

## Is Your Food Making You Sick?

**DISCOVER HOW FOOD SENSITIVITY AND INTOLERANCE CAN AFFECT YOUR HEALTH**

MAND ANNUAL MEETING  
APRIL 20, 2018

LAURIE MEYER MS RDN CD CLT  
LAURIE MEYER NUTRITION

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*Let food be thy medicine and  
medicine thy food* -Hippocrates 460-370 BC

**WHAT IS FOOD FOR ONE  
MAN MAY BE BITTER  
POISON TO OTHERS**

--TITUS LUCRETIVS CARUS, ROMAN POET & PHILOSOPHER  
FIRST CENTURY BC

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## Food Can Make Us Sick



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### Adverse Food Reactions

- Reduce quality of life
- Take a toll on physical health
- Diminish the pleasure of eating
- Provoke a state of hypervigilance

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### Adverse Food Reactions

- Food Allergy
- Food Intolerance
- Food Sensitivity

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### Food Allergy

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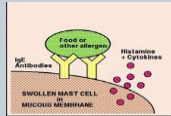
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### Food Allergy

- Exaggerated immune response
- Food mistaken for a harmful substance
- IgE antibodies released
- Mount defense against the food
- Release histamine causing allergic reaction
- Systemic, may be life threatening
- 1-4% adults
- 6-8% children



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### Food Allergy

- Onset seconds to 2 hours after ingestion
- Usually limited to airways, skin, GI tract
- Usually acute
- 1 molecule of antigen food can trigger reaction

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### Food Allergy Symptoms

- Rash
- Hives
- Swelling of tongue
- Wheezing
- Throat closing
- Asthma
- Anaphylaxis
- Near death experience

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## Food Allergy

- Wheat
- Dairy
- Fish
- Shellfish
- Peanuts
- Tree nuts
- Soy
- Egg
  
- Sesame

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The prevalence of food allergy in children increased by 50% between 1997 and 2011

The Centers for Disease Control & Prevention

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Emerging research indicates alterations in the microbiome may play an important role in food allergies

PNAS August 25, 2014

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Adverse reactions to food have risen within the past decade in response to toxic exposure  
Sci Total Environ 2010

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Acid Blocking Drugs Increase Food Allergy

- Subjects were 10.5 times more likely to develop food allergies when they were on acid blocking medications  
J Allergy Clin Immunol 2008
- Researchers compared 4724 children not on medications with 4724 age matched children on gastric blocking medications and found a 367% increase in food allergies in the medicated group  
Pediatric Allergy Immunol 2013

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Food Intolerance

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### Food Intolerance

- Non-immune mechanism
- Digestion not functioning properly
- Enzyme deficiency
  - Lactose Intolerance
  - Fructose Intolerance
- Fermentable carbohydrates (FODMAP)
- Many GI complaints
- Non-life threatening

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### Food Intolerance

- Onset 30 minutes to 3 hours after ingestion
- Usually limited to GI tract
- Tends to be a chronic condition
- Dose dependent

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Irritable Bowel Syndrome affects approximately 1 in 7 people worldwide

For over 45 million North Americans living with IBS, **eating** is a constant source of stress

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In 2005 Monash University Dept. of Gastroenterology research team launched a study to manage IBS symptoms through dietary management, which led to the development of the low FODMAP Diet

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## FODMAP

ACRONYM FOR A GROUP OF SHORT CHAIN CARBOHYDRATES THAT CAUSE DIGESTIVE ISSUES

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FERMENTABLE  
OLIGO -  
DI -  
MONOSACCHARIDES  
AND  
POLYOLS

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### FODMAP

- Short chain carbohydrates
- Osmotically active – pull water into small intestine
- Not digested or absorbed well
- Fermented by intestinal bacteria
- Usually have altered gut microbe population

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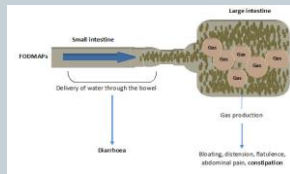
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### Gastrointestinal Symptoms

- Gas
- Bloating
- Cramping
- Abdominal pain
- Diarrhea
- Constipation




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### FODMAP

- Lactose – disaccharide
- Fructose – monosaccharide
- Fructans – inulin, FOS (fructooligosaccharide)
- Galactans – GOS (galactooligosaccharide)
- Polyols – sugar alcohol

