Dispelling Gluten-Free Labeling and Ingredients Myths

With Tricia Thompson, MS, RD
And
Co-Moderator: Emily Rubin, RD

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Learning Objectives

1) Dispel current gluten-free labeling myths
2) Increase confidence in reading ingredients labels to help you eat without fear

Welcome!

Tricia Thompson, MS, RD

- Founder of glutenfreedietitian.com and glutenfreewatchdog.org
- Internationally recognized nutritional consultant, researcher, and writer on celiac disease and the gluten-free diet
- Has written for numerous publications including the *Journal of the Academy of Nutrition and Dietetics* and *The New England Journal of Medicine*
- Author of a variety of books and book chapters including "The Gluten-Free Nutrition Guide" and "The Complete Idiot's Guide To Gluten-Free Eating"

Welcome!

Emily Rubin, RD, LDN

- Dietitian for Jefferson Celiac Center at Thomas Jefferson University Hosptials
  - –Works with Celiac Center team on research trials at Jefferson
- Has specialized in celiac disease and the gluten-free diet for 14 years
- Has had appearances on local news stations such as ABC and FOX
- Has written articles for news publications
  - –Philadelphia Inquirer
  - –Fitness Magazine

Quick Poll

Tell us why you are joining tonight's program.

Quick Poll

Out of the topics that will be covered tonight, which do you find most confusing?

Oats

Oats: FDA Gluten-Free Labeling Rule

- Oats are allowed in foods labeled gluten-free in the U.S.:
  - Oats used in single ingredient products (e.g., gluten-free rolled oats, gluten-free oat flour) do NOT have to be certified gluten-free
  - Oats used in multi-ingredient products (e.g., gluten-free granola bars, gluten-free mixed-grain breakfast cereal) do NOT have to be gluten-free or certified gluten-free
  - The final food product must contain less than 20 parts per million of gluten

Oats: Ingredients List

- Many consumers look for the words “gluten-free oats” or “certified gluten-free oats” in the ingredients list even when a food is labeled gluten-free
  - Seeing these terms increases confidence that the manufacturer is not using “regular” oats

- However, if the qualifiers “gluten-free” or “certified gluten-free” are not included in the ingredients list this does NOT mean the oats are regular oats

Oats: Ingredients List & FDA

- The FDA recently advised me in email correspondence that:
  - "gluten-free is not part of the common or usual name for an ingredient. In addition, the term could be considered intervening material in the ingredient statement."
- The Agency went on to write:
  - "Technically it may be considered a misbranding violation; however, FDA has discretion to take enforcement action against a firm for various violations. We look at food labels on a case by case basis for various violations before determining if we would use our resources to take action against a firm. The firm has the option to state that the oats are gluten-free elsewhere on the label."

Oats: An Evaluation of FDA's Policy

- There are cases of manufacturers using regular oats in products labeled gluten-free

- If manufacturers are not allowed to state within the ingredients list whether the oats they use are gluten-free or certified gluten-free, how is a consumer to know that the oats are not regular oats?

Oats: An Evaluation of FDA's Policy

- Even though a product labeled gluten-free must contain less than 20 ppm gluten, manufacturers are taking a huge risk if they use regular oats:
  - Regular oats are highly likely to be contaminated with wheat, barley, or rye due to crop rotation, proximity to other grain fields, use of the same harvesting equipment, use of non-dedicated railcars, etc.
  - Testing oats for gluten contamination is an extensive process:
    - Gluten contamination will not be evenly distributed throughout a container of oats
    - Multiple samples must be tested from the top, bottom, and middle of containers (and all the places in between)

Oats: Test Results

- Gluten Free Watchdog
  - Labeled gluten-free products containing oats have tested ≥ 20 parts per million gluten
    - Based on conversations with manufacturers it appears likely that certified gluten-free oats were not being used
      - When manufacturers changed the source of their oats the products tested fine at follow-up
  - Products containing oats NOT labeled gluten-free have tested ≥ 20 parts per million gluten

Gluten Content of Oats Not Labeled Gluten-Free

Brand	Mean ppm gluten
McCann's Steel Cut Irish Oats (4 different lot numbers tested in duplicate)	<3, 12, 23, 725
Country Choice Organic Oats (4 different lot numbers tested in duplicate)	<3, 120, 131, 210
Quaker Old Fashioned Oats (4 different lot numbers tested in duplicate)	338, 364, 971, 1807

Source: Thompson. NEJM. 351; 19:2012-22

Oats: Academy of Nutrition & Dietetics Recommendations

- Nutrition Practice Guideline on oats:
  - "The registered dietitian should advise individuals who enjoy and can tolerate gluten-free oats to gradually include them in their dietary pattern. Research on individuals with celiac disease reports that incorporating oats uncontaminated with wheat, barley, or rye at intake levels of approximately 50 grams dry oats per day is generally safe and improves compliance with the gluten-free diet."

