

Gluten Intolerance Group of North America
2008 Annual Education Conference
June 6-7, 2008
Hosted by North Texas Gluten Intolerance Group
Notes by Anne Luther

The conference title, It's All About Food lived up to its name. Both the food served at the meals and the food samples from the vendors were fabulous.

Non-celiac gluten sensitivity is beginning to get attention. Dr Murray, Dr. Fasano and Dr Pietzak all mentioned they see patients who do not have CD but symptoms improve when they are GF. Danna Korn and Carol Fenster are both GF but have never been diagnosed with CD. Dr. Wangen spoke about non-celiac gluten intolerance. GIG supports people with gluten intolerances. Nothing was said about non-celiac gluten intolerance at the first conference I attended. Progress is being made.

Carol Fenster: Carol is a well known cookbook author. She also has a great website with tips on cooking, recipes and a free newsletter. <http://www.savorypalate.com/> She started off the conference with a talk about "Getting into the Whole Grain Habit" and how adding GF whole grains into our diets can improve health. If you want her summary of her talk, go to her website and look at the June 2008 issue of "Carol's Culinary Cues".

Now that there are GF oats available, most of us will find that we can eat these without problem. This recipe is from www.bobsredmill.com

Toasted Oat Pilaf

Contributed by Carol Fenster, Ph.D.

Toasting the oats slightly intensifies their flavor, but you can skip this step if you prefer. If the broth is not low-sodium withhold the salt and taste the pilaf after it is cooked to see if it needs more. Serve this pilaf as a side dish or as a bed for grilled steak or chicken.

Ingredients:

2 Tb Olive Oil

1/2 cup Onion, finely diced

1 cup Gluten Free Steel Cut Oats

4 cups Gluten Free Vegetable or Chicken Broth (low sodium)

1/2 tsp Sea Salt

1/2 tsp Thyme

Juice and grated zest of 1 Lemon

1. Heat the olive oil in a heavy skillet over medium heat. Add the onion and cook 5 minutes, stirring occasionally, until the onion softens or about 3 to 5 minutes. Add the steel-cut oat pearls and cook another 2 to 3 minutes, stirring constantly, or until the oats are lightly toasted.

2. Stir in the broth and salt (if using) and bring to a boil over high heat. Reduce the heat to low and cook, covered, for approximately 10 to 15 minutes or until the oats are tender.

3. Place the oats in a sieve and rinse with hot water several times until the water runs clear. Toss the oats with the thyme, lemon zest, and lemon juice. Serve warm. Makes 2 cups cooked oats after rinsing.

Makes 4 Servings.

NUTRITIONAL INFORMATION

Servings Size: 1 Serving (341g)

Calories 250, Calories from Fat 90, Total Fat 10g, Saturated Fat 1g, Cholesterol 5mg, Sodium 800mg, Total Carbohydrate 33g, Dietary Fiber 10g, Sugars 2g and Protein 9g.

Cathy Breeden, PhD, RD, CSP, FADA is from MeritCare Medical Center in Fargo ND. If you ever have a chance to hear her speak, do so by all means. She makes nutrition fun. Instead of trying to summarize all she talked about, I am going to send you to her website where she has kindly posted her patient handouts.

http://www.meritcare.com/news/speakers/cathy_breedon/pdfList.aspx

She talked about vitamin K as much of the information about this essential vitamin is fairly new. It is needed for the body to utilize calcium. Read more in her handout.

I do not see a handout on anemia. She said if one is anemic and iron does not seem to work, copper levels should be checked. Copper deficiency looks the same as iron deficiency on some blood tests. Iron is well absorbed from meat: about 20%. Iron from a multivitamin or plant source is not well absorbed: about .5-2%. Coffee and tea hinder iron absorption.

She stated Macular degeneration is not a disease of the elderly – it is the end result of a lifetime of deficiency. Perhaps that could be said about many other diseases we attribute to old age.