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### Lactose

- Lack lactase enzyme
- > 3 grams per serving



- Milk
- Yogurt
- Cottage cheese
- Ricotta cheese
- Ice cream

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### Fructose

- Lack enzyme
- Genetic fructose intolerance
- Fructose : glucose ratio > 1:1
- > 3 grams per serving



- Apple
- Pear
- Mango
- Watermelon
- Honey
- Agave
- High fructose corn syrup

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### Fructan

- Lack enzyme to break fructose bonds
- > 0.2 g per serving



- Wheat
- Rye
- Barley
- Onion
- Garlic
- Jerusalem artichoke
- Coconut Flour

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### Galactan

- Lack enzyme to digest galactose
- > 0.2 g per serving



- Kidney beans
- Black beans
- Lentils
- Garbanzo beans
- Soybeans
- Broccoli
- Green peas
- Sea vegetables

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### Polyol

- Large molecules
- Laxative effect
- > 0.2 g per serving



- Sorbitol
- Xylitol
- Mannitol
- Peach
- Plum
- Apricot
- Cauliflower
- Mushroom

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### Who Benefits on Low FODMAP Diet

- Irritable Bowel Syndrome
- Small Intestine Bacterial Overgrowth
- Crohn's disease
- Ulcerative colitis
- Inflammatory Bowel Disease
- Unexplained digestive problems
- Chronic stress

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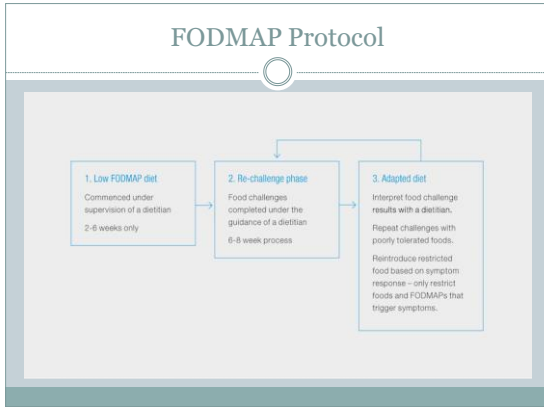
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### FODMAP Protocol

| FODMAP Diet Phase  | Re-challenge Phase   |
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| <ul style="list-style-type: none"> <li>• Eliminate all high FODMAP foods               <ul style="list-style-type: none"> <li>○ 2-6 weeks</li> </ul> </li> <li>• Monitor symptoms</li> <li>• Aim for variety</li> <li>• Dose matters</li> <li>• FODMAPS affect people differently</li> </ul> | <ul style="list-style-type: none"> <li>• Work with RDN to determine the order of challenge and which foods</li> <li>• Challenge 1 food category at a time</li> <li>• Test foods for each category:               <ul style="list-style-type: none"> <li>○ Lactose: 1/2-1 cup milk</li> <li>○ Fructose: 1/2 mango or 1-2 teaspoons honey</li> <li>○ Fructans: 2 slices wheat bread, 1 garlic clove or 1 cup pasta</li> <li>○ Galactans: 1/2 cup lentils or chickpeas</li> <li>○ Sugar alcohols (polyols): Sorbitol, 2-4 dried apricots; Mannitol, 1/2 cup mushrooms</li> </ul> </li> <li>• Diet and symptom journal               <ul style="list-style-type: none"> <li>○ Identify foods that trigger digestive problems</li> </ul> </li> <li>• Usually takes 6-8 weeks</li> </ul> |

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“3 out of 4 people with IBS had their symptoms ease right away after starting a low FODMAP diet”

**“INDIVIDUALS FELT THE MOST RELIEF AFTER 7 DAYS OR MORE ON THE LOW FODMAP DIET”**

*J OF GASTROENTEROLOGY 2010*

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Over the last 12 years, the mechanisms of action, food content of FODMAPs and efficacy of the diet have been intensively studied. In many parts of the world, the low FODMAP diet is now considered a front-line therapy for IBS.  
J Gastroenterol Hepatol 2017

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The goal of the low FODMAP diet is to reduce symptoms

**THE LOW FODMAP DIET IS NOT MEANT TO BE A LONG TERM DIET**

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FODMAP Troubleshooting

- Limited food choices - diet variety is important
- Nutritional inadequacy - low in fiber and prebiotics
- Alter gut microbiota – reduce bifidobacteria
- Long term health issues??
- Psychosocial – limit eating out and social interaction
- Time – read labels, planning, need to cook!
- Ongoing research and food analysis

