

Functional Medicine University's Functional Diagnostic Medicine Training Program

Module 3 * FDMT527C

The Elimination Diet & Modified Elimination Diet

By Wayne L. Sodano, D.C., D.A.B.C.I., & Ron Grisanti, D.C., D.A.B.C.O., M.S.
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Required Reading: Found on FMU website with this lesson and/or library link

- Effect of Six-Food Elimination Diet On Clinical and Histologic Outcomes In Eosinophilic Esophagitis; *Sentongo, Hess, Nelson, Merick, Melin-Aldana; Division of Gastroenterology, Hepatology, and Nutrition, Department of Pediatrics, Feinberg School of Medicine, Northwestern University, Chicago, Ill*
- Eosinophilic Esophagitis: Treatment in 2005; *Liacouras; University of PA School of Medicine, Division of Gastroenterology and Nutrition, The Childrens' Hospital of Philadelphia, PA*

The Elimination Diet and Modified Elimination Diet

An elimination diet can be used as both a diagnostic tool and a treatment strategy for patients with food hypersensitivities and food intolerances. An elimination diet is an effect way to *identify and eliminate* and/or reduce exposure to offending foods. You may recall that adverse food reactions are generally classified into three categories even though there is some disagreement on the underlying mechanisms.

1. Food allergy is used to diagnosis a response mediated by food-triggered basophil or mast cell histamine release. This can be caused by either IgE food-specific antibodies or IgG food-specific antibodies. These reactions are immediate in nature and can be severe. This is a Type I hypersensitivity reaction.
2. Food sensitivity relates to a purely immune system response involving various classes of food-specific immunoglobulin molecules that can form food immune complexes. These complexes can stimulate the complement cascade and localized inflammation, and reactions tend to be delayed (from several hours to up to seven days after food consumption). This is a Type III hypersensitivity reaction.
3. Food intolerance refers to a non-immunological mechanism of adverse food response. Examples are: lactose, salicylates, nitrates, MSG, preservatives artificial colors and artificial flavors.

Signs and Symptoms of Potential Adverse Food Reactions

Gastrointestinal

1. Nausea/vomiting/belching
2. Constipation/diarrhea
3. Abdominal pain, bloating or cramping
4. Reflux/ingestion
5. Colitis/infantile colic
6. Aphthous stomatitis

Respiratory

1. Asthma
2. Rhinitis
3. Otitis media
4. Laryngeal edema
5. Rhinorrhea
6. Milk induced pulmonary disease in infants (Heiner Syndrome)

Signs and Symptoms of Potential Adverse Food Reactions (con't)

Dermatological

1. Contact dermatitis
2. Urticaria
3. Angioedema
4. Pruritus
5. Dermatitis herpetiformis
6. Atopic dermatitis
7. Sweating

Nervous system

1. Headache/Migraine
2. Fatigue
3. Hyperactivity
4. Dizziness
5. Irritability
6. Tinnitus

Additional signs and symptoms

1. Muscle aches
2. Excessive sweating
3. Allergic shiners
4. Bed wetting
5. Hoarseness
6. Vasculitis
7. Anaphylaxis
8. Blurring of vision, water eyes, redness and swollen eyelids
9. Heart palpitations, flushing

The Four Steps of An Individualized Elimination Diet

STEP ONE: Assessment and Planning

During this first critical step you will need to review and assess the comprehensive patient history form that includes a one week diet history form. During the patient interview, ask the patient if he or she suspects any food or foods that may initiate symptoms. Additional questions to ask are as follows:

- What foods do you frequently eat?
- What foods do you crave?
- What foods do you eat to “feel better”?
- What foods would you not want to give up?

The answers to these questions seem to be the foods that are usually the most important to eliminate.

Please download the Seven Day Diet Diary located on the FMU website with this lesson or library link.

STEP 2: The Elimination Phase

The elimination diet will take place during this phase. The length of time is from 2 to 3 weeks. The Individualized Elimination Diet is determined by the following:

- Patient's history (noting known and suspected food hypersensitivities)
- Food allergy test results (if performed)
- A list of most common food allergens

Eliminating many foods from the diet may be challenging for the patient. To avoid additional stress, you may need to allow the patient a week or so to prepare for the diet change. Give the patient time to rid their home of undesired foods and replace them with ones that are allowed. Giving them a list of the allowed foods and reputable resources on where they may find is necessary. There are many special diet books on the market that will help with conversion of recipes and are easily obtained through some of the larger book stores. Understand that this is a learning process for the patient.

An additional challenge is the working patient. They will need to prepare meals in advance to take with them to work. The use of a small cooler works well for storing meals and drink. By the way, they will also save money preparing their own food and using nutritious leftovers!

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The patient needs to eat five meals per day, allowing about two to three hours between each meal.

For example:

Breakfast at 7am; fruit/vegetable snack at 10am; lunch at noon; fruit/vegetable snack at 3pm; and dinner at 6pm. Eating this way should help control blood sugar levels, thereby decreasing food cravings and makes it easier to stick with the diet.

Note: Some patients may feel slightly worse during the first few day of the diet due to withdrawal symptoms. To minimize the initial symptoms make sure the patient maintains the proper hydration level and is having regular bowel movement.

