

Clinical Improvement of IBS, Migraine, Fibromyalgia and Arthritis Using Elimination Diets Based on Mediator Release Blood Testing

J. Patenaude, D. Bright

Abstract

Background: Irritable bowel syndrome, migraine headaches, fibromyalgia, and inflammatory arthritis are common conditions that are often refractory to standard therapies. There is a growing body of evidence that suggests diet can play an important symptom-provoking role in these conditions. It is the clinical experience of many registered dietitians and other healthcare professionals that identification and avoidance of specific offending foods results in improved outcomes in these conditions. The Mediator Release Test is a blood test that identifies non-IgE mediated food and chemical reactions that trigger release of proinflammatory and proalgesic mediators such as cytokines and leukotrienes. These mediators correlate with symptom manifestation and are elevated in conditions such as irritable bowel syndrome, migraine, fibromyalgia, and inflammatory arthritis.

Methods: 40 patients presented either singly or co-morbidly with irritable bowel syndrome, migraine, fibromyalgia, or inflammatory arthritis. Patients were refractory to standard medical therapies and any other therapeutic interventions, including food trigger avoidance. Each patient was Mediator Release Tested for reactivity to 120 foods and 30 food-chemicals. Patients were counseled by registered dietitians with specialized training in managing adverse food reactions and provided an elimination diet based on their individual test results. Improvements were evaluated via a comprehensive symptom questionnaire that quantified the frequency and severity of a broad spectrum of target organ and systemic symptoms.

Results: Average symptom survey scores improved significantly on Mediator Release Test based elimination diets as compared to standard therapies. Average improvement in symptom survey scores were as follows: Irritable bowel syndrome 67.8% (n=20); Migraine headaches 73% (n=7); Fibromyalgia 46% (n=8); Arthritis 44% (n=5). Average improvement of symptom survey scores for all symptoms was 55.3%.

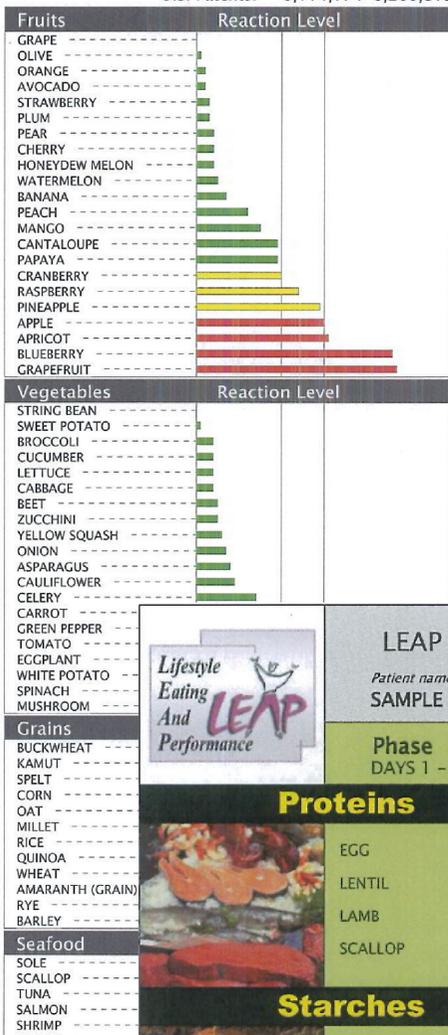
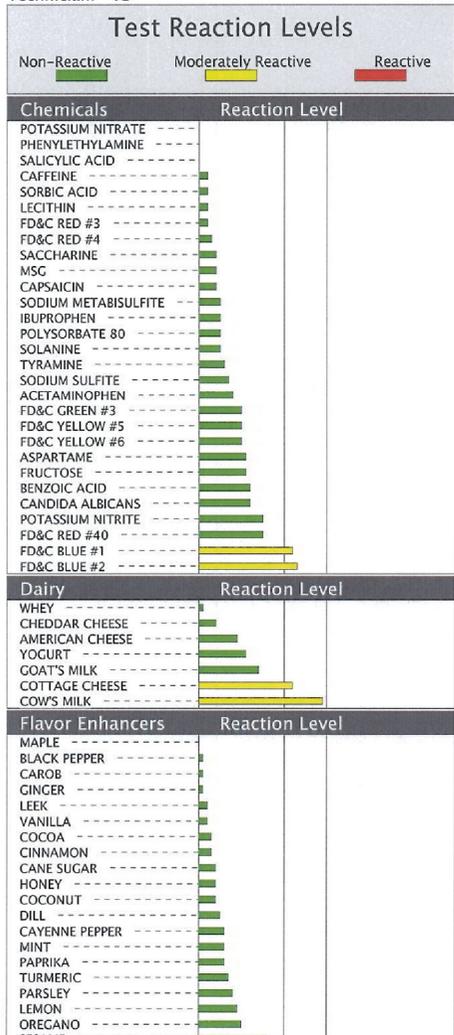
Conclusion: Patient specific elimination diets based on Mediator Release Testing improves outcomes in patients with refractory IBS, migraine, fibromyalgia and arthritis and should be used in conjunction with standard therapies.