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### FODMAP Considerations

- **Treat underlying factors**

- Check for SIBO
- Check for other gut infections
- Check for food sensitivities
- Check for celiac

- **SIBO**

- Supersensitive to small amount of FODMAP
- Significant bloating
- Symptoms are exasperating
- Unable to add any FODMAP foods
- Fat malabsorption
- Deficient in vitamin B12 or fat soluble vitamins

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### FODMAP Recommendations

- Eat a variety of whole foods
- Reduce processed foods and toxin exposure
- Get fiber (chia, oats, potato skin, berries)
- Cook (make extra portions)
- Keep snacks on hand
- Stay hydrated
- Manage stress
- Address GI dysfunction (antimicrobials, probiotics, enzymes)

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### Atrantil

- **Dr. Kenneth Brown**

- **Reduce:**

- Bloating
- Abdominal discomfort
- Change in bowel habit

- **3 polyphenols**

- Quebracho extract  
↓ archaeobacteria
- Conker Tree extract  
↓ methane
- M. Balsamea Willd extract  
calms small intestine




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In a double-blind clinical study of patients suffering from bloating, constipation and abdominal discomfort, Atrantil proved to be **more than 88% effective** in relieving symptoms.

J Gastroenterology Hepatology Research Sept 21, 2015 pp. 1762-1767

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FODMAP Resources

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- Monash University Dept. of Gastroenterology
- Gibson PR, Sheperd SJ. Evidence-based dietary management of functional gastrointestinal symptoms: The FODMAP approach. J of Gastroenterology 25(2010) 252-258
- Sue Shepherd [www.sueshepherdfoods.com](http://www.sueshepherdfoods.com)  
[www.shepherdworks.com](http://www.shepherdworks.com)
- Kate Scarlata [www.katescarlata.com](http://www.katescarlata.com)
- *The Complete Low FODMAP Diet* Sue Shepherd & Peter Gibson
- *A Digestive Peace of Mind* Kate Scarlata
- Monash University Low FODMAP Diet App
- Sue Shepherd FODMAP Friendly App
- [www.wolfrinke.com/cefiles/C226CPEcourse.htm](http://www.wolfrinke.com/cefiles/C226CPEcourse.htm)
- [www.atrantil.com](http://www.atrantil.com)
- [www.monashfodmap.com/i-am-a-health-professional/online-fodmap-training/](http://www.monashfodmap.com/i-am-a-health-professional/online-fodmap-training/)

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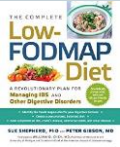
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Low FODMAP

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Low FODMAP Diet



Low FODMAP Diet App



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## Food Sensitivities

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- If you answer YES to any of the following:
- Rush to restroom often
  - Chronic muscle and joint pain
  - Frequent headache or migraine
  - Feel exhausted despite sleeping at night
  - Get rashes or eczema
  - Have sinus problems
  - Don't tolerate wheat even if not celiac
  - Have underactive thyroid

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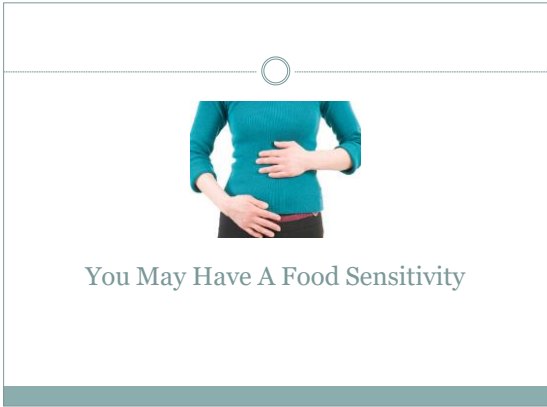
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### Food Sensitivity

- One of the most underdiagnosed areas of medicine
- Can affect virtually every organ system in the body
- Play primary or secondary role in medical conditions
- Affect 30-40% of population

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### Food Sensitivity

- Complex non-IgE non-celiac inflammatory reaction
- Involve innate and adaptive immune pathways
- Mechanisms trigger reactions in WBCs
- Release mediators
- Subclinical and clinical inflammation

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### Mediators

**IT IS THE RELEASE OF  
MEDIATORS IN FOOD  
SENSITIVITIES THAT MAKES US  
SICK NOT THE IMMUNE  
MECHANISM**

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### Mediator

- Carries signals from immune cell to immune cell
- Triggered by immune mechanism

