Prescribing an Elimination Diet

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Applying Functional Medicine in Clinical Practice
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Disclosure

- **DAN LUKACZER, ND** has indicated he has no financial relationships with any relevant commercial supporter or with the manufacturer of any commercial product or provider of any commercial service relevant to this activity.
Objectives

• Understand the use of elimination diets in the assessment and treatment of chronic diseases
• Analyze conditions in which elimination diets can improve symptoms
Removing the Tacks:
The Power of the Elimination Diet
Conclusion   The evidence of the prevalence and management of food allergy is greatly limited by a lack of uniformity for criteria for making a diagnosis

JAMA. 2010;303(18):1848-1856  www.jama.com
Manifestations Food Allergies

Gastrointestinal
• GERD, eosinophilic gastroenteritis
• Diarrhea, FTT
• Constipation (60% unexplained constipation in infants is CMA)

Cutaneous

Respiratory

Additional

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Manifestations Food Allergies

Gastrointestinal

Cutaneous
- Atopy: ~1/3 atopic dermatitis have cow’s milk allergy, 45% of milk-allergic infants have atopic dermatitis.
- Vasculitis

Respiratory

Additional
Manifestations Food Allergies

- Heiner syndrome
- Chronic serous otitis media
Manifestations Food Allergies

Gastrointestinal
- Systemic anaphylaxis
- Irritability/Sleeplessness in Infants

Cutaneous
- Arthropathy
- Nephropathy

Respiratory
- Systemic anaphylaxis
- Irritability/Sleeplessness in Infants
- Arthropathy
- Nephropathy

Additional
Learning Objectives

- Understand the fundamentals and variants of the elimination diet
Learning Objectives

- Recognize when and why to use an elimination diet

What
When & Why
How
What If

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Learning Objectives

What

When & Why

How

What If

• Be able to implement an elimination diet
Learning Objectives

- Evaluate problems and implement practical solutions for patients on an elimination diet
- Systematically assess patient response to an elimination diet
WHAT
What is an Elimination Diet?

Elimination of foods and food additives that may be causing an immunological or non-immunological reaction

**Immunological reaction:**
Allergy or “hypersensitivity,” which may be IgE, IgG, IgM, IgA, or T-cell mediated

**Non-immunological reaction:**
Intolerance that may be secondary to lactase deficiency, spoilage, or various other toxins

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WHY
Why an Elimination Diet?

• To understand whether there is a connection between food and symptoms – allergy or intolerance
• To “clear the playing field”
• To improve and enhance detoxification protocols (as you’ll review later in the week)
• To transition to a cleaner, healthier diet
What Do You Need for an Elimination Diet?

- Educated and committed patient who is open to the possibility that foods may be causing adverse reactions
  - Framing with stories and/or research
- Straightforward, practical program to assess that possibility
1. A vegan diet free of gluten improves the signs and symptoms of rheumatoid arthritis: the effects on arthritis correlate with a reduction in antibodies to food antigens. Rheumatology 2001 Oct;40 (10):1175-9


HOW
Types of Elimination Diets

• Simplified elimination diet (Caveman Diet) – lamb, rice, pear, sweet potato
• Food-specific dietary restriction
  • Gluten
  • Egg
  • Dairy
• Comprehensive elimination diet
• “Candida control” diet
• Fasting (potential pitfalls discussed more fully on Wednesday)
Elimination Diet Strategies

- Single item elimination
- Gluten-free-Casein-free
- Probability elimination (e.g. top 10 foods)
- Oligoantigenic (e.g. allow only a few foods)
- Fast

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Probability Elimination

- Gluten Grains
- Corn
- Beef/Pork
- Shellfish
- Soy
- Oranges
- Peanuts
- Refined Sugars
- Dairy Products
- Eggs

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Dietary Protocols Should Be:

- Flexible and adaptable
- Relatively easy and straightforward to use
- Designed to allow for consistent evaluation