Oats: Academy Recommendations for Consumers

- Get the okay from your dietitian or doctor BEFORE adding oats to your diet
- Eat ONLY those oats and oat products labeled gluten-free
- Enjoy up to 50 grams of gluten-free dry oats each day
  - ½ cup dry rolled oats; ¼ cup steel cut oats; 1 packet instant oatmeal; ½ cup granola
- Call dietitian/doctor if you have GI symptoms after adding oats
  - Symptoms may be due to an increase in fiber intake
- Make sure to drink enough water when adding fiber to your diet

Source: Celiac Disease Toolkit, Academy of Nutrition & Dietetics, 2011

Oats: Bottom Line

- If you like and tolerate oats go ahead and eat them BUT make sure they are gluten-free
- Remember: When in doubt, leave it out!

Inherently Gluten-Free Grains, Beans and Legumes

Grains: FDA Gluten-Free Labeling Rule

- Inherently gluten-free grains such as millet, sorghum, and buckwheat may be labeled gluten-free
- At the grocery store you may find brands of single ingredient grains and flours that are labeled gluten-free and brands that are not labeled gluten-free
- You may wonder if it is okay to eat inherently gluten-free grains or flours not labeled gluten-free

Grains: Grain Inspection, Packers & Stockyards Administration (GIPSA) Standards

- United States Grain Standards Act
  - Grains with standards are allowed to contain a certain percentage of "other grains" for which standards have been established
  - Grains with standards include barley, canola, corn, flaxseed, oats, rye, sorghum, soybeans, sunflower seeds, triticale, and wheat
  - Corn, flaxseed, oats, sorghum, soybeans, and sunflower seeds are allowed to contain wheat, barley, and rye
    - BUT any plant grown, harvested, transported, or processed alongside wheat, barley, or rye has the potential for cross-contact
  - "Other grain" is not listed in an ingredients list

Source: http://www.gipsa.usda.gov/fgis/standproc/usstands.html

Grains: Test Results

- Naturally gluten-free flours NOT labeled gluten-free (1 or 2 brands tested)
  - Millet flour 305 ppm, 327 ppm
  - Buckwheat flour 65 ppm
  - Sorghum flour 234 ppm
  - Soy flour 92 ppm, 2925 ppm

Source: Thompson, Lee, Grace. JADA. 2010:110;937-940

Grains: Academy of Nutrition and Dietetics Consumer Recommendations

- Buy naturally gluten-free grains and flours that are labeled gluten-free
- Buy grain-based products, such as rice- or buckwheat-based pasta, corn- or rice-based breakfast cereal, rice crackers, and rice cakes that are labeled gluten-free
- Do not buy grains and flours from bulk bins
- Do not buy grains and flours that have been purchased in bulk by a store and repackaged

Source: Celiac Disease Toolkit, Academy of Nutrition & Dietetics, 2011

Grains: Bottom Line

- Eat your grains BUT whenever possible make sure they are labeled gluten-free

Note About Legumes

- GIPSA standards also allow dry beans, dry peas, and dry lentils to contain a certain amount of “foreign material”

- Foreign material in beans is defined as, "stones, dirt, weed seeds, **cereal grains**, lentils, peas, and all matter other than beans”

Note About Legumes, cont

- Gluten Free Watchdog has tested several varieties of canned and dry beans and lentils
- To date, products have tested below 10 ppm of gluten
- It is difficult to find legumes that are labeled gluten-free:
  - Rinse canned beans well
  - Pick through dry beans, remove foreign material, and rinse well
    - If you find a brand that is contaminated with foreign grain it is best to try another brand

Wheat Starch Hydrolysates

Quick Poll

Do you currently avoid foods containing wheat starch, maltodextrin, caramel color, dextrin or glucose syrup?