Roben Ryberg is another cookbook author. Although she does not live gluten free, she has developed some wonderful recipes for us. Here is a link to her books

<http://www.amazon.com/s?ie=UTF8&search-type=ss&index=books&field-author=Roben%20Ryberg&page=1> The talk was “Gluten-Free Baking Demystified”

Here are some of her tips:

- Xanthum gum – thickens the batter while mixing.
- Guar gum – thickens the batter in the oven while cooking.
- Egg white will give great texture to breads.
- Use less GF flour when you substitute GF flour for wheat flour. A one to one substitution is too much.
- Decrease sugar when using cornstarch
- Don't worry about overbeating as there is no gluten
- Apple cider vinegar and/or apple juice can be used to mimic the flavor of yeast

- Using baking powder and baking soda will stabilize rise in breads
- Thick bottom of bread = too much xanthum gum
- Sides of bread pull in = too much xanthum gum
- use less xanthum gum if substituting non-dairy liquid for milk
- Avocado can be substituted for fat (but she did not give a recipe)
- Rumford baking powder is most active in the bowl
- Clabber Girl baking powder is most active in the oven

While Robyn talked she had helpers baking some wonderful crispy cheese crackers and has given me permission to post the recipe here:

Cheese Crackers

These poofy little crackers are rolled and cut. Miniature cookie cutters are available in cooking supply stores if you wish to mimic the tiny crackers loved by children.

Ingredients:

4 ounces cheddar cheese shredded

¼ cup softened butter

¾ cup cornstarch, 95 grams

¼ teaspoon salt

2 tablespoon milk

¼ teaspoon xanthan gum

½ teaspoon baking powder

¼ teaspoon baking soda

Topping:

salt or other dried herbs or spices as desired (I love garlic salt on these!)

Directions:

Preheat oven to 400°.

Combine all ingredients, except milk, in mixing bowl. Mix until mixture resembles a fine crumb. Add milk and beat well.

On lightly greased surface, pat or roll dough to 1/8 inch thickness. Cut into ¾ inch squares or other small shape that you like. You can also cut into larger round or square cracker shapes if desired (just extend baking time). (You can use a pizza cutter to cut these out fast!)

Prick tops of crackers with fork and sprinkle lightly with salt or other dried herbs or spices as desired.

Bake until golden brown and crisp, approximately 10 minutes. Crackers will be light and crispy, although barely browning at the edges. The bottom of the cracker will have a bit more color.

Makes approximately 5 dozen small crackers.

Danna Korn started R.O.C.K. in her backyard with her family for her son who was diagnosed with CD 17 years ago. Three years after she started R.O.C.K. another family joined her. R.O.C.K. now has 140 chapters throughout the nation. Danna is a well known author of books on living with CD for adults and children. <http://www.glutenfreedom.net/> Although she does not have CD, she became gluten free six years ago and says she is healthier for it. If you have a chance to hear her talk, do go. She is a wonderful speaker who makes living GF a positive experience.

She talked about the emotional up and downs when one has when told they must live gluten free. She recommends that you put this energy to work for you. She dealt with these emotions by writing books for other people and starting R.O.C.K. Take control of your life is her message.

- Take your cell phone when shopping and call food companies if you have a question. General Mills says the #1 call they get is about gluten. Keep calling and let the companies what we want.
- You can make anything gluten free.
- Choose restaurants that are likely to be able to prepare foods gluten free. Ask if there is a GF menu. Talk with the chef.
- There will be grocery stores every where you travel. You can mail GF food to yourself when traveling. Check laws about taking food across borders.

No one fully digests wheat and she feels that all pregnant women should stop eating gluten. She mentioned gluten removal can help those with MS, lupus, autism and fibromyalgia and feels Enterolab is “ahead of its time”.

Her message was upbeat and she truly believes we are not deprived.

Joseph A Murray, M.D. is from the Mayo Clinic in Minnesota and spoke about “Celiac Disease”.

Dr. Murray said that Centrum vitamins are not longer gluten free. He wants all of us to call and/or write Centrum and tell them we want GF Centrum vitamins again. We do have power. <http://www.centrum.com/contactus.aspx>

After diagnosis he said that all adults 18years and older should get a bone density test. A good explanation about celiac disease with a strong emphasis of a gluten free diet and a referral to a dietitian who is knowledgeable in GF living are important to insure compliance with the GF diet. He believes support groups should be part of the management plan.

