Beyond Rice Flour

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Hy-Vee HealthMarket

Nutritional Concerns

- When you were diagnosed:

- As you heal:
- 1. Replenish
- 2. Support health

No More Gluten-free Means:

- Avoid Dairy
  - (temporary)
  - Typical foods:
    - Milk
    - Ice cream
    - Cottage cheese
- Nutrient Concerns:
  - Calcium
  - Vitamin D
  - Riboflavin
  - Potassium

Why Worry?

Calcium

- Strong bones
  - Fractures
  - Osteoporosis
- How much:
  - Children: 800 mg/day
  - Most adults: 1,000 mg/day
  - Consider: +200 – 400 mg/day for catch-up

Vitamin D (The “new” vitamin)

- Strong bones
  - Enhanced calcium absorption
- Muscle strength
- Protect against cancer, diabetes, heart disease, stroke, memory loss, dementia, autoimmune diseases?
- “General” well-being
- How much?
  - 400 IU/ day (under 60)
  - 800 to 1,000 IU/day (60 and over)
  - Check vitamin D level

No More Gluten-free Means:

Avoid wheat, barley, rye

- Enriched flour
- Enriched/fortified cereals
- Bran, wheat germ
- 100% whole wheat, semolina, durum flour
- Bread, pasta, muffins, pancakes, waffles, biscuits, doughnuts, cookies, cakes, English muffin, ...

Nutrient Concerns:

- Enriched/fortified flour, cereals:
  - Thiamin
  - Niacin
  - Riboflavin
  - Iron
  - Folic acid (folate)
- Whole grains
  - Fiber
  - Magnesium

Why Worry?

Thiamin, Niacin, Riboflavin

- "B" vitamins
  - Nerve function
  - Metabolism of carbohydrates and proteins
- How much?
  - Thiamin: 1.1 - 1.2 mg/day
  - Niacin: 14 – 16 mg/day
  - Riboflavin: 1.1 – 1.3 mg/day

Folate

- Fetal brain, spinal cord development
  - Spina bifida
- Normal blood cells
  - (Megaloblastic anemia)
- How much?
  - 400 mcg/day

Why Worry?

Iron

- Oxygen transported from lungs to vital organs
- How much:
  - Pre-menopausal: 18 mg/d
  - Men/Post-menopausal: 10 mg/day

Magnesium

- Bone structure
- Protect against diabetes
- General well-being
- How much:
  - 320-420 mg/day

Why Worry?

Fiber

- General gut health
- Protect from colon cancer
- Soluble (oats, barley)
  - Lower cholesterol
  - Lower blood sugars

- How much?
  - 25 - 35 grams day

NuVal: Overall Nutritional Value

The Number:

- Scores 1 to 100
- The higher the score, the better the nutritional value
- Example:
  - Banana: NuVal 91
  - Full Throttle: NuVal 1

How do they get it?

- Add up the “good” stuff:
  - Calcium, iron, protein, etc.
  - Fiber, antioxidants
  - Ingredients: whole grains
- Divide by the “problem” stuff:
  - Added sugar
  - Saturated fat, trans fat
  - Sodium
  - Cholesterol

NuVal:
Overall Nutritional Value

NuVal and Gluten-free:

Traditional NuVal Scores

- Pasta
  - Regular NV = 61
  - Whole Wheat NV = 91
- Cereals
  - Most NV = 22 – 26
  - Wheaties NV = 28
- Bread
  - HV Cottage White NV = 24
  - HV 100% W Wheat NV = 32

Gluten-free Scores

- Pasta
  - Brown Rice NV = 29 – 81
- Cereals
  - Most NV = 11 – 25
- Breads
  - Pamela's Bread Mx NV = 23
  - Udi's White Sand. NV = 24
  - Kinnick. Brown Snd NV = 38

Let’s Make up the Loss

Non-grain Super Foods

- Leafy greens
- Legumes: beans, soy, lentils
- Nuts: almonds, walnuts, peanuts, etc.

Gluten-free Super Grains

- Quinoa
- Flax
- Chia
- Montina
- Coconut flour, de-fatted

Super Foods: Leafy Greens

Why?

- High in magnesium
- Fiber
- Vitamin A
- Antioxidants/Phytonutrients

How?

- Kale
  - Roast
  - Add to salads
  - Stir-fry, add to soups
- Spinach
  - Sandwiches
  - Replace part of lettuce in salads
  - Add chopped to meatloaf, lasagna, soups

Superfoods: Legumes (beans)

Why?

- Fiber, especially soluble
- Potassium
- Magnesium
- Protein

How?

- Add canned to salads, soups
- Lentils to replace ground beef
- Black beans “gentler”

Superfoods: Nuts and Seeds

Why?

- Assorted minerals
  - All: manganese
  - Almonds: magnesium, calcium
  - Hazelnuts, walnuts, pistachios: copper
  - Brazil nuts: selenium

How?

