The Balancing Act – Nutrition and Food Allergy

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Today’s Objectives

- Define and review “Nutrition Needs”
- Impact of Food Allergies
- Role of the Dietitian
- Practical Tips for Meeting Nutrition Needs
Nutrition Needs

How do you determine your nutrition needs? (or your child’s?)
“Nutrition” - What does it mean to you?
**What is Nutrition?**

- *Nutrition* is the sum total of the processes involved in the **taking in** and the **utilization of food** substances by which growth, repair and maintenance of the body are accomplished.
  - It involves **ingestion**, **digestion**, **absorption** and **assimilation**.

- Good nutrition can help **prevent disease** and **promote health**.
  - six categories of nutrients that the body needs to acquire from food:
    - protein, carbohydrates, fat, fibers, vitamins and minerals, and water.
What is Nutrition?

- Normal Nutrition
  - Well Nourished
  - Healthy Growth

- Nutrition Principles
  - All children require same nutrients for growth, development, and health
  - Children with special needs may require more or less of specific nutrients
  - Nutrients can be adequately provided with a variety of feeding plans
  - Focus on “key” nutrients to decrease risk of nutrition-related problems
Growth and Weight Goals

- **Children**
  - Growth (Weight, Length or Height, Head Circumference)
  - Growth Curves
  - Indicator of nutrition status

- **Adults**
  - Maintenance of healthy weight
  - Body Mass Index goal: 18.5-24.9
  - Indicator of nutrition status
Nutrient Distribution & Intake

- Food Guide Pyramid – The Plate
- Importance of Nutrients (Food Groups):
  - Grains
  - Vegetables
  - Fruits
  - Dairy
  - Protein
Important Nutrients from Grains

- **Fiber** is important for proper bowel function and provide a feeling of fullness with fewer calories.
- The **B vitamins: thiamin, riboflavin, and niacin** play a key role in metabolism and are essential for a healthy nervous system (Many refined grains are enriched with these B vitamins).
- **Folate (folic acid)**, another B vitamin, helps the body form red blood cells.
Important Nutrients from Vegetables

• Naturally low in sodium, fat and calories
• Sources of Potassium
  ▪ Sweet potatoes, white potatoes, white beans, tomato products (paste, sauce, and juice), beet greens, soybeans, lima beans, spinach, lentils, and kidney beans
• Fiber
  ▪ helps reduce blood cholesterol levels, helps with proper bowel function and help provide a feeling of fullness with fewer calories
• Folate (folic acid) helps the body form red blood cells
• Vitamin A keeps eyes and skin healthy and helps to protect against infections
• Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy
  ▪ aids in iron absorption
Important Nutrients from Fruits

- Naturally low in fat, sodium, and calories
- Source of Potassium
  - Bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice
- Fiber
  - Helps with proper bowel function and provides a feeling of fullness with fewer calories. *Whole or cut-up fruits are sources of dietary fiber; fruit juices contain little or no fiber*
- Vitamin C
  - Important for growth & repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy
- Folate (folic acid)
  - helps the body form red blood cells
Important Nutrients from Dairy

- **Calcium**
  - Building bones and teeth and in maintaining bone mass

- **Potassium**
  - May help to maintain healthy blood pressure
  - Examples: Dairy products, especially yogurt, fluid milk, and soymilk (soy beverage), provide potassium

- **Vitamin D**
  - Functions in the body to maintain proper levels of calcium and phosphorous to build healthy bones
  - Other sources include vitamin D-fortified yogurt and vitamin D-fortified ready-to-eat breakfast cereals

- **Fat:** Milk products that are consumed in their low-fat or fat-free form provide minimal fat
  - Can safely be replaced with a combination of food, beverages and nutrition supplements
Important Nutrients from Protein

- **Great source of nutrition**: protein, B vitamins (niacin, thiamin, riboflavin, and B6), vitamin E, iron, zinc, and magnesium
- Proteins function as:
  - Building blocks for bones, muscles, cartilage, skin, and blood
  - Building blocks for enzymes, hormones, and vitamins
  - Provide calories
- **B vitamins**
  - Release energy, play a vital role in the function of the nervous system, aid in the formation of red blood cells and help build tissues
- **Iron** is used to carry oxygen in the blood
- **Magnesium** is used in building bones and in releasing energy from muscles
- **Zinc** is necessary for biochemical reactions and helps the immune system function properly
Important Nutrients from Oils

