



Gluten Containing Grains

- Wheat
- Spelt
- Kamut
- Rye (gluten-like)
- Barley (gluten-like)
- Oats (does not contain gluten but is often cross-contaminated)
- Einkorn, Triticale

Gluten Free Grains

- Rice, quinoa, millet, amaranth, buckwheat, corn
- Must be good quality gluten-free grains with resistant starch and/or other prebiotics
- Many gluten-free products have chemicals and gums that do not help gut health
- Many people are now developing issues with quinoa because they did not fix their gut



Gluten

- There are studies that show that gluten can damage the intestinal lining and potentially cause good bacteria but dysbiosis is present in these studies
- However, just like any other food, good bacteria must deliver what is called “immune tolerance” to wheat or gluten-containing grains.
- Leaky gut is part of an immune system reaction – it allows fluids to flood the intestines to try and flush out the “pathogen”
- No immune tolerance – any food can lead to leaky gut
- Frequency of consumption is a main factor why gluten is more of an issue



Food Allergies

- Allergies, whether food or airborne are not supposed to happen
- The substances that a person is allergic to are not harmful
- However, good bacteria must give food and other substances “immune tolerance”
- This means that the food or substance will not be attacked by the immune system as a pathogen
- Getting rid of allergies means restoring “immune tolerance”



Allergies

- An allergy is a substance that is not harmful that has had the immune system develop antibodies to it
- IgE – causes an immediate reaction (within 2 hours)
- IgG – reactions can be delayed (up to 3 days)
- Leaky gut is not necessary for IgE but is present for IgG
- Undigested proteins enter blood stream through leaky gut and the immune system attacks it forming IgG antibodies
- Heal the gut lining and digest the protein properly – no reactions
- Anaphalaxis in an IgE reaction



Elimination Diet

- To help identify possible IgG allergies, try an elimination diet
- Elimination Diet: Remove suspect foods for 1-2 weeks and reintroduce one at a time every 48-72 hours. Eat once and observe any symptoms that may occur in the three day period. Most common allergens: Wheat (gluten), dairy, soy, dairy, eggs, chocolate, caffeine, citrus, tomatoes, nuts (most people know if they have a nut allergy so if not present, then it doesn't have to be eliminated on an elimination diet). Also, may consider removing anything eaten daily

GMOs

- Organisms whose genetic material has been artificially manipulated in a laboratory through genetic engineering, or GE.
- Foreign substances added on a DNA level
- Different from a hybrid which is a natural process that can be done for good and bad reason



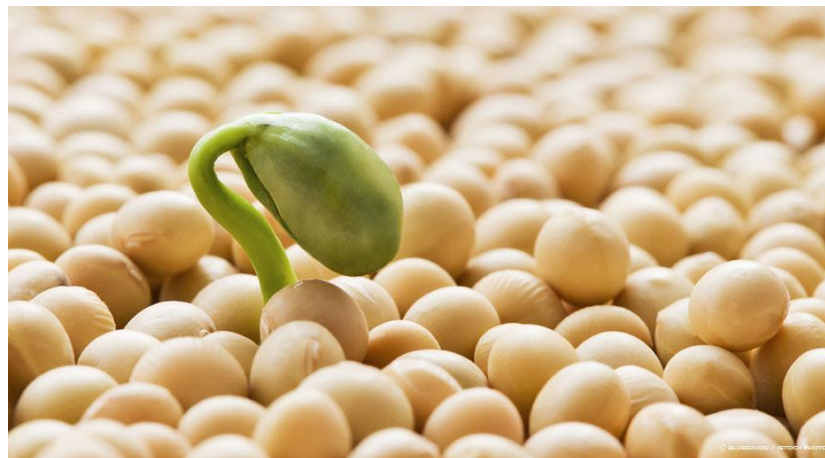
Current GMO Crops

- **Alfalfa** (first planting 2011)
- **Canola** (approx. 90% of U.S. crop)
- **Corn** (approx. 88% of U.S. crop in 2011)
- **Cotton** (approx. 90% of U.S. crop in 2011)
- **Papaya** (most of Hawaiian crop; approximately 988 acres)



Current GMO Crops

- **Soy** (approx. 94% of U.S. crop in 2011)
- **Sugar Beets** (approx. 95% of U.S. crop in 2010)
- **Zucchini and Yellow Summer Squash** (approx. 25,000 acres)
- ****Wheat is not genetically modified****



Two types

- Herbicide resistant and pesticide-containing
- BT Corn, canola, cotton contain BT toxin
- Kills pests when they attack the plant
- Some evidence that the pesticides build up a tolerance
- BT cotton shows decline in yields



Glyphosate

- Herbicide used to kill weeds (Round-Up)
- Round-Up Ready crops are impervious to Round-Up
- This allows the farmers to spray round-up and only kill weeds.



Glyphosate

- A non-selective herbicide
- Prevents plants from making specific amino acids needed for the growth of the plant
- It stops an enzyme pathway needed for this process (shikimate)
- This kills the plant
- Consider harmless to us because we do not have this pathway but good bacteria does



GMO's

- Glyphosate has been linked to lowering good bacteria at levels lower than recommended for commercial agriculture
- On study found that glyphosate affected 3 families - lactobacillus, bifidobacterium and bascillus bacteria but salmonella, and clostridium strains were resistant
- Some theories link this to the shikimate pathway in bacteria and plants – which glyphosate is destroys in plants as an herbicide
- The key here is the plant cannot be killed



GMOs

- This allows the farmer to spray generously, meaning the glyphosate residue is on our foods, something that was limited before
- This could be a factor in the increase of allergies but again it is due to the lack of good bacteria
- Avoiding GMOs is ideal but we now have extra strategies to support gut health to help counter the damage
- This may help with your digestive issues



What you can do

- We should not be perpetuate the myths about foods, especially whole foods
- Do not presume you know what is causing the issue
- If you have food issues, work on your gut health and don't stop
- Remember these issues mean you have dysbiosis and other issue can develop over time if you do not build up your gut bacteria
- The goal is to be able to restore your ability to enjoy your food