Definition: Wheat Starch Hydrolysates (WSH)

- According to the International Starch Institute hydrolysis is the “break down of starch to glucose and smaller polymers…”
- Examples of wheat starch hydrolysates:
  - Maltodextrin
  - Caramel color
  - Glucose syrup

WSH: FDA Gluten-Free Labeling Rule

- FDA allows the ingredient “wheat starch” in foods labeled gluten-free
- Wheat starch is considered an ingredient processed to remove gluten
  - However, it is difficult to completely separate the starch portion of wheat from the protein portion (gluten) of wheat so wheat starch may contain varying levels of wheat protein based on the level of purity
- Foods labeled gluten-free containing wheat starch must contain less than 20 ppm of gluten

WSH: FDA Gluten-Free Rule, cont

- If a food is labeled gluten-free and includes the word "wheat" in the ingredients list or Contains statement due to the use of "wheat starch," "glucose syrup (wheat)," "maltodextrin (wheat)," etc. then the word "wheat" must be followed by an asterisk that leads to another asterisk and the statement:
  - "The wheat has been processed to allow this food to meet the Food and Drug Administration requirements for gluten-free foods."

WSH: Food Allergen Labeling & Consumer Protection Act (FALCPA)

- Under FALCPA if an ingredient in a packaged food regulated by FDA contains protein from wheat, the word “wheat” must be included in the ingredients list or Contains statement

- If a food includes the ingredients maltodextrin, caramel color, and glucose syrup, and the word wheat is not included in the ingredients list or Contains statement, then the aforementioned ingredients do NOT contain wheat protein and is therefore safe to consume

WSH: Glucose Syrup, Caramel, Maltodextrin

- Food products sold in the U.S. occasionally contain wheat starch-derived glucose syrup, maltodextrin, or caramel color
  - Typically these ingredients are made from corn starch
- Even when the starting material is wheat starch it is unlikely that any of these ingredients would contain gluten protein or peptides capable of causing an otherwise gluten-free food to contain 20 ppm or more gluten
- The European Union permanently exempted from allergen labeling wheat-based glucose syrup, caramel color, and maltodextrin
  - Industry agreed to a purity standard of no more than 20 ppm gluten for these products

WSH: Bottom Line

- Food labeled gluten-free containing wheat starch hydrolysates must contain less than 20 ppm gluten

- For foods NOT labeled gluten-free, the wheat starch hydrolysates glucose syrup, caramel color, and maltodextrin are highly unlikely to cause a food product to contain 20 ppm or more gluten

- BUT if you do not want to eat foods containing wheat starch-based ingredients they are easy to avoid
  - Just look for the word "wheat" on the label

A Note About Dextrin

- Dextrin also may be made from the hydrolysis of wheat although corn is most often used
- Products containing wheat starch-based dextrin that are NOT labeled gluten-free should be avoided at this time
- This ingredient may not be as hydrolyzed as glucose syrup, maltodextrin, and caramel color
- In addition foods containing wheat starch should be avoided if they are NOT labeled gluten-free

Brewer's Yeast

Definition: Brewer's Yeast

- Brewers yeast refers to the "live yeast" used to make beer AND the "spent yeast" which is a by-product of the beer brewing process (i.e., what is left of the yeast once it has been used to make beer)

- Brewer's yeast also may be made from sugar beets

Source: Food Flavorings, 3rd edition. Aspen Publishers

Brewer's Yeast: Recommendation

- Brewer's yeast used in food as a flavoring agent is typically spent yeast and as such may be contaminated with malt, a form of barley

- The Academy of Nutrition and Dietetics currently recommends that if brewer's yeast is listed as an ingredient in a food NOT labeled gluten-free it should be avoided

Source: Celiac Disease Toolkit, Academy of Nutrition & Dietetics, 2011

Yeast Extract & Autolyzed Yeast Extract

- Spent yeast also may be the source of yeast extract and autolyzed yeast extract

- This issue first came to my attention in 2010 when testing the product Marmite:
  - The primary ingredient in Marmite is yeast extract derived from spent yeast
  - Test results:
    - Sandwich R5 ELISA 28 ppm, 31 ppm
    - Competitive R5 ELISA 3,700 ppm gluten peptide, 3,400 ppm gluten peptide

Yeast Extract, cont

- You may be starting to come across ingredients lists of products sold in the U.S. that include:
  - "autolyzed yeast extract (barley)"
  - "yeast extract (barley)"

- Barley protein does not have to be declared under FALCPA in the U.S. but some manufacturers are voluntarily declaring barley protein in the ingredients list

- This is most likely a beneficial effect of Health Canadas food allergen labeling law which requires the declaration of all gluten sources in packaged food products, including barley

Professional Opinion: Yeast Extract

- Personal recommendation:
  - Based on testing done by Gluten Free Watchdog, it is my recommendation that individuals with gluten-related disorders avoid products NOT labeled gluten-free containing the ingredients yeast extract or autolyzed yeast extract unless the source is confirmed
  - If you live in Canada, ALL gluten sources must be declared in the ingredients list
  - Coeliac UK recently modified their position on yeast extract specifically as it pertains to Marmite (a yeast extract product) stating that the manufacturers have informed them that the product contains, "slightly more than 20 ppm gluten"