- Source of Essential Fatty Acids (polyunsaturated or monounsaturated fats)
- Vitamin E
- Some oil is needed for health
- Remember, oils still contain calories
Impact of Food Allergies

Restricting major food groups means missing important nutrients
Restricted diets **WILL** affect nutrient intake

- Increases risk for inadequate intake and poor growth
- Providing safe food can be challenging
- Food allergies may increase stress
- Nutrition monitoring is critical
- Education is important and ongoing
Major Food Allergens

- Milk
- Egg
- Soy
- Peanut/Tree nut
- Fish/Shellfish
- Wheat

*Eight foods cause 90% of the allergic reactions in the United States.*
At least 25% will have vitamin/mineral deficiencies

Impact on macronutrients (calories, protein, carbohydrate, fat) varies

Risk increases with additional problems

- Picky eating
- Feeding difficulties (ex: delayed advance of diet)
- Social or environment concerns impacting eating
- Poor growth/underweight
- Financial concerns
## Health Risks of Poor Nutrition

<table>
<thead>
<tr>
<th>Deficient Nutrient</th>
<th>Health Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>Protein</td>
<td>Low muscle mass</td>
</tr>
<tr>
<td></td>
<td>Poor immune function</td>
</tr>
<tr>
<td>Fat</td>
<td>Essential fatty acid deficiency</td>
</tr>
<tr>
<td>Iron</td>
<td>Anemia</td>
</tr>
<tr>
<td></td>
<td>Poor endurance</td>
</tr>
<tr>
<td>Calcium &amp; Vitamin D</td>
<td>Rickets</td>
</tr>
<tr>
<td></td>
<td>Osteomalacia</td>
</tr>
<tr>
<td>Zinc, Vitamins A, C, &amp; E</td>
<td>Poor wound healing</td>
</tr>
<tr>
<td>Zinc</td>
<td>Altered taste</td>
</tr>
<tr>
<td></td>
<td>Poor appetite</td>
</tr>
<tr>
<td>Vitamin K</td>
<td>Poor blood clotting</td>
</tr>
<tr>
<td>Allergen</td>
<td>Micronutrients Provided</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Milk</td>
<td>vitamin A, vitamin B&lt;sub&gt;1&lt;/sub&gt;, vitamin B&lt;sub&gt;2&lt;/sub&gt; (riboflavin), vitamin B&lt;sub&gt;12&lt;/sub&gt;, vitamin D, vitamin B&lt;sub&gt;5&lt;/sub&gt; (pantothenic acid), calcium, magnesium, selenium, zinc, potassium, phosphorus</td>
</tr>
<tr>
<td>Soy</td>
<td>thiamin, vitamin B&lt;sub&gt;2&lt;/sub&gt; (riboflavin), pyridoxine, folic acid, calcium, phosphorus, magnesium, iron, zinc</td>
</tr>
<tr>
<td>Wheat</td>
<td>thiamin, vitamin B&lt;sub&gt;2&lt;/sub&gt; (riboflavin), niacin, iron, zinc, selenium, chromium, folic acid if fortified</td>
</tr>
</tbody>
</table>
### Key Vitamins & Minerals Provided by Food Allergens