Materials & Methods

Patient: SAMPLE PATIENT
 Identifier: S7000
 Profile: MRT Test ML150
 Test Date: 04/20/2001
 Technician: IG



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 CLIA ID #: 10D0914874
 U.S. Patents: 6,114,174 6,200,815



40 Patients with IBS, migraine, fibromyalgia, or inflammatory arthritis were Mediator Release Tested for reactions to 120 foods and 30 food-chemicals.

Test results were translated into a reintroduction schedule based on MRT reaction levels beginning with the least reactive foods from each food category first, then sequentially building each patient's diet in a structured way.

LEAP ImmunoCalm Diet Program - Food Reintroduction Schedule					
Patient name: SAMPLE PATIENT		Physician: WELLNESS, MARK MD		Identifier: S7000-0	
Test date: 04/20/2001					
Phase 1 DAYS 1 - 7	Phase 2 DAYS 8 - 12	Phase 3 DAYS 13 - 17	Phase 4 DAYS 18 - 22	Phase 5 DAYS 23 - 27	
Proteins					
EGG	SOLE	SHRIMP	CLAM	CRAB	
LENTIL	BEEF	TURKEY	TILAPIA		
LAMB	TUNA	CHICKEN	GARBANZO BEAN		
SCALLOP	SALMON	SOYBEAN	PORK		
Starches					
BUCKWHEAT	SPELT	OAT	WHEAT		
SWEET POTATO	CORN	RICE	TAPIOCA		
KAMUT	MILLET	QUINOA	AMARANTH (GRAIN)		
Vegetables					
STRING BEAN	LETTUCE	ONION	CELERY		
BROCCOLI	BEEF	ASPARAGUS	CARROT		
CABBAGE	ZUCCHINI	CAULIFLOWER	GREEN PEPPER		
CUCUMBER	YELLOW SQUASH	GREEN PEA	TOMATO		
Fruits					
GRAPE	ORANGE	CHERRY	WATERMELON	MANGO	
OLIVE	PLUM	HONEYDEW MELON	BANANA	CANTALOUPE	
AVOCADO	STRAWBERRY	PEAR	PEACH	PAPAYA	
Dairy / Miscellaneous					
WHEY	CHEDDAR CHEESE	YOGURT	COFFEE		
COCOA	AMERICAN CHEESE	GOAT'S MILK			
Nuts / Seeds / Oils					
OLIVE	CORN	SOYBEAN	WALNUT		
ALMOND	HAZELNUT	PISTACHIO	CASHEW		
SUNFLOWER SEED	PECAN	SESAME			
Flavor Enhancers					
MAPLE	VANILLA	DILL	PARSLEY	MUSTARD	
BLACK PEPPER	CINNAMON	CAYENNE PEPPER	LEMON		
CAROB	CANE SUGAR	MINT	OREGANO		
GINGER	COCONUT	PAPRIKA	BASIL		
LEEK	HONEY	TURMERIC	SESAME		

Patients were provided 2 - 4 consults to discuss meal choices, recipes, shopping and other practical tips based on allowed foods.