- Nut butters on gf crackers or apple slices
  - Peanut, almond, sunflower, soy
- Add chopped nuts to cooked cereal, yogurt
- Sprinkle nuts on fruit or tossed salad
- Make GF trail mix

Superfoods: Chia

Why?

- **Each 15 gram (1/2 oz) serving of Omega 3 Chia contains:**

- **Omega 3 fatty acids**-equal to 250 grams (9 oz) of salmon
- **Antioxidants**-equal to 15 grams of blueberries
- **Fiber**-equal to 17 grams of bran
- **Protein-**equal to 44 grams of kidney beans
- **Calcium**-equal to 3 oz whole milk
- **Magnesium**-equal to 73 grams of spinach
- **Iron**-equal to 103 grams of spinach

Superfoods: Chia

How?

- Use ½ cup water to one scoop chia for a gel; add cinnamon for a breakfast treat
- Substitute 1 -2 Tbsp chia flour in recipes
- Use chia seeds in salads, soups, muffins, breads, cookies
- Use chia seeds for an ice cream topping

Superfoods: Flax

Why?

- Helps control cholesterol
- Omega 3 fats: 2 Tbsp has 2.4 grams
- Good source of fiber

How?

- Ground flax is absorbed better
- Use in cereal, soup, muffins, breads, cookies
- Keep refrigerated after opening for freshness

Superfoods: Montina

Why?

- Adds protein and fiber
- Brown in color so adds a “whole grain” appearance

How?

- Use in breads, cookies, muffins
- Baking mix can be used as a “mix” in breads, cookies, muffins
- Baking supplement is 100% Indian Rice Grass

Superfoods: Coconut Flour

Why?

- Adds flavor
- Fiber from the coconut meat after most of the oil has been extracted

Nutrition Facts

Serving Size 3.5 oz (100 grams)
Servings 10

Amount Per Serving	
Calories 413.4	Fat Cal. 77.06
	%Daily Value*
Total Fat 8.7g	13%
Saturated Fat 8.0g	40%
Transfat 0g	
Cholesterol 0mg	0%
Sodium 80mg	3%
Total Carbohydrate 64.8g	22%
Dietary Fiber 38.5g	154%
Sugars 8.7g	
Protein 19.3g	38%
Iron 5%	

*Percent Daily Values are based on a 2,000 calorie diet

How?

- Substitute 10 – 30% of flour with coconut flour
- Contains natural sugar from the coconut so may need less sugar in recipe

Regulatory Agencies

- Food and Drug Adminstration (FDA)
  - Food Allergen Labeling and Consumer Protection Act, 2006
  - Eight allergens must be included on the food label: Wheat, milk, eggs, fish,crustacean shellfish, tree nuts, soy, peanuts
  - **Look for barley, rye, oats, and malt**

Regulatory Agencies

- U.S. Department of Agriculture

  (USDA)

  Regulates meat, poultry, and egg products including mixed food products containing more than 3% raw meat, at least 2 % cooked meat, or at least 2 % cooked poultry.

USDA products that may contain gluten

- Lunch meats, hotdogs, canned meats, prepackaged seasoned “fresh” chicken products.
- No mandatory allergen labeling rule
- If you see “modified food starch” or “dextrin” contact the manufacturer (on a USDA product.)

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Natural Flavors

- **FDA product** will state “wheat”
- Barley = malt
- Rye = Rye flavoring
- **USDA product** cannot contain protein in “natural flavor” so it does not contain undeclared wheat, barley, or rye

Gluten-Free Labeling

- Will apply to both FDA and USDA foods
- 20 parts per million or less of gluten
- Bag of candy with 1 million red candies, but 20 were blue
- One ounce of bread containing 20 ppm gluten = 35 slices of bread

Naturally Gluten Free Grains Not Specified Gluten Free

- May contain gluten due to cross contamination (i.e. nuts, seeds, buckwheat, cornmeal, sweet rice)
- 41% samples contained 8.5 to 2925 ppm
- 32% contained > 20 ppm

Thompson, Tricia and Lee, Anne Roland, *JADA* ,June 2010, p 937 - 939

Zero Gluten vs. Gluten Free

- Impossible currently to test a food to 0 ppm
- Food labeled “gluten free” contains

  <20 ppm regardless if gluten in ingredients of unintentional cross contamination

Wheat Starch and Modified Food Starch

- Removes most of the protein leaving starch
- Final product must contain < 20 ppm

Confusing allergen advisory statements

- “Made in a facility that also manufactures products contain gluten.”
- “Produced in a facility that uses wheat, milk soy, almonds, pecans.”
- No federal guidelines for allergy advisory statements (different from Food Allergen Labeling and Consumer Protection Act.

More Resources

Hy-Vee

- www.hy-vee.com
  - Recipes
  - Gluten-free shopping list of Hy-Vee brands
  - Store dietitian locator

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