<table>
<thead>
<tr>
<th>Allergen</th>
<th>Micronutrients Provided</th>
<th>Alternative Food Substitutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg</td>
<td>vitamin B&lt;sub&gt;12&lt;/sub&gt;, vitamin B&lt;sub&gt;2&lt;/sub&gt; (riboflavin), vitamin B&lt;sub&gt;5&lt;/sub&gt; (pantothenic acid), biotin, selenium, iron, folic acid, vitamin E, chromium</td>
<td>meats, legumes, beans, lentils, whole grains, nuts, leafy green vegetables, fish, dried fruit</td>
</tr>
<tr>
<td>Peanuts/Tree nuts</td>
<td>vitamin E, biotin, copper, folic acid, niacin, magnesium, manganese, chromium</td>
<td>whole grains, vegetable oils, soybean, egg, other legumes</td>
</tr>
<tr>
<td>Fish/Shellfish</td>
<td>vitamin B&lt;sub&gt;6&lt;/sub&gt;, vitamin E, niacin, phosphorus, selenium, omega-3 fatty acids, folic acid, copper, zinc, potassium, vitamin A</td>
<td>fortified whole grains, meats, oils, soybean, seeds, nuts, milk, egg</td>
</tr>
<tr>
<td>Breakfast</td>
<td>Lunch</td>
<td>Dinner</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Whole milk</td>
<td>Whole milk</td>
<td>Whole milk</td>
</tr>
<tr>
<td>Cereal</td>
<td>Peanut butter and jelly sandwich</td>
<td>Meatloaf</td>
</tr>
<tr>
<td>Banana</td>
<td>Cooked carrots, butter</td>
<td>Dinner roll, butter</td>
</tr>
<tr>
<td></td>
<td>Strawberries</td>
<td>Peas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mashed potatoes</td>
</tr>
<tr>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
</tr>
<tr>
<td>Granola bar</td>
<td>Yogurt drink</td>
<td>Ice cream</td>
</tr>
<tr>
<td>Juice</td>
<td>Oatmeal cookie</td>
<td></td>
</tr>
</tbody>
</table>

Sample Menu: 1 to 3 year old child (Diet 1)
## Diet 1 Analysis

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
<th>% Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>1490</td>
<td>&gt;100%</td>
</tr>
<tr>
<td>Protein</td>
<td>47 grams</td>
<td>360%</td>
</tr>
<tr>
<td>Fat</td>
<td>55 grams</td>
<td>33% total calories</td>
</tr>
<tr>
<td>Calcium</td>
<td>1100 milligrams</td>
<td>157%</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>203 IU</td>
<td>34%</td>
</tr>
<tr>
<td>Iron</td>
<td>9.9 milligrams</td>
<td>141%</td>
</tr>
<tr>
<td>Zinc</td>
<td>8.9 milligrams</td>
<td>297%</td>
</tr>
</tbody>
</table>
## Sample Menu: 1 to 3 year old child milk, egg and peanut allergy (Diet 2)

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole milk – Cereal</td>
<td>Whole milk – Peanut butter and jelly sandwich – Cooked carrots, butter, Strawberries</td>
<td>Whole milk – Meatloaf – Dinner roll, butter – Peas – Mashed potatoes</td>
</tr>
<tr>
<td>Banana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
</tr>
<tr>
<td>Granola bar – Juice</td>
<td>Yogurt drink – Oatmeal cookie</td>
<td>Ice cream</td>
</tr>
</tbody>
</table>

### Problem Nutrients:
- Calories
- Protein
- Fat
- Calcium
- Vitamin D
- Iron

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## Diet 2 Analysis

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>% Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>25%</td>
</tr>
<tr>
<td>Protein</td>
<td>41%</td>
</tr>
<tr>
<td>Fat</td>
<td>6% total calories</td>
</tr>
<tr>
<td>Calcium</td>
<td>14%</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>3%</td>
</tr>
<tr>
<td>Iron</td>
<td>59%</td>
</tr>
<tr>
<td>Zinc</td>
<td>87%</td>
</tr>
</tbody>
</table>
## Revised Menu: 1 to 3 year old child
milk, egg and peanut allergy (Diet 3)

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enriched soy milk</td>
<td>Enriched soy milk</td>
<td>Enriched soy milk</td>
</tr>
<tr>
<td>Cereal</td>
<td>Soy nut butter and jelly sandwich</td>
<td>MF/EF meatloaf with ketchup</td>
</tr>
<tr>
<td>Banana</td>
<td>Cooked carrots</td>
<td>MF Dinner roll with MF margarine</td>
</tr>
<tr>
<td></td>
<td>Strawberries</td>
<td>Peas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mashed potatoes (made with chicken broth)</td>
</tr>
<tr>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
</tr>
<tr>
<td>Teddy Grahams</td>
<td>Soy yogurt</td>
<td>Soy ice cream</td>
</tr>
<tr>
<td>Orange juice</td>
<td>FAAN Oatmeal cookie</td>
<td></td>
</tr>
</tbody>
</table>