Professional Opinion: Yeast Extract, cont

- We do not know at this time how often spent yeast is the source of yeast extract
- In the U.S. there is no way to know from the food label whether the ingredient yeast extract contains barley protein unless the manufacturer declares barley voluntarily
- This is not cause for undue alarm
- It is important to clarify with manufacturers whether spent yeast is the source of yeast extract in a food product NOT labeled gluten-free

Brewer's Yeast: Bottom Line

- If a product is NOT labeled gluten-free and it contains brewer's yeast it should be avoided until the source of yeast is confirmed

- If a product is NOT labeled gluten-free and it contains yeast extract or autolyzed yeast extract you may want to avoid the product until you can determine the source of yeast
  - If the source is spent yeast or the manufacturer tells you that it contains barley protein, then it should be avoided

Reading an Ingredients Label: The Unsafe Ingredients to Avoid

- For FDA regulated foods not labeled gluten-free, the Academy of Nutrition and Dietetics Celiac Disease Toolkit recommends that consumers look for the following words in the ingredients list and Contains statement (in the case of wheat):
  - Wheat
  - Barley
  - Rye
  - Oats
  - Malt
  - Brewer's yeast
    - My professional opinion: also look for yeast extract

Source: Celiac Disease Toolkit, Academy of Nutrition & Dietetics, 2011

Beer

Beer: Definitions

- Gluten-free beer: made without malted barley

- Gluten-removed beer: made with malted barley and has been processed or treated or crafted to remove gluten

Beer: FDA

- The FDA regulates beer that is made without either malted barley or hops, or made without both malted barley and hops

- Beer regulated by the FDA may be labeled gluten-free as long as it meets all criteria of the gluten-free labeling rule

Beer: TTB

- The Alcohol and Tobacco Tax and Trade Bureau (TTB) regulates beer that is made with BOTH malted barley and hops
  - Beer regulated by the TTB may NOT be labeled gluten-free
  - Beer made from malted barley and that has been processed to remove gluten may include the claim "Processed to remove gluten" on the product label
    - The label also must include the following statement, "Product fermented from grains containing gluten and (processed or treated or crafted) to remove gluten. The gluten content of this product cannot be verified, and this product may contain gluten."

Source: TTB Ruling, February 11, 2014

Beer: Controversy

- Whether "gluten-removed" beer should be consumed by people with gluten-related disorders remains highly controversial

- There a few reasons for this controversy:
  - It is difficult to quantify the amount of gluten in a product, such as beer when the protein has undergone hydrolysis (meaning it has been broken apart into smaller fragments)
  - The barley protein (hordein) in beer is broken apart into smaller peptides during the malting process because it is acted upon by many enzymes (a natural part of the malting process)

Beer: Controversy, cont

- A competitive ELISA, such as the competitive R5 ELISA, is used to assess gluten content when the protein has been hydrolyzed

- While the competitive R5 ELISA has been validated in a multi-lab international trial there continue to be concerns about this assay

Beer: Competitive R5 ELISA

- Can the competitive R5 ELISA accurately quantify peptide fragments into parts per million gluten protein?
  - In other words, the peptide fragments can be detected but at what point do the number of peptide fragments (assuming they are toxic) become harmful?

- Is the extraction solution used with the competitive R5 ELISA—ethanol—ideal?
  - According to the late Dr. Enrique Mendez, ethanol is capable of completely extracting prolamins from foods containing native proteins only
  - Once proteins have been heated and denatured, ethanol is no longer capable of extracting all prolamin fractions

Beer: Brewer's Clarex

- Barley-based "gluten-removed" beers are treated with a prolidase enzyme such as Brewer's Clarex
- This enzyme breaks apart protein at the amino acid proline
- The R5 ELISA detects the 5 amino acid sequence QQPFP where the P represents proline
- Consequently, Brewer's Clarex may render the R5 ELISA ineffective at measuring gluten

Professional Opinion: Beer

- Gluten-removed beers may be safe but until we have a test that can accurately detect and quantify the gluten protein in these beverages it remains my opinion that they should NOT be consumed by people with gluten-related disorders

- If you are interested in learning more about gluten-removed beers and testing see:

  http://bit.ly/GFWDglutenremovedbeer

Summary

- Everything we have discussed tonight can be confusing:
  - Should I eat gluten-free oats?
  - Should I eat foods containing wheat starch-based hydrolysates?
  - Do I really need to eat only those inherently gluten-free grains and flours labeled gluten-free?
  - Do I really need to call the company when yeast extract is in a food not labeled gluten-free?
  - Should I drink gluten-removed beer?

