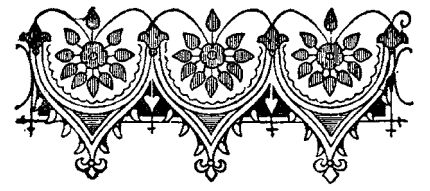


Health & Wellness



Is it the Wheat or is it the Process?



Dr. Kate Thomsen and Silky

Sometimes what seems to be a good idea turns out to be a bad idea. Like margarine. What a great idea!!!! Making a butter-substitute that has no cholesterol, spreads easily on toast, makes pie crusts flakier, and can be stored 5 times longer than butter seemed to be all good. Beginning in 1910, the "process" of hydrogenation of vegetable oils to create "shortenings" and margarine created a new market demand and these products soon replaced butter and lard in America's kitchens. The process also produced a different kind of fat, uncommon in nature, called trans fats. There was evidence as early as the 1950s that trans fats in these margarines may not be healthy. Eyebrows were raised when a 1994 study showed twice the heart attack risk in higher trans fats consumers. It was recognized that consumption of trans fats would raise the level of bad cholesterol and lower the level of good cholesterol. Oops. Over time this caught the attention of consumers and policy makers. One hundred years since it was introduced and fifty years after some risk was recognized, there is now a consensus that hydrogenating and partially hydrogenating oils for consumption was a bad idea. Many food products containing trans fats have been banned, some have the amount of trans fats dramatically lowered and all food manufacturers are required to include the amount of trans fats in their food labeling. (Although a product with up to 0.5 grams of trans fats is allowed to say it contains 0 trans fats on the label!!)

Could there also be some danger in the bread we've been spreading our trans fat margarine on? It appears that wheat, the staff of life, may have been over-manipulated as well. Wheat has been with us since the dawn of agriculture, 10,000

years ago. It is the most widely grown crop in the world with over 25,000 different cultivars produced. Besides being the major ingredient in bread, pasta and cakes, wheat is a common ingredient in a wide variety of processed foods. Why, suddenly are we seeing so many health problems seemingly related to wheat? It appears to be two things: the complex carbohydrate, amylopectin, and a protein called gluten.

Briefly, the idea that whole grain bread is a complex carbohydrate that is healthier for you than a candy bar is another mistaken idea. The amylopectin in wheat is a well characterized branching chain of sugars that is so easy for your digestive enzymes to disassemble that it causes a very fast rise in blood sugar. No wonder we love it so. But what goes up must come down and the rapid fall in blood sugar (within 2 hours) creates the blood sugar and insulin roller coaster that causes fatigue, two hour carbohydrate cravings (to rescue the sugar starved brain), weight gain and pre-diabetes. The original glycemic index which gives higher ratings to foods that more rapidly turn into sugar rated whole grain bread (at 72) 13 points higher than sugar (at 59), and 3-5 points higher than white bread and Shredded Wheat (at 69 and 67 respectively). Enough said on that!!

Gluten is the main structural protein complex in wheat seed. It contains protein fragments called gliadins and glutenins. These subunits provide gluten with a high level of elasticity and enable gluten containing products to have a doughy or chewy nature. This unique property has proved to be very desirable among consumers and has led food manufacturers to seek out wheat varieties with the highest gluten content. Some wheat based food products have extra gluten added during the manufacturing process. And we are a bread, cereal and pasta loving nation with wheat flour consumption having increased by about 1/3 since the 1970s. Because of the extra added gluten though, gluten consumption has almost tripled and the average American is consuming about 10 – 40 grams of gluten per day. Interestingly, the extra gluten (called vital gluten in the industry) was added to foods

at about the time that the rising "epidemic" of celiac disease began – around 1977.

So what's so bad about gluten? It is the culprit behind three(or more) health disorders. It appears the body does not like gliadins and glutenins in wheat. In some people wheat causes Wheat Allergy, in others – Celiac Disease, and in many, many people it causes Gluten Sensitivity. Wheat allergy is a classic allergy originally noted in bakers (called Baker's Asthma) and recognized since the days of the Romans. In minutes to hours after gluten/wheat exposure there is an elevation in the body's IgE antibodies and one may have symptoms as diverse as hives, runny nose, asthma, gastrointestinal disturbance and a serious condition of exercise induced anaphylaxis (Wheat Dependent Exercise Induced Anaphylaxis or WDEIA). Because the symptoms occur so quickly after exposure, many people are aware or suspicious of the association with wheat. Allergy testing via the skin prick method can verify the diagnosis.

Another serious health condition related to gluten is celiac disease. This condition may not show up for weeks to years after exposure to gluten and many people go undiagnosed for a long time. It is also an immune system reaction to gluten but one that causes an autoimmune condition. The antibodies that attack the gluten also attack the cells that form the small intestinal wall. The symptoms are vast and serious. Since this is such a confusing, and under-diagnosed illness, I will devote the next column to this topic alone.

Many people believe they have a "gluten allergy" but are told they do not because one specific antibody test is negative. But there are many proteins and enzymes in wheat that can cause symptoms. Hence, the third ill-defined condition related to gluten/wheat – Gluten Sensitivity. Authorities will disagree about the existence of Gluten Sensitivity but I will not.


The best way to diagnose someone with Gluten Sensitivity is to let them tell you that all their symptoms go away on a gluten free diet. Symptoms can range from behavioral changes, bone and joint pain,

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Food Sources of Gluten:

- * Wheat (including wheatberries, durum, emmer, semolina, spelt, farina, faro, graham, kamut, einkorn)
- * Rye
- * Barley
- * Triticale
- * Malt
- * Brewer's Yeast

For a more extensive list, go to celiac.org



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muscle cramps, leg numbness, weight loss, chronic fatigue, diarrhea... Blood tests may be negative but usually we will see a positive blood test to one of the "usually not tested" gliadin proteins or enzymes.

An interesting paper recently linked the rise in celiac disease and gluten sensitivity to the use of Round-up (glyphosate) on GMO crops. This herbicide is the top seller worldwide. The paper argues that exposure to GMO crops heavily sprayed with glyphosate (soy, canola, sugar beets, corn...) or crops with glyphosate residue (wheat?) – can set the stage for intestinal and other organ damage that can lead to celiac disease and it many manifestations. Fish exposed to glyphosate develop similar intestinal dysfunctions to celiac disease.

Many of my patients who have gluten sensitivity tell me that they have no symptoms when they eat wheat based products while travelling in Europe. The cultivars of wheat are different in different areas of the world. However, through the exportation of the Western diet and increased exposure to wheat, the people of North Africa, the Middle East, and Asia are newly being

diagnosed with celiac disease.

And to add the final insult that will only increase the toxicity/sensitivity to gluten, it may soon be "Round-up Ready" as well. Genetically modified wheat has not been approved for production anywhere in the world – so far. But over 400 experimental field trials of genetically modified wheat have been planted in the US. Not surprisingly, escaped genetically modified wheat has shown up in Thailand and Oregon where it was never planted. It may be inevitable. Once it's "Round-up Ready", our extra added gluten wheat will be glyphosate laced as well.

Dr. Kate Thomsen's office for holistic health care is located in Pennington, NJ. She is board certified in Family Medicine, certified in Integrative/Holistic Medicine, and an Institute for Functional Medicine Certified Practitioner. She has been practicing Functional Medicine for over 15 years. For more information visit www.drkatethomsen.com or call the office at 609-818-9700. You can find additional articles on nutrition on the website.