[www.foodallergy.org](http://www.foodallergy.org)
## Diet 3 Analysis

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>%</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>1360</td>
<td>&gt;100%</td>
</tr>
<tr>
<td>Protein</td>
<td>42 grams</td>
<td>321%</td>
</tr>
<tr>
<td>Fat</td>
<td>49 grams</td>
<td>32% total calories</td>
</tr>
<tr>
<td>Calcium</td>
<td>754 milligrams</td>
<td>108%</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>285 IU</td>
<td>48%</td>
</tr>
<tr>
<td>Iron</td>
<td>10 milligrams</td>
<td>147%</td>
</tr>
<tr>
<td>Zinc</td>
<td>6 milligrams</td>
<td>201%</td>
</tr>
</tbody>
</table>
Role of the Dietitian
What is a Pediatric Dietitian?

Oral Feeding

Growth

Nutrition

Tube Feeding
What is the role of the Registered Dietitian

- Provide education for the avoidance of food allergens
  - Reading food labels – what to avoid
  - List of food/beverage substitutes
  - Review of nutrition risk
- Monitor growth and weight
- Evaluate and monitor intake
- Provide recommendations regarding multivitamin and mineral supplements
- Recommendations for nutrition labs (blood work)
Practical Tips for Meeting Nutrition Needs

What do you need to do?
What to feed the child with food allergies?

- To Get Started....
  - Start a notebook
  - Start with single ingredient foods
  - Make lists
- Don’t give up
- Read labels every time
- Rule for home: “re-read the label when you open the food item”
Check list: Ensure adequate nutrition

- Eat foods from all food groups
- Drink water throughout the day
- Eat 3 meals and 1-2 snacks per day
- Drink an age appropriate beverage with meals
- Set nutrition goals (ex: “eat breakfast every morning”)
- Prepare for challenges
- Include age appropriate multivitamin
- Monitor weight and growth

- Key factors to demonstrate adequate nutrition
  - Well nourished
  - Healthy growth
  - Decreased or infrequent illness
Personalized Meal Plan

- Key to a “Healthy” nutritionally complete diet
- Identify Age Appropriate Drink
- Make list of allowed foods
  - Break it into the 5 food groups
- Create list of “missing” nutrients due to food allergies
- Prepare list of foods and supplements to replace “missing” nutrients
- Incorporate a protein at least 3 times per day
Healthy Eating

- Balanced diet with allowed foods
- Balanced diet means:
  - consuming food from all the food groups
  - consuming foods in the right quantities
  - making appropriate substitutions for any food groups not in diet due to food allergy
- The Plate (5 food groups):
  - fruits, vegetables, whole grains, protein and dairy
- On the side: fats, sugars, sodium
Think the Drink

*Identification of Age Appropriate Beverage is Key when Cow’s Milk must be avoided*
Formulas & Milk Alternatives

- **Enriched soy milk**
  - ~300 mg calcium/8 oz serving
  - Use for 12 months and older
  - Lower in fat than whole milk, slightly lower in protein

- **Enriched rice milk**
  - 200 to 400 mg calcium/8 oz serving
  - **NOT** recommended for children under 2 years
  - Low in fat & calories. Almost protein free.

- **Enriched almond milk**
  - 300 to 450 mg calcium/8 oz serving
  - Low in fat & calories. Almost protein free.
Formulas & Milk Alternatives

- **Calcium fortified fruit juice**
  - 100 to 500 mg calcium/ 8 oz serving
  - Very low in protein and fat
  - Limit use
  - May be used to supply some calcium, depending on age, growth, and nutrient intake

- **Toddler soy formula**
  - Infant soy formula, toddler soy formula, Bright Beginnings Pediatric Soy Drink

- **Hydrolyzed formula (Infant & Toddler)**
  - Nutramigen, Alimentum, Pediasure Peptide

- **Amino Acid Based Formulas (Infant & Toddler)**
  - Neocate Infant, Neocate Jr., Elecare Infant, Elecare Jr., Splash, PurAmino
Comparison of Milk Alternatives

- **Per 8 oz serving**
  - Cow’s Milk (3.25% fat or Whole)
    - 146 calories, 8 g fat, 8 g protein
  - Enriched Soy milk
    - 80-120 calories, 3-4 g fat, 7-8 g protein
  - Enriched Rice milk
    - 90-120 calories, 2-3 g fat, 1 g protein (missing 4 essential amino acids)
  - Enriched Almond milk
    - 50 calories, 2.5 g fat, 1 g protein
  - Calcium Fortified Fruit Juice
    - 110 calories, 0.3 g fat, 2 g protein