ELIMINATION DIET PROGRAM

FOOD GROUP	FOOD ALLOWED	FOOD EXCLUDED
Meat , fish, poultry	Chicken, turkey, lamb, cold water fish, duck, wild game	Red meat, processed meats, eggs and egg substitutes
Dairy	Rice, nut milks such as almond and coconut	Milk, cheese, ice cream, yogurt, non-dairy creamers, butter
Legumes	All legumes (beans, lentils)	Soy
Vegetables	All	Creamed or processed
Fruits	Fresh, frozen, juiced	Strawberries and citrus
Starches	Potatoes, rice, buckwheat, millet, quinoa	Gluten and corn containing products (pasta, bread, chips)
Breads/cereals	Any made from rice, quinoa, amaranth, buckwheat, teff, millet, potato	All made from wheat, spelt, kamut, rye, barley, triticale
Soups	Clear, vegetable based	Canned or creamed
Beverages	Fresh or unsweetened fruit/vegetable juices, herbal teas, filtered/spring water	Dairy, coffee/tea, alcohol, citrus, sodas
Fats/oils	Cold/expeller pressed, flax, olive, walnut, sesame	Margarine, shortening, butter and spreads
Nuts/seeds	Almonds, cashews, pecans, flax, pumpkin, sesame, sunflower seeds, and butters from allowed nuts	Peanut, pistachios, peanut butter
Sweeteners	Brown rice syrup, fruit sweeteners, agave nectar, Stevia	Refined brown/white sugar, maple syrup, honey, fructose, molasses, corn syrup

A copy of this Elimination Diet may be obtained on the FMU website with this lesson and on the library link.

STEP 3: The Food Challenge Phase

Providing the patient's symptoms have improved after two to three weeks of following the elimination diet, it is time to start the food challenge phase. If the patient's symptoms have not improved, there may be a problem with liver detoxification and/or gastrointestinal dysfunction. You will need to evaluate and treat those systems accordingly. The patient can remain on the elimination diet or a modified elimination diet during this time.

Begin the food challenge phase by adding back one *pure food* at a time every third day. (An example of a pure food is using just cheese, as opposed to testing for cheese by eating pizza. Aside from cheese, pizza contains wheat, tomato, basil, etc. It is also best to use organic sources of food for this testing because of possible food contamination with xenobiotics.) Three days is the average time it takes to be certain that any returning symptoms are from a particular food. (Remember *delayed* hypersensitivities?).

- Have the patient ingest the food to be challenged 2 to 3 times on day one and have them assess their response over the next 2 days. They must begin by eating the challenge food first thing in the morning. If there are no reactions, they should ingest the challenge food for lunch. If they remain reaction free, they should ingest the same challenge food for dinner.
- *The challenge food is not to be ingested on day 2 and 3.* These days are for monitoring signs and symptoms.
- If, after the initial challenge (day one), the patient is unsure about the return of symptoms, have them retest in the same manner after 3 days.
- A 'Food Re-Introduction Symptom Chart' is provided in this Insiders Guide. It is important that you explain to the patient the food challenge procedure and use of the chart. Some examples of signs and symptoms are:
 - Energy Level
 - Digestive/Bowel Function
 - Muscle/Joint aches/pain
 - Headache
 - Sinus Congestion
 - Nausea
 - Lung Congestion
 - Kidney/Bladder Function
 - Skin

Note: The elimination diet must be followed during the challenge phase. After a food is challenged, it needs to be eliminated again until all questionable foods are challenged. Have the patient use a journal for logging their food challenges and any reactions.

A Food Introduction Symptom Chart is may be found on the FMU website with this lesson and/or library link.

STEP 4: The Final Long-Term Diet

Based on the results of the Food Challenge Phase, a long-term diet will be established. Variations to this phase include:

1. Foods that elicit reactions are completely eliminated
2. Foods that elicit reactions are eliminated for 3 to 6 months, and then incorporated into the diet on a rotational basis. The rotational basis consist of ingesting the particular food about every fourth day. This supports the theory that by rotating the reactionary non-IgE food, the reduced exposure will keep the level of non-IgE immunoglobulin low.

You may also want to keep the patient on the elimination diet while you are treating them for gastrointestinal dysfunctions, such as malabsorption or intestinal hyperpermeability. It may be observed that when the leaky gut is repaired, the patient should be able to reintroduce most non-IgE eliminated foods. The exception to this theory would be gluten, in the case of celiac disease and lactose intolerance, to name a few. Also, keep in mind that it may not be the *food* the patient is reacting to; it may be the *xenobiotic in the food*.

Elimination Diet Concerns

- Eliminating a food too long (usually greater than four weeks) might decrease the non-IgE antibody level and therefore no reaction will take place during the challenge.
- Nutritional deficiencies may develop during the challenge. Use your blood test results to assess for nutritional deficiencies prior to implementing the elimination diet. If supplementation is needed, be sure that the supplements are as allergy-free possible **and** remember you are introducing something new to their system.
- Sensitivities to allergens may increase during the elimination diet.
- Failure to look for hidden source of reactive substances.
- Non-compliance

Modified Elimination Diet

The elimination diet can also be modified by eliminating only certain foods such as dairy and those containing gluten. The most common foods that account for hypersensitivity reactions are:

- Wheat
- Eggs
- Citrus
- Peanuts
- Shellfish
- Milk and dairy products
- Soy
- Tree nuts (walnut, pecans, almonds)
- Fish
- Other gluten-containing grains (rye, barley, spelt, kamut, triticale, oats)

Other versions of the modified elimination diet would include the avoidance of foods containing; caffeine, alcohol, foods containing yeast, or refined processed foods.

*Suggested additional reading located on the FMU website library:
'Food and Nutrition Information Center; Resource List on Food Allergies and Intolerances' (includes pediatric allergies)*

*An exceptional information site in which you may refer your patients is:
www.celiac.com*

This site's home page table of contents has an extensive list of safe and unsafe foods for celiac and gluten intolerant patients. Navigation is a little challenging, but very informative.

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