In his practice he finds symptoms improve in adults improve in 1-3 months. Antibodies become negative at 6 months, but biopsy can take 1-2 years to become normal. He recommends rebiopsy at 1-3 years as so many are not healed especially those who are over 60 years old. He went into great detail as to how he manages those with CD. The

first thing to check if one is not responding to the diet is if gluten is a factor. A positive blood test means there is gluten in the diet, **but a negative blood test does not mean there is no gluten.**

Has CD increased or are we now better able to diagnose CD? This question was answered by a study on military recruits. Blood was tested that had been stored from military recruits in the 1940's. Only .2% of this population tested positive for celiac antibodies. Recent tests in young males shows a prevalence of .8%. That is a dramatic increase in CD. This study also revealed a much higher death rate for those with untreated CD in the group from the 1940's. After 50 years, 76% of the normals were still alive but only 36% of those with untreated CD.

Dr. Murray assured us that survival is good if one lives totally GF.

Michelle Pietzak, M.D., Assistant professor of clinical pediatrics, University of Southern California, talked about "Life Lessons from Celiac Pediatrics".

Everyone should take a multivitamin. She recommended Gummie Bites and Flintstones complete for children.

About 15% or 1:8 with autism will improve with a GFCF diet. The interaction between gluten and the brain is not well studied.

Children should have their vitamin D monitored. After age 23 it is more difficult to turn around bone loss. DEXA scan is used for adults, but there is no comparison for children. She recommends using a CT of the femur and lumbar region to check a child for bone density.

Those with gluten ataxia do not have CD and blood antibodies may be negative. There is improvement in the ataxia when gluten is withdrawn.

Edward Hoffenberg, M.D. from The Children's Hospital in Colorado. The topic was Celiac Disease: What's Cookin'?

He listed some of the diseases associated with CD. Often, there are conflicting guidelines as to who should be tested for CD when these other diseases present. There seems to be agreement that all children with type 1 diabetes need to be tested for CD. CD is usually diagnosed within 4 years before or after the diagnosis of type 1 diabetes. Adherence to the GFD is only about 54% in some small studies done throughout the world. Because of this, there is a question raised if it is necessary to screen all children with type 1 diabetes or to screen only those with symptoms of celiac disease. Children who are diabetic and have CD and are on a GFD, have improvement in height, weight and iron but no better control of diabetes than those not on a GFD.

Some factors that play a part in the development of CD that are being researched are timing of gluten introduction in a baby's diet and rotavirus infection. There are no studies currently underway on the impact gluten in breast milk.

Stephen Wangen, N.D., www.ibstreatmentcenter.com spoke on "Testing for Non-Celiac Gluten Intolerance". He has kindly posted his slides as a PowerPoint presentation on his website. <http://www.ibstreatmentcenter.com/press.htm>

"Celiac disease is defined by villous atrophy. Without villous atrophy, you can't have celiac disease. But villous atrophy must be put into its proper context." Dr. Wangen lists celiac disease as only 1 of the more than 130 signs and symptoms associated with gluten intolerance.

Dr. Wangen tests everyone for gluten intolerance with a panel of tests:

Tissue transglutaminase antibody – used to test for celiac disease

Antigliadin IgA and IgG – used to test for gluten intolerance

Total IgA – if deficient, all IgA tests will be negative

Any positive test is significant as the immune system should not be reacting to food. If it does, there is a problem.

There is no evidence that celiac disease is the end stage of gluten intolerance. Non-celiac gluten intolerance is not less severe than celiac disease.

One can react to any food. He recommends a panel that covers both IgG and IgE reactions. It is possible to react to wheat and other grains without reacting to gluten.

There are many other proteins in these grains. He uses US Biotech

<http://www.usbioteklabs.com/>

Megan Tichy, Ph.D. is from Texas A&M University and she helped us with her talk on "Making Sense of Science".