- Rice milk, almond milk, juice, as well as some other milk alternatives are inappropriate for the child under 2 years of age or any child with inadequate fat and protein intake.
## Calcium & Vitamin D Guidelines

<table>
<thead>
<tr>
<th>Age</th>
<th>Calcium (DRI*)</th>
<th>Vitamin D (DRI*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>700 mg</td>
<td>600 IU</td>
</tr>
<tr>
<td>4-8 years</td>
<td>1000 mg</td>
<td>600 IU</td>
</tr>
<tr>
<td>9-18 years</td>
<td>1300 mg</td>
<td>600 IU</td>
</tr>
<tr>
<td>31-50 yrs; 50-70 yr-male; 19-50 yr pregnant/lactating</td>
<td>1000 mg</td>
<td>600 IU</td>
</tr>
<tr>
<td>50-70 yr-female;</td>
<td>1200 mg</td>
<td>600 IU</td>
</tr>
<tr>
<td>14-18 yr pregnant/lactating</td>
<td>1300 mg</td>
<td>600 IU</td>
</tr>
</tbody>
</table>

*Dietary Reference Intake

Source: [http://iom.edu/Activities/Nutrition/SummaryDRIs/~/media/Files/Activity%20Files/Nutrition/DRIs/RDA%20and%20AIs_Vitamin%20and%20Elements.pdf](http://iom.edu/Activities/Nutrition/SummaryDRIs/~/media/Files/Activity%20Files/Nutrition/DRIs/RDA%20and%20AIs_Vitamin%20and%20Elements.pdf)
Vitamin/Mineral Supplement – Who needs it?

- No
  - If drinking 32 oz “complete” formula
  - If eating a wide variety of foods from all food groups
- Maybe – if avoiding one major food group
- Probably – if avoiding two major food groups
- Definitely – if avoiding three or more major food groups
- Everyone needs Calcium/Vitamin D supplement if
  - avoiding milk and
  - not drinking 32 oz enriched milk substitute or “complete” formula
Allergen Free Multivitamins
Free of milk, soy, egg, wheat, peanut, tree nut, fish, & shellfish

- One-A-Day Scooby Do Complete
- One-A-Day Bugs Bunny Complete
- Target Brand Comparable to Flintstones Children’s Chewable Complete
- NanoVM (1-3 yrs and 4-8 yrs)*#
- Nature’s Plus Animal Parade Children’s Chewable
  • (be sure the vitamin you choose has iron)

*This product is only available online
#This is the only allergen-free vitamin that contains selenium
Note: Products can change at any time and labels should be read before use
Calcium & Vitamin D₃ Supplements

- Variable mg of Calcium
- Some will contain Vitamin D₃
- Suggestions for adding calcium:
  - Tums
  - Caltrate
  - Powdered Calcium (Kirkmanlab.com)
  - Calcium fortified food products
  - Multivitamin with added calcium
- Suggestions for adding Vitamin D₃
  - Liquid Vitamin D₃ drops
  - Chewable Vitamin D₃ tablets
  - Multivitamin with added Vitamin D₃
Calcium Tips

- Take in divided doses if >500 mg per day preferably with food
- Vitamin D and Vitamin C improve absorption
- High fiber diet decreases absorption
- Iron competes for absorption
- Pills, chewable, candies and liquid forms are available
  - Calcium carbonate, calcium citrate
  - Read labels carefully
  - Usually less than 100 mg in children’s chewable multivitamins
  - Calcium is not in liquid multivitamins

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Non-dairy Sources of Calcium

- Caution – not as much as you think
- Based on adult portion sizes
- Legumes
  - Black beans 51 mg
  - Navy beans 64 mg
- Vegetables
  - Bok Choy 79 mg
  - Broccoli 89 mg
  - Collard greens 178 mg
- Fortified foods
  - Breads, cereals, crackers, beverages (variable)
Wheat Alternatives