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### Food Sensitivity Triggering Mechanism

- Food antigen
- Food chemical
  - Haptens
  - Amines
- Immune complexes
  - IgA
  - IgG
  - IgM
- Lectins

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### Triggering Mechanism Activates Immune Cells

- Lymphocytes
  - T Cells
  - NK Cells
- Eosinophils
- Basophils
- Monocytes
- Neutrophils

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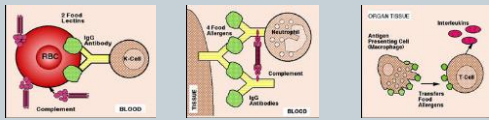
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### Cell Activation Leads to Mediator Release

- Cytokines – Interleukin, Chemokine, TNF, Inteferon
- Leukotrienes
- Histamine
- Prostaglandins
- Type 2




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### Mediator Release

- Pathophysiologic Effects
  - Inflammation
  - Tissue damage
  - Pain receptor activation
  - Smooth muscle contraction
  - Edema
  - Excess mucous
  - Neurological symptoms
  - Endocrine symptoms
  - Increased gut permeability

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### Mediator Release Symptoms

- |  |   |
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| <ul style="list-style-type: none"> <li>• Headache</li> <li>• Fatigue</li> <li>• Irritability</li> <li>• Reduced focus</li> <li>• Mental fog</li> <li>• Sinus congestion</li> <li>• Itchy eyes</li> <li>• Itchy ears</li> <li>• Eczema</li> <li>• Canker sores</li> </ul> | <ul style="list-style-type: none"> <li>• Joint pain</li> <li>• Muscle pain</li> <li>• Fluid retention</li> <li>• Increased urination</li> <li>• Food cravings</li> <li>• Diarrhea</li> <li>• Constipation</li> <li>• Elevated blood pressure</li> <li>• Irregular heart rate</li> <li>• Insomnia</li> </ul> |
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### Medical Conditions Related to Food Sensitivity

**Pulmonology**

- Asthma
- Anaphylaxis

**Musculoskeletal:**

- Fibromyalgia
- Rheumatoid Arthritis
- Reactive Arthritis
- Chronic Fatigue Syndrome

**Dermatological:**

- Atopic Dermatitis
- Dermatitis Herpetiformis
- Urticaria
- Psoriasis

**Neurological:**

- Migraine
- ADD/ADHD
- Autism Spectrum Disorder
- Epilepsy
- Depression
- Insomnia
- Multiple Sclerosis

**Gastrointestinal:**

- Cyclic Vomiting Syndrome
- Functional Diarrhea
- Irritable Bowel Syndrome
- Lymphocytic Colitis
- Crohn's Disease
- Ulcerative Colitis
- GERD
- Celiac Disease
- Systemic Lupus

**Urology**

- Interstitial Cystitis

**Endocrinology**

- Hashimoto's
- Grave's Disease

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### Food Sensitivity

- Difficult to identify trigger foods
- Symptoms delayed 1 to 72 hours
- Reactions are dose dependent
- Breakdown of oral tolerance
- Many reactive foods and food chemicals
- Testing becomes necessary

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### Test for Food Sensitivities

- Applied Kinesiology
- Elimination and Provocation
- Elisa IgG
- Cyrex Array 10
- ALCAT
- MRT

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### Applied Kinesiology

- A non-invasive system that evaluates structural, chemical and mental aspects of health using manual muscle testing
- No scientific evidence to verify accuracy or reliability

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### Elimination and Provocation

- Once considered Gold Standard
- Avoidance of single or multiple food triggers
- Gluten, dairy, soy, egg, peanut, tree nut, fish, shellfish, corn, citrus, sugar, coffee
- Avoid 21-30 days
- Challenge 1 food at a time
- Difficult to determine triggers
- May not remove all triggers

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### Elisa IgG

- Tests IgG only
  - Type 3 reaction
  - Tests food exposure
  - May not release mediators
  - Some IgG has anti-inflammatory effect
  - Tests food no food chemicals
  - Minor role in IBS, migraine, fibromyalgia
- IgG Test Labs:
    - Great Plains Laboratory
    - Genova Diagnostics
    - Direct Labs
    - Life Extension
    - Meridian Valley Lab
    - Everly Well Home Test

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Positive IgG results can just as easily indicate a food that has been eaten regularly as much as it might indicate a food sensitivity