Materials & Methods

Symptom Survey		
Date: 2-21-2008	For Physician Use Only	
Patient Name: SAMPLE PATIENT	Start Time:	
Patient Signature: <i>Sample Patient</i>	Stop Time:	
<p>In order to provide our patients with the best possible health care, please fill in the following form completely. Score every symptom based on your experience over the last 30 days. Using the SCALE OF SYMPTOM POINTS listed below, FILL IN the appropriate score in the corresponding field for EVERY symptom listed. Total the points for each category and add all category totals to come up with the Grand Total.</p>		
<p>SCALE OF SYMPTOM POINTS: ●○○○○ = 0 = Did Not Suffer From This Ever or Almost Ever ○●○○○ = 1 = Suffered OCCASSIONALLY (less than 2 times per week), symptom wasn't severe ○○●○○ = 2 = Suffered FREQUENTLY (2 or more times per week), symptom wasn't severe ○○○●○ = 3 = Suffered OCCASSIONALLY and symptom was severe ○○○○● = 4 = Suffered FREQUENTLY and symptom was severe</p>		
Grand Total: 78		
<p>CONSTITUTIONAL ○○○○● Fatigue (sluggish, tired) ○○○○● Hyperactive (nervous energy) ○○○○● Restless (can't relax/sit still) ○○○○● Sleepiness During Day ○○○○● Insomnia at Night <u>11</u> TOTAL (0-20)</p> <p>EMOTIONAL/MENTAL ○○○○● Depression ○○○○● Anxiety ○○○○● Mood Swings ○○○○● Irritability ○○○○● Forgetfulness ○○○○● Lack of concentration/focus <u>12</u> TOTAL (0-24)</p> <p>HEAD/EARS ○○○○● Headache (any kind) ○○○○● Earache ○○○○● Ear Infection ○○○○● Ringing in Ear ○○○○● Itchy Ears ○○○○● Discharge From Ears <u>5</u> TOTAL (0-24)</p> <p>SKIN ○○○○● Blemishes, Acne ○○○○● Rashes, Hives ○○○○● Eczema ○○○○● "Rosy" Cheeks <u>1</u> TOTAL (0-16)</p>	<p>NASAL/SINUS ○○○○● Post Nasal Drip ○○○○● Sinus Pain ○○○○● Runny Nose ○○○○● Stuffy Nose ○○○○● Sneezing <u>6</u> TOTAL (0-20)</p> <p>MOUTH/THROAT ○○○○● Sore Throat ○○○○● Swollen Throat ○○○○● Swelling of Lips/Tongue ○○○○● Gagging/Throat Clearing ○○○○● Canker Sores <u>3</u> TOTAL (0-20)</p> <p>LUNGS ○○○○● Wheezing ○○○○● Chest Congestion ○○○○● Dry Cough ○○○○● Wet Cough <u>1</u> TOTAL (0-16)</p> <p>EYES ○○○○● Red or Watery ○○○○● Itchy Ey ○○○○● Dark Ci <u>3</u> TOTAL (0-16)</p> <p>GENITOURINARY ○○○○● Inceas Frequer ○○○○● Painful <u>0</u> TOTAL (0-8)</p>	<p>MUSCULOSKELETAL ○○○○● Joint Pains/Aching ○○○○● Stiff Joints ○○○○● Muscle Aches ○○○○● Stiff Muscles <u>12</u> TOTAL (0-16)</p> <p>CARDIOVASCULAR ○○○○● Irregular Heartbeat ○○○○● High Blood Pressure <u>0</u> TOTAL (0-8)</p> <p>DIGESTIVE ○○○○● Heartburn/Reflux ○○○○● Stomach Pains/Cramps ○○○○● Intestinal Pains/Cramps ○○○○● Constipation ○○○○● Diarrhea ○○○○● Bloating Sensation</p>