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### Gluten-Free Diet

#### Types of Foods

<table>
<thead>
<tr>
<th>Type of Food</th>
<th>Food Allowed</th>
<th>Foods to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meats, Fish, Eggs, Cheese</td>
<td>All meats, poultry and fish prepared without gluten or chemicals</td>
<td>All meats except untreated and cheese</td>
</tr>
<tr>
<td>Fruits</td>
<td>Whole and water-porared</td>
<td>Smoked meats, poultry, fish, processed, preserved, and smoked with gluten</td>
</tr>
<tr>
<td>Vegetables</td>
<td>As desired</td>
<td>Cured meats, breads with wheat flour, and foods with hidden gluten</td>
</tr>
<tr>
<td>Grains</td>
<td>Whole and water-porared</td>
<td>Centrifuged bread, gluten-free, gluten-free</td>
</tr>
<tr>
<td>Nuts</td>
<td>Whole and water-porared</td>
<td>Spaghetti, macaroni, macaroni cereals, and oat-creamed cookies</td>
</tr>
<tr>
<td>Seeds</td>
<td>Whole and water-porared</td>
<td>Soy products, onions, garlic, and spices</td>
</tr>
<tr>
<td>Oils</td>
<td>As desired</td>
<td>Soy products, onions, garlic, and spices</td>
</tr>
<tr>
<td>Dairy</td>
<td>As desired</td>
<td>Soy products, onions, garlic, and spices</td>
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<td>As desired</td>
<td>Soy products, onions, garlic, and spices</td>
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Introduction to the Menu Plan for the Comprehensive Elimination Diet

Let's start with the "Foods to Include," and avoid these foods shown below.

"Foods to Eliminate" is the "Comprehensive Elimination Diet Guide." These guidelines are intended as a quick overview of the Dietary Plan. If you have a question about a particular food, check to see if it is on the food list. You should, of course, avoid any foods to which you know you are sensitive or allergic. The diet may change some of those guidelines based upon your personal health condition and history.

The "7-Day Menu Plan" may be used "as is" or via a "starting point." This is a suggested menu that might be useful while you are on the elimination diet. Feel free to modify it and incorporate your favorite foods, provided that they are on the "allowed" list.

A few suggestions which may be of help:

- You may have leftovers for the next day's meal as part of a meal, e.g., leftover leftovers.
- You may be tempted to cook extra chicken, meat, potatoes, rice, and beans, etc. that can be reheated for snacking or another meal.
- You may be tempted to replace most of the meals on the menu plan with leftovers.
- Cheese and eggs are excellent sources of protein. The menu is a protein-packed menu that includes your personal needs.
- You are encouraged to eat more vegetables and fruits in your personal meal plan. This is a balanced diet that provides essential nutrients needed for recovery.
- You may add nuts, seeds, whole grain breads, and other vegetables as needed.
- If you are on a vegetarian diet, ensure that the meals are rich in proteins and other nutrients.
- Quinoa, brown rice, lentils, and other legumes are excellent sources of protein.
- Broth-based meals are allowed, and used as needed.
- Use all of your leftovers as a basis for your next day's menus.
- Dishes that are easy to prepare, e.g., soups, stews, and casseroles, are encouraged.
- Avoid foods that are high in added sugars and unhealthy fats.
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# Comprehensive Elimination Diet

<table>
<thead>
<tr>
<th>Foods to Include</th>
<th>Foods to Exclude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-gluten grains (rice, quinoa, oat)</td>
<td>Wheat, gluten grains</td>
</tr>
<tr>
<td>Fish, organic poultry and lamb</td>
<td>Corn</td>
</tr>
<tr>
<td>Dried peas and beans</td>
<td>Beef, pork, shellfish, prepared meats</td>
</tr>
<tr>
<td>Fruits</td>
<td>Soy</td>
</tr>
<tr>
<td>Nuts</td>
<td>Oranges</td>
</tr>
<tr>
<td>Brown rice syrup or stevia</td>
<td>Peanuts</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Refined sugars</td>
</tr>
<tr>
<td></td>
<td>Dairy products</td>
</tr>
<tr>
<td></td>
<td>Eggs</td>
</tr>
</tbody>
</table>

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Vegetables

- All vegetables are allowed:
- raw, steamed, sautéed, juiced or roasted vegetables
- **Exceptions:** If someone has arthritis they may benefit by also excluding nightshades: potatoes, eggplant, peppers, tomatoes, cayenne, chili peppers
Fruit

All fruits are allowed (except oranges):

- Fresh, canned in own juices,
- Cooked, poached, dried (unsulfured)
- Frozen
- Diluted juices

Exceptions:
- If you suspect Candida, limit fruits or avoid completely during these initial three weeks.