European Academy of Allergy and Clinical Immunology  
American Academy of Allergy, Asthma and Immunology

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### Cyrex Array 10

- Measures IgG and IgA antibodies
- Cross reactive and pan-antigen isolates
- Tests raw, cooked and modified foods
- Reactivity to common food combinations
- Reactivity to gums and meat glue
- Tests 180 foods
- Run 2 tests on same sample for accuracy
- Clinicians reporting reliability

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### ALCAT

- Prelude to MRT
- Old technology
- Measures size of WBC to identify immune reactions
- Tests 450 foods and chemicals
- Very inconsistent results

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### MRT

- Detects all non-IgE non-celiac reactions
- Type 3 & Type 4 reactions
- Identify immune reactions causing mediator release
- Tests 142 foods 28 chemicals
- 75% of food reactions in IBS & migraine type 4

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### Mediator Release Test

**HAS THE HIGHEST LEVEL OF ACCURACY OF ANY FOOD SENSITIVITY TEST:**  
**94.5% SENSITIVITY**  
**91.8% SPECIFICITY**

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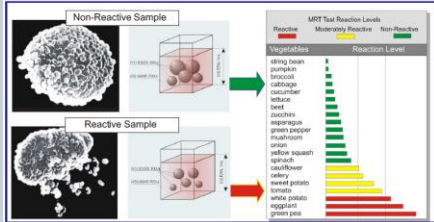
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### MRT

#### Principle of Mediator Release Testing®




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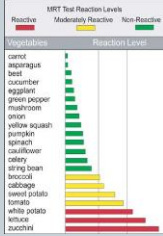
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## LEAP Protocol

- Initially eat only lowest reactive foods
  - Reduces inflammatory response
- Add in more low reactive foods
- Build safe diet
- Check for intolerance
- Add in foods not tested
- After 3-6 months challenge reactive foods




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## LEAP Protocol

**AFTER 6 MONTHS IMMUNE CELLS LOSE MEMORY OF REACTIVITY TO A FOOD**

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## LEAP Results

|                                  |            |
|----------------------------------|------------|
| <b>Irritable Bowel Syndrome:</b> | 5-7 days   |
| <b>Migraine:</b>                 | 7-10 days  |
| <b>Urticaria/Hives:</b>          | 5-8 days   |
| <b>Eczema:</b>                   | 5-7 days   |
| <b>ADD/ADHD:</b>                 | 5-7 days   |
| <b>GERD:</b>                     | 5-7 days   |
| <b>Inflammatory Arthritis:</b>   | 7-14 days  |
| <b>Fibromyalgia:</b>             | 14-21 days |
| <b>Chronic fatigue:</b>          | 14-21 days |

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### LEAP Results

- Experience significant improvement first 10 days
- Symptoms continue to improve next 4-6 weeks
- Some have complete symptom resolution
  - How closely protocol followed
  - Duration of health condition
- Other factors need to be addressed
  - Dysbiosis
  - Intestinal permeability
  - Nutrient deficiency
  - Celiac disease
  - Gut infections

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If you have a lot of food sensitivities  
...food may not be your only problem

**YOU HAVE TO FIX  
YOUR GUT!**

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### Factors Contributing to Food Sensitivities

- Intestinal permeability
- Dysbiosis
- Gut infections
- Nutritional deficiency
- Genomics

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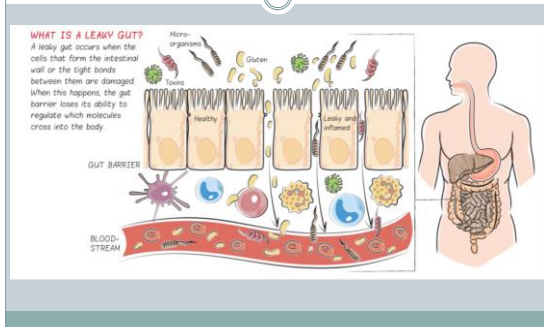
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## Intestinal Permeability or Leaky Gut




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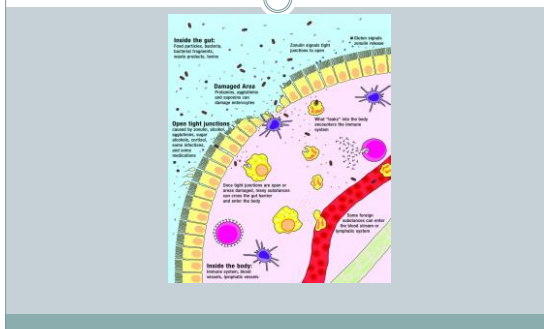
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## Intestinal Permeability or Leaky Gut