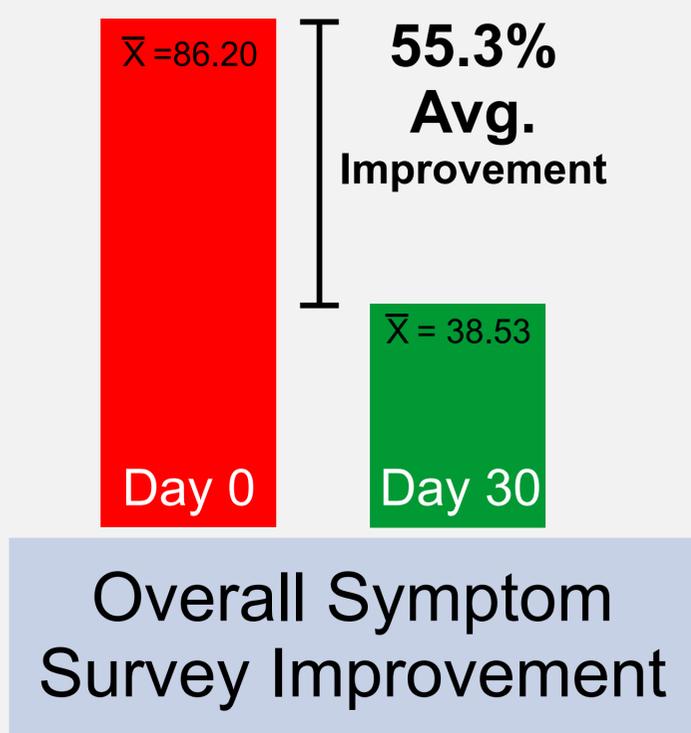
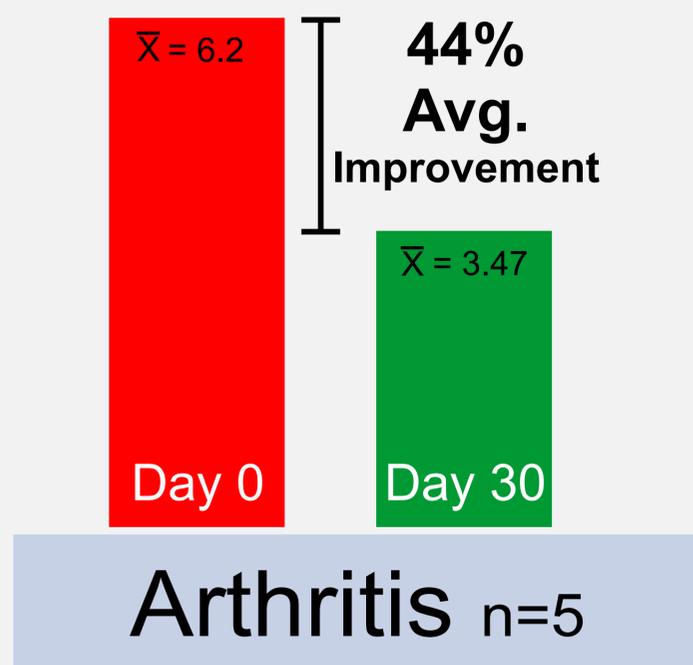
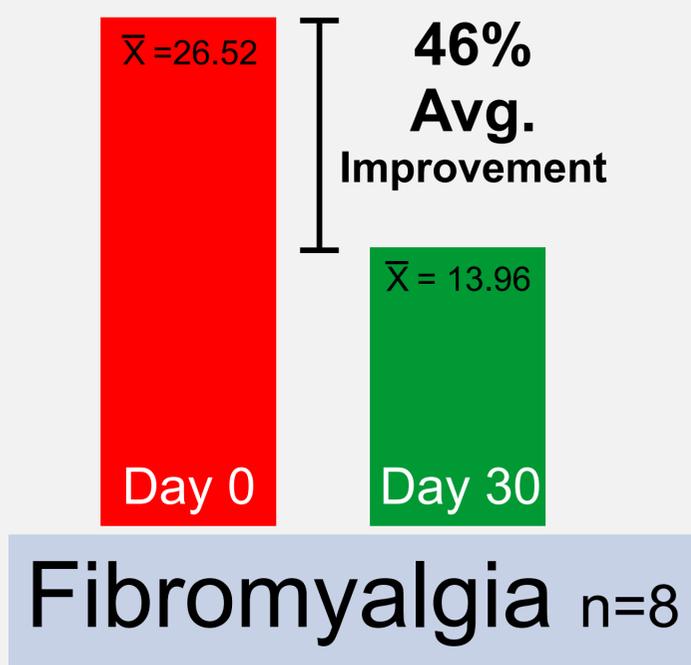
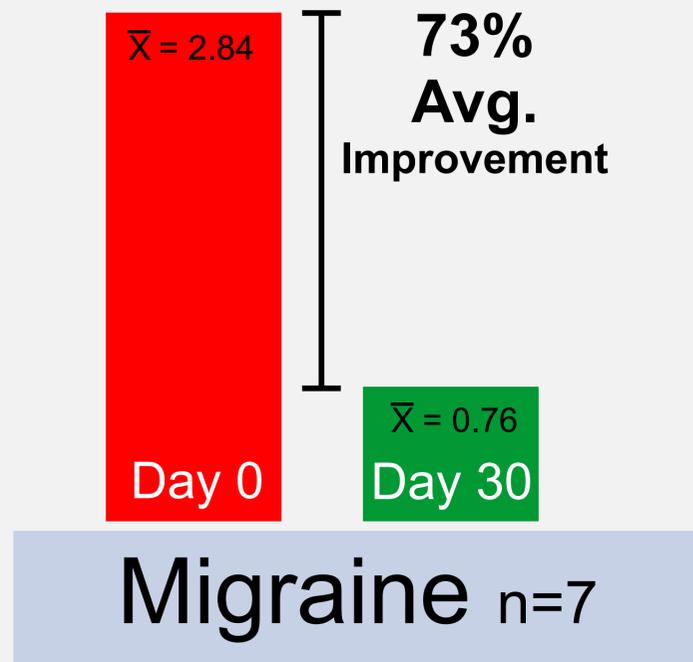