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Grains: Rice

All types: brown, white, basmati, jasmine, red, black, etc.

100% rice cakes
100% rice crackers
rice noodles

Dry cereals: puffed rice cereal, rice milk (read all ingredients, do not use if has corn or other prohibited ingredients)

Crispy Brown Rice
100% rice bread
Other “Grains”

- Rice keeps it simple. BUT can also add:
  - Quinoa (highly recommended)
  - Millet
  - Buckwheat (actually a seed)
  - Amaranth (actually a fruit)
  - Teff
  - Tapioca
Protein Sources

- Poultry
- Fish
- Lamb
- Wild meats
- Beans & lentils
- Nuts and Seeds
Snacking

Examples:
Fruit
Left-over chicken
Bowl of soup with rice crackers
Mochi with 100% fruit jam
Vegetables and salsa
Carry food with you to keep blood sugar levels even
Planning

• Plan ahead and stock and unstock the kitchen. Buy the food you need in advance
• Make some food that you can eat quickly—salad, soup, cut up fruit, chicken
• Plan some meals
• Planned leftovers
• Fresh foods when possible
• Look at social needs and plan how you’ll eat comfortably
Planning

- Stock & Unstock the kitchen
- How to eat out comfortably
- Make snack food
- Fresh food when possible
- Plan Meals
- Planned leftovers
Pitfalls

- **Hidden foods**: labeling now requires disclosure of milk, eggs, soy, wheat, peanuts, fish/shellfish
  - Labeling can either be in ingredients list or a “contains” statement (must read both)

- **Consumer misconceptions**
  - E.g. Egg substitute is made with egg white protein; it is a useful substitute for those with concern re: cholesterol but not re: allergy

- **Cross-contamination**:
  - Cutting boards, grills, bulk bins, utensils, manufacturer
  - Latex allergy can cause symptoms with consumption of foods handled with latex gloves

Common Questions... What about...

- Coffee?
- Tea?
- Sweeteners? Artificial Sweeteners?
- Alcohol?
- Bread?
- Soft drinks?
- What do I put on cereal?
- How much can I eat?
Motivation

Emotions

Success Stories

Discuss Barriers

3-4 Weeks

Broker The Deal

Science

Tools & Support
Practical Information

- Follow “foods to include and exclude” page and/or the 7-day dietary menus.
- Prepare the kitchen to be successful.
- Educate patients on:
  - hidden sources of allergens
  - substitutions and snacks
  - *very* strenuous exercise may need to be curtailed
  - potential reactions
- Consider support with nutritional supplementation or food supplement.
Screen Carefully

- Emaciated
- Children
- Women - pregnant or lactating
- Individuals with Eating Disorders
# Hidden Foods

The list will help you identify hidden sources of refined simple sugars, unhealthy fats, and yeast that may be added to many common foods. If you have any concerns or questions about a food's ingredients or nutritional profile, don't hesitate to inquire. This list is a guide and should be used in conjunction with other dietary advice from a qualified health professional.

<table>
<thead>
<tr>
<th>Commonly Hidden Foods</th>
</tr>
</thead>
</table>
| **Egg**
| - Whole eggs
| - Egg whites
| - Egg yolks
| - Egg powder
| - Egg substitutes
| - Egg products
| **Milk**
| - All milk products
| - Cheese
| - Yogurt
| - Ice cream
| - Butter
| - Cream
| - Milk substitutes
| - Milk products
| **Soybeans**
| - Soy milk
| - Soy protein
| - Soy products
| - Soy lecithin
| **Wheat**
| - All wheat products
| - Bread
| - Pasta
| - Noodles
| - Oat bran
| - Bran
| - Cereal
| **Rice**
| - All rice products
| - White rice
| - Brown rice
| - Rice products
| **Corn**
| - All corn products
| - Corn oil
| - Cornstarch
| - Corn syrup
| **Yeast**
| - Baking yeast
| - Nutritional yeast
| - Brewer's yeast
| **Processed Foods**
| - Canned foods
| - Dried foods
| - Marinated foods
| - Processed meats
| - Precooked foods
| - Preserves
| - Sauces
| - Soups
| - Stews
| - Toppings
| **Nutrition**
| - Nutritional supplements
| - Vitamin and mineral supplements
| - Multivitamins
| **Food Additives**
| - Artificial colors
| - Artificial flavors
| - Artificial sweeteners
| - Preservatives
| **Enzymes**
| - Digestive enzymes
| - Enzyme supplements
| **Miscellaneous**
| - Alcohol
| - Caffeine
| - Salt substitutes
| - Artificial sweeteners