She started off with the toxic grains: wheat, barley and rye. If you want detail about grains, go to <http://wheat.pw.usda.gov/ggpages/topics/kasarda.html>

Wheat products include:

- Atta – whole wheat, stone ground
- Bulgur – whole wheat, precooked, dried, cracked and sifted
- Couscous – moistened semolina, rolled and shaped, coated with finely ground wheat flour
- Farina – endosperm milled to fine granular consistency, sifted
- Seitan – washed dough; water removes the starch
- Semolina – inner endosperm of wheat not ground into flour

Ancient form of wheat:

- Einkorn has 14 chromosomes and is about 10,000 years old

- Emmer (faro) has 28 chromosomes
- Spelt (dinkel) has 42 chromosomes
- Kamut has 28 chromosomes

The more chromosomes the easier it is to breed varieties suitable for poor soils and harsh climates.

She talked about 4 proteins in wheat:

- Albumin which is soluble in water
- Globulin which is soluble in water and salt solutions

Albumin and globulin cause most of the wheat allergies – IgE reactions

- Prolamin which is soluble in alcohol
- Glutelin is not soluble in water ethanol, dilute acids/bases, detergents or reducing agents.

Prolamin and glutelin are gluten

Gluten is made up of gliadins and glutenins. Although we think of the gliadin fraction as being the toxic part, there are many toxic regions of this very large molecule. “It is highly probably that glutenin proteins are toxic. Attempts to breed wheat with satisfactory baking properties tolerated by celiac patients will be very difficult.” Eur J Gastroenterol Hepatol.2006 May; 18(5):438-91.

[Work is being done on a safe wheat. Washington State University researcher Diter von Wettstein has been awarded a four-year, \$837,000 grant from the National Institutes of Health to further work on development of wheat varieties safe to eat for those suffering from Celiac disease.

<http://westernfarmerstockman.com/index.aspx?ascid=fpStory&fpsid=34484&fpstid=2-al>

Megan told us that the starch and the protein in wheat are very intertwined and difficult to separate.

How much is too much? A person eating a typical diet eats about 13 grams of gluten per day.

“Ingestion of contaminating gluten should be kept lower than 50mg/day in the treatment of CD.” C.Catassi et al. AmJ Clin Nutr 2007;85:160-6. Some people are far more sensitive.

Codex Alimentarius has two limits for “gluten-free”:

- 0.02% gluten content – rendered gluten-free (200ppm)
- 0.002% gluten content – naturally gluten free (20ppm)

A person could ingest 3-6mg gluten per day by consuming 6-oz of “naturally gluten free” grain food.

How much gluten is in 1/8 teaspoon of flour? The answer is 33mg of gluten or enough to cause damage.

She then gave us examples of 20ppm to how small this is.

- 20 minutes out of 2 years
- 20 inches out of 15.8 miles
- 20 cents out of \$10,000

“Tiny amounts are biologically significant”

Both the ppm and the amount of food eaten must be taken into consideration when trying to keep ingestion of gluten lower than 50mg/day. An example is eating 10 crackers that have 20ppm with equal about .4mg of gluten. If those crackers have 200ppm then they would give you 4mg gluten.

MSG is not gluten – The average person consumes 10-20g bound glutamate/day or 0.5-1.5 g MSG/day. Gluten and MSG do not have the same structure. There are other small molecules that may cause symptoms, but they are not gluten. She mentioned caffeine and calcium oxalate.

Hydrolyzed wheat starch

Hydrolysis is a chemical reaction in water that breaks down starch. In North America starch products are usually derived from corn. Outside the US and of the following can be made from wheat starch: maltodextrin, glucose syrup, dextrose, poly-ols, sugar alcohols (sorbitol, xylitol, mannitol, etc...), lactic acid, citric acid, acetic acid (vinegar), ascorbic acid.

Gluten is tested with an ELISA test. ELISA = Enzyme Linked Immunosorbent Assay. There are tests that can detect between 1-2ppm and <0.5ppm reported.

Distillation: separation is based on volatility (boiling point) not the size of the molecule. Protein molecules are not as volatile as alcohol molecules.

Conclusions:

- There are MANY other names for wheat – Spelt is not an alternative for wheat!
- A ppm is not a quantity – 20ppm can be many different quantities, depends on how much you ate!
- Gluten is a highly stable protein fraction – Several different fragments of gliadin and glutenin are toxic. Small molecules do not mimic gluten, but can have negative health effects of their own.
- Distillation is separation based on volatility – distilled products are gluten-free as long as gluten was not added post-distillation.