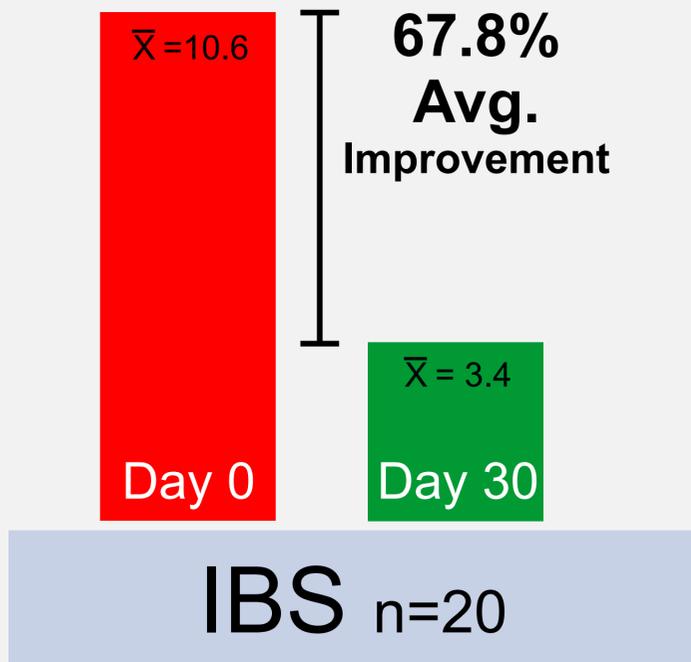
Patients filled out a Symptom Survey questionnaire prior to Mediator Release Testing and 30 days after beginning their diet.