This list is not exhaustive and there may be other hidden sources of these substances in different foods. Always read labels carefully to identify potential sources of hidden ingredients.
# Substitutions to Use in Elimination Diets

<table>
<thead>
<tr>
<th>To replace</th>
<th>Use:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Rice, almond, coconut, or homemade nut milk (1/2 cup nuts or seeds blended with 1 cup water until smooth)</td>
</tr>
<tr>
<td>Cheese</td>
<td>Rice or almond; read labels for casein-free brands.</td>
</tr>
<tr>
<td>Eggs</td>
<td>Energe egg replacer; or blend 1 T. flax seeds in ¼ cup water and allow to thicken.</td>
</tr>
<tr>
<td>P Butter</td>
<td>Nut butters made from almonds, cashews, macadamia, walnut, hazelnut, pumpkin, sesame (tahini)</td>
</tr>
<tr>
<td>Breading</td>
<td>Grind any allowable rice cracker and use for breading.</td>
</tr>
<tr>
<td>Ice Cream</td>
<td>Rice Dream; 100% frozen fruit juice bars (Dole or Tazo brands); Cascadian Farms berry sorbet</td>
</tr>
<tr>
<td>Soda</td>
<td>Knudsen, Tazo brands of fruit spritzers, seltzer and juice; water; diluted juice</td>
</tr>
<tr>
<td>Jams</td>
<td>Cascadian Farms all-fruit jams; Sorrel Ridge or Polaner (read labels carefully)</td>
</tr>
<tr>
<td>Sugar</td>
<td>Fruit juice concentrate (Mystic Lake Dairy); brown rice syrup; Fruit Source (a combination of fruit juice concentrate and brown rice syrup); molasses</td>
</tr>
<tr>
<td>Pasta</td>
<td>Rice noodles (e.g., Mrs. Leepers, Risio, and Food for Life brands); 100% buckwheat udon noodles; cellophane noodles made from bean threads</td>
</tr>
<tr>
<td>Wheat</td>
<td>Rice cakes, rice crackers, rice almond and rice pecan breads, Energe brown rice or tapioca bread</td>
</tr>
<tr>
<td>Wheat cereals</td>
<td>Perky’s Nutty Rice, Crispy Brown Rice, puffed rice, puffed millet, cream of rice</td>
</tr>
<tr>
<td>Wheat flour</td>
<td>Rice flour, amaranth, quinoa, millet, teff, arrowroot, tapioca bean; nut and seed flours (use in combination with others to replace the full amount of wheat flour)</td>
</tr>
</tbody>
</table>

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## Healthy Substitutions

<table>
<thead>
<tr>
<th>Typical Choice</th>
<th>Healthier Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda</td>
<td>Seltzer and juice</td>
</tr>
<tr>
<td>Hamburgers</td>
<td>Turkey burgers</td>
</tr>
<tr>
<td>Hot dogs</td>
<td>Chicken or turkey dogs</td>
</tr>
<tr>
<td>Milk</td>
<td>Oat, rice, or almond milk</td>
</tr>
<tr>
<td>French fries</td>
<td>Baked white or sweet potato fries</td>
</tr>
<tr>
<td>Milkshakes</td>
<td>Homemade fruit smoothies</td>
</tr>
<tr>
<td>Ice cream</td>
<td>Rice Dream “ice cream”</td>
</tr>
<tr>
<td>Cookies</td>
<td>Fruit-sweetened cookies made with rice and/or oat flour</td>
</tr>
</tbody>
</table>

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Healthy Snacks

- Organic fresh fruits/dried fruits/fruit kabobs
- Homemade, unsweetened applesauce with cinnamon or baked apples
- Fruit smoothies
- Nuts and seeds (except for peanuts)
- Raw green beans, carrot, cucumber, and celery sticks (with or without salsa or hummus)
- Celery stuffed with almond, sunflower, cashew or walnut butter
- Carrot chips or sweet potato chips and salsa
Practical Information