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## LPS and Intestinal Permeability

- Leaky gut translocates bacterial endotoxins
- Lipopolysaccharide (LPS) is the most common endotoxin
- LPS is outer membrane of gram negative bacteria
- LPS promotes secretion of pro-inflammatory cytokines
- LPS can trigger an acute inflammatory reaction

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### Intestinal Permeability Contributors

- Gluten
- Excess alcohol consumption
- Pesticides (glyphosate)
- Food additives (emulsifiers, solvents)
- Sugar and sugar substitutes
- Medications (antibiotics, NSAIDs, PPIs, steroids)
- Infections (bacteria, parasite, fungus)
- Toxins (mercury, arsenic, mold, BPA)
- High Stress levels
- Lack of sleep
- Blood sugar dysregulation
- Thyroid dysfunction
- Brain trauma

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### Dysbiosis Contributors

- Cesarean section birth
- Not breast fed
- Excess processed foods and food chemicals
- High sugar diets
- Lack of fruit and vegetable fiber
- Intestinal infections (bacteria, parasite, fungus)
- Toxins
- Medications (antibiotics, antacids)
- Stress
- Radiation

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### Food Sensitivities Increasing

**DUE TO HIGHER INTAKES OF  
PROCESSED FOODS,  
PRESERVATIVES AND  
ARTIFICIAL CHEMICAL  
INGREDIENTS**

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Ultra-processed foodstuffs can induce gut dysbiosis,  
promoting a pro-inflammatory response and  
consequently a “leaky gut”  
Foods 2017

Highly processed foods promote inflammation of the  
GI tract and injure the intestinal lining  
Autoimmune Review 2015

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Glyphosate (Roundup) significantly disrupted the  
tight junctions of intestinal cells and disrupts gut  
microbiome status and activity which also influence  
intestinal permeability  
Env Toxicology Chemistry 2005

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Chronic exposure to stress may lead to the development of  
a variety of gastrointestinal diseases like GERD, peptic  
ulcer, IBD, IBS and food allergies and sensitivities  
J Phys Pharm 2011

Stress induces endotoxemia and low grade inflammation by  
increasing barrier permeability  
Front Immunol 2015

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Traumatic brain injury induces changes in the tight junctions of the gut lining  
JAMA Neurology 2015

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Case Study 1

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- 11 year old female
- History of migraine headaches
- Treated with medication
- Pediatrician recommended GF DF diet
  - diet not successful in reducing migraine headaches
- Rx MRT to check for food sensitivities

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Case Study 1 MRT Results

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| egg     | cottage cheese | grape      | asparagus | Lima bean | quinoa | honey      | MSG          |
|---------|----------------|------------|-----------|-----------|--------|------------|--------------|
| chicken |                | banana     | broccoli  | almond    | millet | cane sugar | solanine     |
| shrimp  |                | raspberry  | tomato    | pecan     | corn   | cola nut   | pot. nitrite |
|         |                | grapefruit | leek      | walnut    | oat    | yeast      | blue #1      |
|         |                |            |           | sesame    |        | tea        |              |
|         |                |            |           |           |        |            |              |
|         |                |            |           |           |        |            |              |
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### Case Study 1

- Migraine headaches resolved after 4 weeks
- Main migraine triggers:
  - MSG
  - Honey
  - Corn
- Eat a whole foods diet
  - Include prebiotic fiber-rich foods
- Supplements
  - Multivitamin mineral
  - Probiotic
- Evaluate gut health

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### Case Study 2

- 60 year old female
- History of severe fatigue, burning ear
- Followed supervised elimination diet for 21 days
  - Fatigue lessened a little
  - Burning ear not resolved
- Rx: MRT to check for food sensitivities
  - Initial Symptom Survey score = 38 (1-22-17)

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### Case Study 2

- Prior Elimination Diet avoided the following:
  - Alcohol, caffeine, sugar, HFCS
  - Pork, shellfish, egg, cold cuts
  - Soybean, peanut, gluten, dairy
  - Banana, papaya, grape
  - Potato, tomato, pepper, eggplant, corn
  - Yeast, artificial sweeteners