Summary, cont

- It is all up to you!
- If it helps, here are my personal responses to these questions:
  - Certified gluten-free oats are sometimes a part of my diet in small quantities
  - There is something about eating food that includes the word “wheat” in the ingredients list that is unsettling
  - I ONLY eat inherently gluten-free grains and flours that are labeled gluten-free with the exception of rice
  - Foods containing yeast extract are not part of my typical diet but if I came across such a product my inclination would be to choose another brand
  - Gluten-removed beer NEVER enters my mouth

Quick Poll

After watching this webinar, do you feel any less confused regarding the topics we discussed?

As we finish…

Questions from the audience?

NFCA Resources

- Name the Red Flag Ingredient:
  - www.celiaccentral.org/isitglutenfree/
- Keep up to date with the latest science and news:
  - www.celiaccentral.org/researchnews/
- Learn about the FDA Gluten-Free Labeling Rule:
  - www.celiaccentral.org/FDA/

Resources

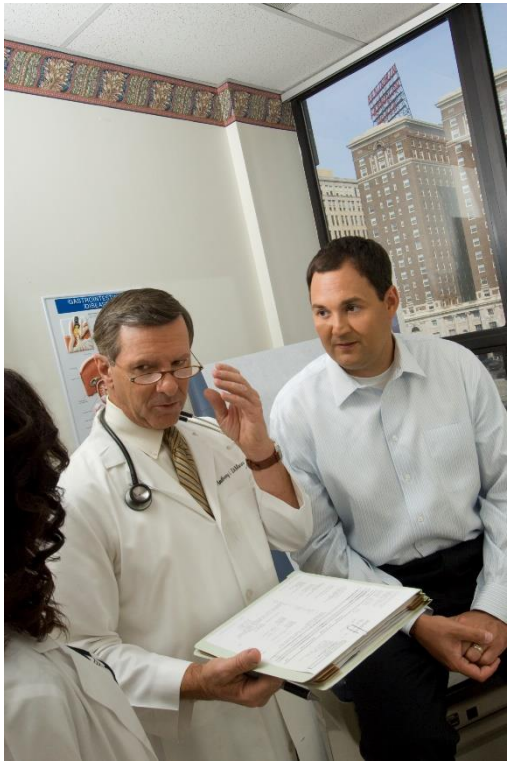
- Tricia Thompson's contact information and websites:
  - tricia_s_thompson@hotmail.com
  - www.glutenfreewatchdog.org
  - www.glutenfreedietitian.com

- Jefferson Celiac Center:
  - http://bit.ly/JeffersonCeliacCenter

Jefferson Celiac Center

- As the first adult celiac center in Philadelphia, the Jefferson Celiac Center has a long history of excellence in the diagnosis and management of celiac disease, as well as extensive experience in helping patients manage this lifelong condition.

- Call **1-800-JEFF-NOW** or visit **Jefferson.edu/Celiac** for more information or to schedule an appointment



Jefferson Celiac Center

- Comprehensive Care from Multidisciplinary Team of Experts
- Gastroenterologists and pathologists, nurse practitioner and registered dietitian
  - If necessary, rheumatologists, endocrinologists, dermatologists and oncologists
- Robin Miller, MSN, RN, CRNP - Coordinator
- Multiple clinical trials open to qualified patients
  - New study to detect the unknown/accidental gluten consumption in celiac patients
    - Contact Tripti at 215-503-2545
- The Jefferson Celiac Center and NFCA are working together to learn more about the needs and experiences of people with celiac disease and other gluten-related disorders

Jefferson Celiac Center

- Goal – help patients become 100% gluten-free as easy as possible!

- Provide one-on-one consultation with patients and family members with multiple follow-up appointments in order to cover every detail of the gluten-free diet, including:
  - Food labels
  - Ingredients
  - Medicines
  - Meal plans
  - Restaurants and grocery stores
  - Recipes
  - Support groups

Thanks to our sponsor!

Save the Date!
CeliacCentral.org/webinars

Topic: "Celiac Disease and Its Effects on the Body**"**

Date: Thursday, November 13th

Time: 8 p.m. Eastern/5 p.m. Pacific

Speaker: Dr. Anthony DiMarino, Chief, Division of Gastroenterology & Hepatology, Thomas Jefferson University Hospital

Thank You!

- Webinar questions, comments, feedback: webinars@CeliacCentral.org
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