- Clear written explanations will save time
- Expect initial overview and “how-to” to take approximately 45-60 minutes
- Important to follow up at 1 week to 10 days: phone consult generally acceptable depending upon patient
WHAT IF
Possible Reactions

- Herxheimer
- Withdrawal
- GI Function
- Hypoglycemia
- Coffee/Sugar
- Weight loss
Minimizing Reactions

- Activated charcoal, 4 capsules 2-3x daily
- Buffered C, 1 g 3-4x daily
Minimizing Reactions

Herxheimer
Withdrawal
GI Function
Hypoglycemia
Coffee/Sugar
Weight loss

Alka-Seltzer® Gold

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Minimizing Reactions

- Fiber
- Chamomile/peppermint tea
- Enteric-coated peppermint capsules
Minimizing Reactions

Herxheimer
Withdrawal
GI Function
Hypoglycemia
Coffee/Sugar
Weight loss

Protein/fats; nuts and seeds

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Minimizing Reactions

- Buffered C
- Nuts and seeds for snacks
Minimizing Reactions

- Herxheimer Withdrawal
- GI Function
- Hypoglycemia
- Coffee/Sugar
- Weight loss

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Minimizing Reactions

- **Herxheimer ("die off")**
  - Activated charcoal, 4 capsules 2-3x daily
  - Buffered C, 1 g 3-4x daily
- **Detoxification overload and "withdrawal" symptoms**
  - Alka-Seltzer® Gold
- **Changes in GI function**
  - Fiber
  - Chamomile/peppermint tea
  - Enteric-coated peppermint capsules
- **Hypoglycemia**
  - Protein/fats; nuts and seeds
- **Coffee and simple sugar reactions**
  - Buffered C
  - Nuts and seeds for snacks
- **Weight loss**
Reintroduction Steps

Assess at 3-6 weeks generally
Careful follow-up important – food introduction response chart

Assess at 3-6 wks
### Food Introduction Delayed Response Chart

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Food</th>
<th>Digestion</th>
<th>Bowel Function</th>
<th>Headache/Pressure</th>
<th>Nasal/Chest Congestion</th>
<th>Kidney/Bladder/Skin Function</th>
<th>Energy Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Note:** Please reintroduce only one new food at a time. Ingest it twice in the same day and then wait two days to see if you have a reaction. Assess your response over the next 72 hours. You may insert different headings on this chart to correspond with whatever signs or symptoms you may display. Important indicators which must be charted include digestion, bowel function, and energy level. If you require more space, use the back of this sheet and clearly mark the day, the food, and your symptom(s). If you are unsure that you had a reaction, retest the same food in the same manner.
Reintroduction Steps

Challenge only single foods at a time (e.g., pasta not pizza, or milk not ice cream)
• Eat several times for several days

Reintro Response Chart
Assess at 3-6 wks

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Reintroduction Steps

Challenge only one new food every two to three days. (48 hours minimum)

1 Food at a time
Reintro Response Chart
Assess at 3-6 wks

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Reintroduction Steps

Do not challenge with a new food if still experiencing a reaction.

- 1 new food 2-3 days
- 1 Food at a time
- Reintro Response Chart
- Assess at 3-6 wks

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Record symptoms in a diet and symptom diary.

- Diet/Symptom Diary
- 1 new food 2-3 days
- 1 Food at a time
- Reintro Response Chart
- Assess at 3-6 wks

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Reintroduction of Foods

- Assess at 3-6 weeks generally
- Careful follow-up important – food introduction response chart
Reintroduction of Foods: Practical Information

Challenge only single foods at a time (e.g., pasta not pizza, or milk not ice cream).
Reintroduction of Foods

Challenge only one new food every two to three days. (48 hours minimum)
Reintroduction of Foods

Do not challenge with a new food if still experiencing a reaction.
Reintroduction of Foods

Record symptoms in a diet and symptom diary.
Reintroducing Food

- Results may be unclear / may need to repeat
- Reaction may also be more acute than previously (e.g. hives where there was only delayed hypersensitivity before)
Common Signs and Symptoms During Food Challenges