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## Case Study 2 MRT Results

| Cow milk | vanilla |            |            |           |            |           |
|----------|---------|------------|------------|-----------|------------|-----------|
| beef     | garlic  | papaya     | corn       | walnut    | fructose   | yellow #5 |
|          | paprika | strawberry | carrot     | pistachio | saccharine | yellow #6 |
|          | mint    | cantaloupe | gr. pepper | garbanzo  |            |           |
|          | dill    | apricot    |            | lentil    |            |           |
|          |         | grape      |            |           |            |           |

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## Case Study 2

- After 6 weeks:
- Symptom Survey score = 10 (3-6-17)
- Fatigue greatly improved
  - Stress is a factor
- Burning ear resolved
- Main trigger foods
  - grape (wine)
  - cow dairy (cheese)
  - garlic
- Stress management
- Reduce environmental toxins
- Evaluate gut health
- Probiotic

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## Recommendations

- Eat a wide variety of whole foods
- Include prebiotics and probiotics
  - Tubers, roots, leafy greens, nuts, seeds, berries
  - Natural sauerkraut, fermented foods, yogurt, kefir
- Heal the gut
- Limit medications, food additives and alcohol
- Get adequate sleep
- Manage stress
- Probiotics

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## Nutrients to Heal Leaky Gut

- **Zinc**
  - Oysters, organs, meat, poultry, pumpkin seed
- **Quercetin**
  - Onion, apple, citrus, tea, tomato, crucifers, berries
- **Butyrate**
  - Butter, greens, fermented vegetables, tubers
- **Curcumin**
  - turmeric
- **Indole**
  - Crucifers, greens, turnip, meat, poultry, pumpkin & sunflower seed
- **L-glutamine**
  - bone broth, meat, poultry, fish, egg, cabbage, beet, spinach, beans
- **Vitamin D**
  - sun exposure, fatty fish
- **Omega-3 Fat DHA**
  - fatty fish
- **Vitamin C**
  - Citrus, peppers, berries, crucifers, greens

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## Probiotic Recommendations

- **Bifidobacterium infantis**
  - supports digestion
- **Bifidobacterium lactis**
  - reduce permeability & digestive ills, regulate immunity
- **Bifidobacterium bifidum**
  - reduce allergic reactions & infections
- **Bifidobacterium longum**
  - reduce permeability
- **Lactobacillus rhamnosus GG**
  - reduce inflammation, permeability and allergy response
- **Lactobacillus reuteri**
  - reduce permeability
- **Lactobacillus casei**
  - prevent impaired barrier function
- **Lactobacillus plantarum**
  - regulate immunity, control gut inflammation, fortify gut lining

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## Probiotic Recommendations

- Aids digestion
- Improves regularity
- Ability to colonize
- Helps control bacterial overgrowth
- Detoxifies the intestinal tract
- Reduces inflammation & pain
- Produces short chain fatty acids
- Provides immune modulation to prevent & treat infections, allergies and asthma
- Bacillus spore forming bacteria




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A 2017 University of North Texas study found 30 days of supplementation with Megasporebiotic demonstrated a 45% reduction in serum LPS levels...the placebo treatment group showed a 28% increase in serum LPS

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Stress Reduction

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- Meditation
- Guided imagery
- Yoga
- Tai chi
- Qigong
- EFT (Emotional Freedom Technique)
- Humor and laughter
- Schedule fun
- Breathe!

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LEAP MRT Resources

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- Oxford Biomedical Technologies
  - [www.nowleap.com](http://www.nowleap.com)
- LEAP mentors
  - Jan Patenaude [jan@certifiedleaptherapist.com](mailto:jan@certifiedleaptherapist.com)
  - Susan Linke [www.susanlinke.com](http://www.susanlinke.com)
- Certified LEAP Therapist At-home Study Course
  - <https://nowleap.com/elt-course-description/>
- Dietitians in Integrative and Functional Medicine DPG
  - <https://integratived.org/>
- The Potential of Probiotics
- Bend and Twist: Yoga for Digestive Relief
  - <https://foodandnutrition.org/2018/04/>
- The Institute for Functional Medicine
  - <https://www.ifm.org/functional-medicine/what-is-functional-medicine/>

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You Are What You

EAT  
DRINK  
BREATHE  
THINK  
SAY

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What you eat and drink today

WALKS AND TALKS  
TOMORROW

Laurie Meyer Nutrition  
LaurieMeyer@wi.rr.com

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