- **Amaranth Flour**: can be used to replace up to 25% of flour needed. Great for baking when combined with a non-grain flour.
- **Arrowroot Flour**: used to thicken recipes
- **Barley Flour**: used to thicken or flavor soups or stews. Has a moist, sweet, nut-like flavor. Can be used for biscuits, pancakes, cookies, and breads.
- **Brown Rice Flour**: helpful in a heavier product, but normally mixed with other flours because it is so heavy.
- **Buckwheat Flour**: not generally used on its own. Unique flavor that can be used in both quick and yeast breads.
- **Chick Pea Flour** (Gram or Garbanzo Flour): not normally used on its own.
- **Corn Flour**: used to thicken recipes and sauces.
- **Cornmeal**: not generally interchangeable in recipes.
**Wheat Alternatives**

- **Millet Flour**: used to thicken soups and make flatbreads and griddle cakes.
- **Potato Flour**: very heavy with a strong potato flavor.
- **Potato Starch Flour**: light potato flavor, normally not noticed in recipes.
- **Rye Flour**: has a strong flavor. Often used to make bread, pancakes and muffins.
- **Sorghum Flour**: millet like grain that adds flavor to wheat free baking.
- **Soya (Soy) Flour**: has a nutty taste. Not used on its own, and can be used to thicken recipes or add flavor.
- **Tapioca Flour**: adds chewiness, and is a good thickener.
- **Teff Flour**: light whole grain flour, which adds a unique flavor for baking.
- **White Rice Flour**: very bland in taste. Can be used on its own for many things.
- **Quinoa flour**: has a nutty taste, higher in fiber and protein than other flours. Often used for baking. Makes baked goods more moist.
Wheat Alternatives

- **Wheat-Free All Purpose Flour Mix Recipe #1**
  Mix the following flours together:
  
  1 cup cornstarch
  
  2 cups soy flour
  
  2 cups rice flour
  
  3 cups potato starch flour

  Use a little bit more flour than recipe calls for. Reduce oven temperature by about 25 degrees. Store extra flour mix in the refrigerator.

- **Wheat-Free All Purpose Flour Mix Recipe #2**
  Mix the following flours together:
  
  ½ cup millet
  
  ¼ cup potato starch
  
  ¼ cup oat flour
## Egg Replacers

1 egg is equal to:

- 2 tablespoons potato starch
- 1/4 cup mashed potatoes
- 1/4 cup canned pumpkin or squash
- 1/4 cup puréed prunes
- 2 tablespoons water + 1 tablespoon oil + 2 teaspoon baking powder
- 1 tablespoon ground flax seed simmered in 3 tablespoons water
- 1 tablespoon soy milk powder + 1 tablespoon cornstarch + 2 tablespoons water
- 1 tablespoon of flaxseed oil + 1/4 cup of banana or applesauce + 1/4 cup of tofu

1 egg is equal to:

- 1 tablespoon arrowroot, 1 tablespoon soya flour and 2 tablespoons water
- 2 tablespoons flour + 1/2 tablespoon shortening + 1/2 teaspoon baking powder + 2 teaspoons water
- 1 tablespoon plain agar powder dissolved in 1 tablespoon water, whipped, chilled, and whipped again
- 2 tablespoons cornstarch
- 2 tablespoons arrowroot flour
- 1 heaping tablespoon soy powder + 2 tablespoon water
- 1 banana - use in cakes.
- 1 tablespoon milled flax seed + 3 tablespoon water - use for light, fluffy cakes!
- 1 tablespoon water + 1/2 tablespoon of oil + 1 tablespoon baking powder
- 1 tablespoon gram (chick pea) or soya flour + 1 tablespoon water
- 1/2 large banana, mashed
Egg Replacers

- Commercial Egg Replacers (Ener-G, Bob’s Red Mills, etc)
- Tofu is a great egg substitute in recipes that call for a lot of eggs, like quiches or custards.
  - Replace 1 egg = purée 1/4 cup soft tofu
  - Keep in mind that tofu doesn’t fluff up like eggs, but it does create a texture that is perfect for “eggy” dishes.
  - Use instead of eggs in eggless egg salad, breakfast scrambles, and meatloaf.
  - Be sure to use plain tofu, not seasoned or baked.
Egg Replacers

- **Eggs as a Binder** - For recipes that use eggs mostly to hold ingredients together, such as drop cookies and breaded meats.