- Headache, sugar cravings
- Rashes, eczema
- Muscle and/or joint aches
- Digestive complaints
- Sinus congestion
- Mood swings, irritability, concentration problems
- Fatigue, insomnia, hyperactivity, rapid pulse

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Takeaways

• Elimination diets are important as a therapeutic trial in a wide range of symptomatic patients.
• Elimination diets are doable with education and support.
• Following patients at 1-2 weeks and then at 3-4 weeks is useful and important for compliance.
• “Breaking” an elimination diet should be done carefully to provide useful information.
Intangible Benefits of the Elimination Diet

- Break the cycle of compulsion with particular foods
- Move the locus of control back to the patient
Addendum
Systems Affected

- Gastrointestinal
- Dermatologic
- Respiratory
- Neurologic
- Immune
  - Autoimmune disease affecting joints, kidneys, etc.
Gastrointestinal Tract

- Food Allergic Motility Disorders
  - GERD
  - Colic
  - Constipation
    

- Mucosal inflammatory disorders
  - Eosinophilic Esophagitis, other eosinophilic gastroenteritis
  - UC/Crohn’s – responsive to elemental diets
  - Pancreatitis

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Infants with GERD

- 204 consecutive patients (median age, 6.3 months) with GERD on the basis of 24-hour continuous pH monitoring and histologic examination of the esophageal mucosa
- The cow's milk-free diet and two successive blind challenges confirmed the diagnosis of cow's milk allergy in 85 of the 204

*J Allergy Clin Immunol. 1996 Mar;97(3):822-7*
“Cow's milk intolerance and abdominal surgery: a puzzling connection”

- 9 infants (ranging from 1 to 6 1/2 months) with a surgical pathology (gastro-esophageal reflux and/or pyloric stenosis)
- Vomiting and/or failure to thrive did not disappear after surgery.
- Patients recovered only after dietary manipulation by cow's milk protein free diet. In 5 out of 9 cases, multiple food intolerances were present (soy and/or casein hydrolysates).

Gluten-free Diet in CD with GERD/NERD

- Effect of gluten-free diet on preventing recurrence of gastroesophageal reflux disease–related symptoms in adult celiac patients with nonerosive reflux disease

Journal of Gastroenterology and Hepatology, Volume 23, Issue 9, Pages 1368-1372
Esophagitis as a Manifestation of Food Allergy

- Overlap of reflux and eosinophilic esophagitis
  World J Gastroenterol. 2008 Mar 7;14(9):1463-6

- Food intolerances and eosinophilic esophagitis in childhood
  Dig Dis Sci. 2009 Jan;54(1):8-14
Constipation

- Cow milk allergy:
  - 68% of kids with idiopathic constipation respond to d/c cow’s milk
  - 77.7% of kids with chronic constipation were found to have CMA
  - Cow milk, egg, and soy identified as allergens contributing to “idiopathic” constipation.
IBS

- 20 people with IBS who failed standard therapies
  - Food elimination diets based on food and mold panel test results, followed by controlled food challenge
  - Also given probiotics
  - Significant improvement:
    - stool frequency (p < 0.05), pain (p < 0.05), and IBS-QOL scores (p < 0.0001)

Mucosal Inflammation

- Eosinophilic Esophagitis and other eosinophilic gastroenteritis - more later
- Crohn’s – responsive to exclusion diet and nutraceuticals
- Pancreatitis:
  - Case report of 3 episodes pancreatitis after eating bananas; Ampulla infiltrated by mast cells on biopsy
Rectal/Anal Mucosa

- **Allergic proctocolitis**
  - Bloody stool in infants with CMA
    Pediatr Allergy Imm 2007 18(4):360
  - Rectal bleeding in adults: 15% have lymphonodular hyperplasia as sole finding on colonoscopy; 90% resolve with oligoantigenic diet
    - Pruritus ani – Responds to elimination of caffeinated drinks, alcohol, milk products, peanuts, spices, citrus, grapes, tomato (histamine) and chocolate
Heiner Syndrome

- Chronic respiratory symptoms in presence of milk protein allergy

Pediatric Allergy Immunol 2005 Sep;16(6):545
• Multimodal interventions (reducing inhaled as well as food antigens) were effective, NNT 17

Cutaneous

- Urticaria
- Eczema/atopic dermatitis
- Others
Chronic “Idiopathic” Urticaria

- Patients excluded if prick testing positive

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Eczema

- 51% respond to elimination diets & food challenge tests

- Food allergy prevalence was 70.8% (85/120) in the high eosinophil group and 34.7% (50/144) in the normal blood eosinophil group.