Day 0

Symptom Survey		
Date: 3-28-2008	For Physician Use Only	
Patient Name: SAMPLE PATIENT	Start Time:	
Patient Signature: <i>Sample Patient</i>	Stop Time:	
<p>In order to provide our patients with the best possible health care, please fill in the following form completely. Score every symptom based on your experience over the last 30 days. Using the SCALE OF SYMPTOM POINTS listed below, FILL IN the appropriate score in the corresponding field for EVERY symptom listed. Total the points for each category and add all category totals to come up with the Grand Total.</p>		
<p>SCALE OF SYMPTOM POINTS: ●○○○○ = 0 = Did Not Suffer From This Ever or Almost Ever ○●○○○ = 1 = Suffered OCCASSIONALLY (less than 2 times per week), symptom wasn't severe ○○●○○ = 2 = Suffered FREQUENTLY (2 or more times per week), symptom wasn't severe ○○○●○ = 3 = Suffered OCCASSIONALLY and symptom was severe ○○○○● = 4 = Suffered FREQUENTLY and symptom was severe</p>		
Grand Total: 22		
<p>CONSTITUTIONAL ○○○○● Fatigue (sluggish, tired) ○○○○● Hyperactive (nervous energy) ○○○○● Restless (can't relax/sit still) ○○○○● Sleepiness During Day ○○○○● Insomnia at Night <u>2</u> TOTAL (0-20)</p> <p>EMOTIONAL/MENTAL ○○○○● Depression ○○○○● Anxiety ○○○○● Mood Swings ○○○○● Irritability ○○○○● Forgetfulness ○○○○● Lack of concentration/focus <u>4</u> TOTAL (0-24)</p> <p>HEAD/EARS ○○○○● Headache (any kind) ○○○○● Earache ○○○○● Ear Infection ○○○○● Ringing in Ear ○○○○● Itchy Ears ○○○○● Discharge From Ears <u>2</u> TOTAL (0-24)</p> <p>SKIN ○○○○● Blemishes, Acne ○○○○● Rashes, Hives ○○○○● Eczema ○○○○● "Rosy" Cheeks <u>0</u> TOTAL (0-16)</p>	<p>NASAL/SINUS ○○○○● Post Nasal Drip ○○○○● Sinus Pain ○○○○● Runny Nose ○○○○● Stuffy Nose ○○○○● Sneezing <u>0</u> TOTAL (0-20)</p> <p>MOUTH/THROAT ○○○○● Sore Throat ○○○○● Swollen Throat ○○○○● Swelling of Lips/Tongue ○○○○● Gagging/Throat Clearing ○○○○● Canker Sores <u>0</u> TOTAL (0-20)</p> <p>LUNGS ○○○○● Wheezing ○○○○● Chest Congestion ○○○○● Dry Cough ○○○○● Wet Cough <u>0</u> TOTAL (0-16)</p> <p>EYES ○○○○● Red or Swollen Eyes ○○○○● Watery Eyes ○○○○● Itchy Eyes ○○○○● Dark Circles" or "Bags" <u>0</u> TOTAL (0-16)</p> <p>GENITOURINARY ○○○○● Increased Urinary Frequency ○○○○● Painful Urination <u>0</u> TOTAL (0-8)</p>	<p>MUSCULOSKELETAL ○○○○● Joint Pains/Aching ○○○○● Stiff Joints ○○○○● Muscle Aches ○○○○● Stiff Muscles <u>4</u> TOTAL (0-16)</p> <p>CARDIOVASCULAR ○○○○● Irregular Heartbeat ○○○○● High Blood Pressure <u>0</u> TOTAL (0-8)</p> <p>DIGESTIVE ○○○○● Heartburn/Reflux ○○○○● Stomach Pains/Cramps ○○○○● Intestinal Pains/Cramps ○○○○● Constipation ○○○○● Diarrhea ○○○○● Bloating Sensation ○○○○● Gas (of Any Kind) ○○○○● Nausea, Vomiting ○○○○● Painful Elimination <u>7</u> TOTAL (0-36)</p> <p>WEIGHT MANAGEMENT <u>187</u> Record Actual Weight ○○○○● Fluctuating Weight ○○○○● Food Cravings ○○○○● Water Retention ○○○○● Binge Eating or Drinking ○○○○● Purging (all methods) <u>3</u> TOTAL (0-20)</p>

Day 30

Results



Conclusion: Patient specific elimination diets based on Mediator Release Testing improves outcomes in patients with refractory IBS, migraine, fibromyalgia and arthritis and should be used in conjunction with standard therapies.