- Possible substitutes for one egg include:
  - 1/2 of a medium banana, mashed
  - 1/4 cup of applesauce (or other pureed fruit)
  - 3-1/2 tablespoons gelatin blend (mix 1 cup boiling water and 2 teaspoons unflavored gelatin, and then use 3-1/2 tablespoons of that mixture per egg)
  - 1 tablespoon ground flax seed mixed with 3 tablespoons warm water; let stand 1 minute before using
  - Commercial egg replacement products (see above)
  - Soy milk
  - Soy dessert - vanilla, chocolate, strawberry
  - Soy cream
  - Plain silken tofu
  - Sweet white sauce (soy milk, vegan margarine, sugar and corn flour)
  - Agar
Tips for Finding Substitutions

- Make a list of the foods that need a substitution
- Look for foods with shorter ingredient lists
  - Natural
  - Organic
  - Generic and/or store brand
- Research brands & food labels on-line
- Check online shopping websites
  - www.peanutfreeplanet.com
  - www.nanvanfoods.com
  - www.allerrific.com
  - www.vinemarket.com
- Identify allergen-recipes
Finding allergen free foods

- Keep it Simple: Single ingredient foods
- Intranet: Online grocery stores
- Recipes, recipes and more recipes
- Regular and Specialty Grocery Stores
- Food Manufactures Websites
- Learn to Read the Food Label

www.foodallergy.org
Snack Ideas – Free of the Top 8

- Cereal - Some ideas include Rice Chex, Corn Chex, Kix, Berry Kix, Honey Kix, Perky O's
- Trail mix - make your own with your choice of "safe" cereal, dried fruit, pumpkin seeds, sunflower seeds, etc - be creative!
- Granola - peanut/tree nut free variety; homemade or something from Enjoy Life Foods
- Snack bars – homemade or something from Enjoy Life Foods, EnrPro, AllerEnergy, etc.
- Fresh fruit
- Canned/prepackaged fruit cups
- Applesauce cups
- Fresh vegetables with hummus or other dips made from allergen free spreads
- Raisins and other dried fruits
- Cereal Bars – example recipe at: http://www.eatingwithfoodallergies.com/allergyfreecerealbars.html
- Rice crackers - top with sunflower butter or cracker sized pieces of turkey or chicken breast
- Corn chips (like tortilla chips) with salsa
- Popcorn
- Corn Thins (similar to a thin rice cake) topped with sunflower butter (great for making a sandwich if you haven't found a bread that works)
- Pretzels (Ener-G Foods, Glutino make gluten free pretzels)
- All natural meat sticks
Basic Guidelines

- ENJOY your food!
- Create & review the personalize meal plan
- Work fruits and vegetables into the daily routine
  - ½ the plate per meal
- Make it easy for kids to choose healthy snacks
- Serve lean meats and other good sources of protein
- Choose whole-grain breads and cereals
- Limit fat intake
- Limit fast food and low-nutrient snacks
- Limit sugary drinks
Healthy Eating Check List

- Think the Drink
- Offer foods from every food group
- Keep it simple
- Have regular family meals
- Be a role model by eating the same foods
- Avoid battles over food
- Cook more meals at home
- Get kids involved
Healthy Eating Check List

- Limit portion sizes
  - They change over time
- Limit sugar, salt and fat
- Eat slowly
- Discourage eating meals or snacks while doing something else (watching TV, playing with the iPad, etc)
- Drink more water
Healthy Eating Check List

- Focus on the positive
- Try not to use food to punish or reward your child
- Get creative
- Keep mealtime calm and positive
- Incorporate allergen free multivitamin & other nutrition supplements as needed
In Summary

- Carefully Balance Nutrition Intake & Food Allergy
- Incorporate all possible food groups
- Identify the most appropriate nutrition beverage
- Maintain a healthy weight
- Incorporate multivitamins and minerals at needed
- Consult with a Registered Dietitian
- Be creative
"If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health."  
Hippocrates
Questions
Our Next Webinar

The Rights of Individuals with Allergy-Related Disabilities Under the ADA

William Lynch
Trial Attorney
U.S. Department of Justice
Civil Rights Division
Disability Rights Section

Wednesday, November 12
1:00 – 2:00 PM ET

Member registration opens
Friday, October 10

Open registration begins
Monday, October 20