Allergy Asthma Proc. 2010 Mar;31(2):e18-24
Exclusion Diet in Eczema

- **Exclude:**
  - milk and milk products
  - nuts and nut-containing foods
  - egg and egg-containing foods
  - shellfish and prawns
  - brinjal (eggplant)
  - soyabean

- **Allowed:**
  - dal and dal products, rohu fish, chicken, and fruits.

- **After 3 weeks:** statistically significant lowering of all recorded parameters of disease activity after 3 weeks of elimination

  \[ P < 0.001 \] for SCORAD, surface area, severity of itching

  *Indian J Dermatology 2009; 54(2):183-185*
Migraine

• Food sensitivity is a common trigger, even in those with menstrual migraines or other known triggers

(See the 2nd Rule.)
Dietary Tacks in Migraine

- Mostly idiosyncratic
  - Tyramine, aged cheeses **not** a problem for most
  - More likely dairy, corn, wheat, classic allergens
  - Can also be food additives:
    - MSG – “natural flavorings”
    - Aspartame - mean number of headaches 1.55 placebo vs. 3.55 for aspartame 300 mg orally 4 times daily

Headache 1988 Feb;28:10
Food Allergy in Migraine - Kids

- 93% of 88 children with severe frequent migraine recovered on oligoantigenic diets
  - Double-blind controlled trial in 40 of the children.
  - Most patients responded to several foods.
  - Many foods were involved, suggesting an allergic rather than a metabolic pathogenesis.
- Associated symptoms which improved: abdominal pain, behavior disorder, fits, asthma, and eczema

Migraine and Oligoantigenic Diet

- Systematic Review:
  - 2 studies of oligoantigenic diet were successful
  - 1 study of low-tyramine diet showed no effect
    Cephalalgia. 2006 Apr;26(4):373-83

- Additional symptoms improved:
  - Seizures improved in kids with migraine and epilepsy.
  - Enuresis resolved in 12/21, improved in 4 more
Migraine and Food Allergy - Adults

- Major improvement for 80% of a migraine panel with nutritionally supported fast week followed by conventional food sensitivity management

- 9 patients with severe migraine refractory to drug therapy
  - Provocative foods were identified
  - Patients given either sodium cromoglycate or placebo orally in a double-blind manner with those foods
  - Gastrocrom was effective
  Lancet. 1984 Sep 29;2(8405):719-21
Food and diet:
8 controlled studies found either significant improvement following a “few-food” (oligoantigenic) diet compared with placebo or worsening of symptoms in placebo-controlled challenges of offending substances following an open challenge to identify the substance.

Mood

- **Allergic/immunologic mechanism:**
  - Gluten-free diet may alleviate depressive and behavioral symptoms in adolescents with coeliac disease: a prospective follow-up case-series study
  
  BMC Psychiatry. 2005 Mar 17;5:14

- **Non-allergic mechanism:**
  - One small study found nearly 50% of subjects had mood improvements with 2 weeks off caffeine and refined sucrose

  Behavior Therapy 19, 593-604, 1988
IgA Nephropathy

- Gluten free diet:
  - Decrease circulating IgA immune complexes
  - Decrease level of IgA against dietary antigens
  - Decrease proteinuria, microscopic hematuria
  

- Low-antigen diet:
  - Decrease proteinuria
  - Improved biopsy
  
Other conditions which are affected by food...

- Overactive bladder and urge urinary incontinence
  - Caffeine
  - Carbonated beverages
  - Aspartame
    - Toxicol Appl Pharmacol. 2006;217:216–24

- Osteoarthritis
  - J Nutr Health Aging. 2006 Jan-Feb;10(1):7-14

- Fibromyalgia – “live foods” and vegetarian diets
Broader Spectrum of Food Sensitivities

- Some food reactions are related to food effect on gut flora, blood sugar fluctuations, etc., not true allergy

- Examples:
Need a closing slide... how does this end? Do you instruct them on how to proceed if they want to? Do you want to include an outline of the food choices for the week?