



KBMO DIAGNOSTICS

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Dr. Kristi's 4 Part KBMO Series...

Introduction to FIT test in a Nutrition-based, Integrative, or Functional Medicine Practice

Gut Health Cases and Gut Barrier Panel: May 11th

More Case Studies : June 15th

Ask Dr. Kristi... : July 13th



Introductory Discount and Account Sign up

- 1: Go to: <https://kbmodiagnostics.com/new-to-KBMO/>
- 2: Sign up and Please quote: Kristi Hughes for discount:
 - FIT 176: \$375 **Kristi discounted to \$200**
- 3: KBMO will then email you a new account form (NAF).
- 4: Fill out the NAF and email or scan back to KBMO and you are registered ! We will send out the kits.



IFM Definitions

Food allergy: Immunologic IgE-mediated type 1 hypersensitivity

Food sensitivity: Immunologic reaction to food (IgA or IgG-mediated delayed hypersensitivity)

Food intolerance: Non-immunologic reaction to food (e.g. lactose intolerance)



Food Intolerances or Food Triggers

Depression

Mood Swings

Fatigue

Cravings

Rashes

Itching

Insomnia

Water Retention

Autoimmune Disease



Nasal Congestion

Indigestion

Bloating

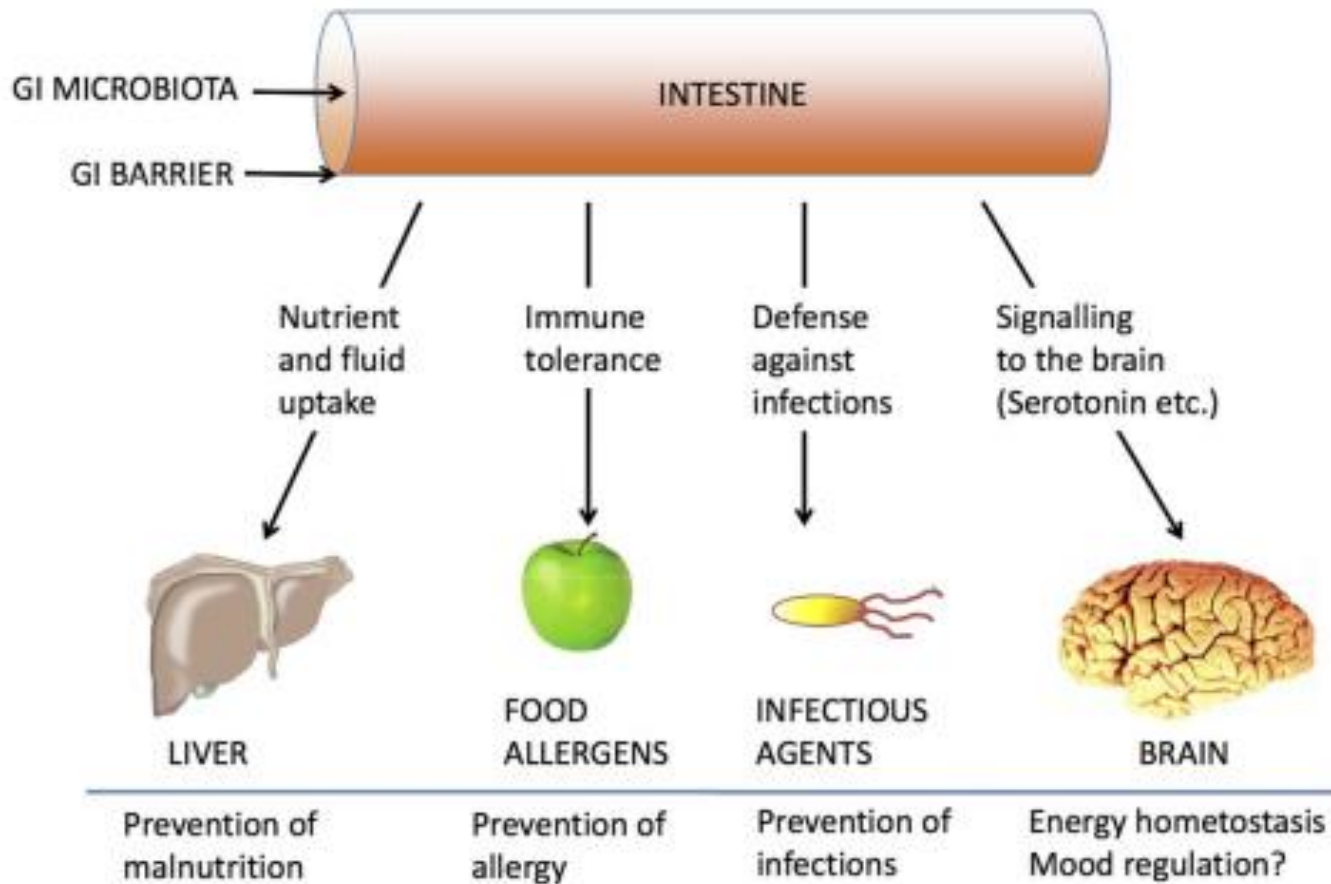
Constipation

Muscle Aches

Joint Pain

Headaches

Under Eye Dark Circles

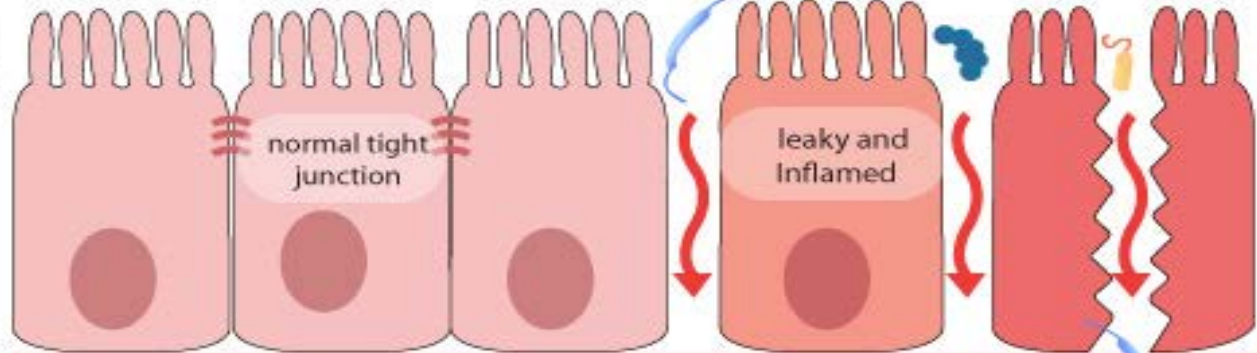


Leaky Gut Syndrome

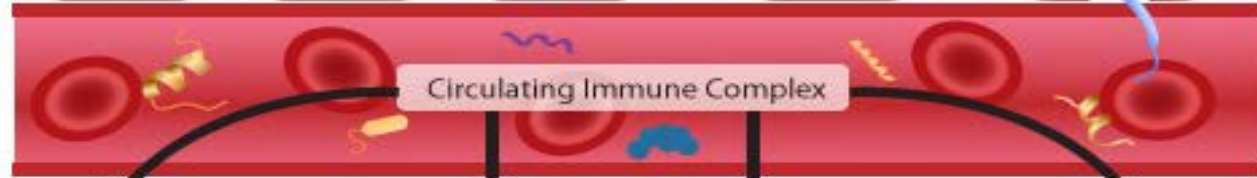
Triggers Causing
Inestinal Damage



Intestinal
Mucosal Cells



Blood Stream



Blood Brain
Barrier Breach

Inflammation

Autoimmunity

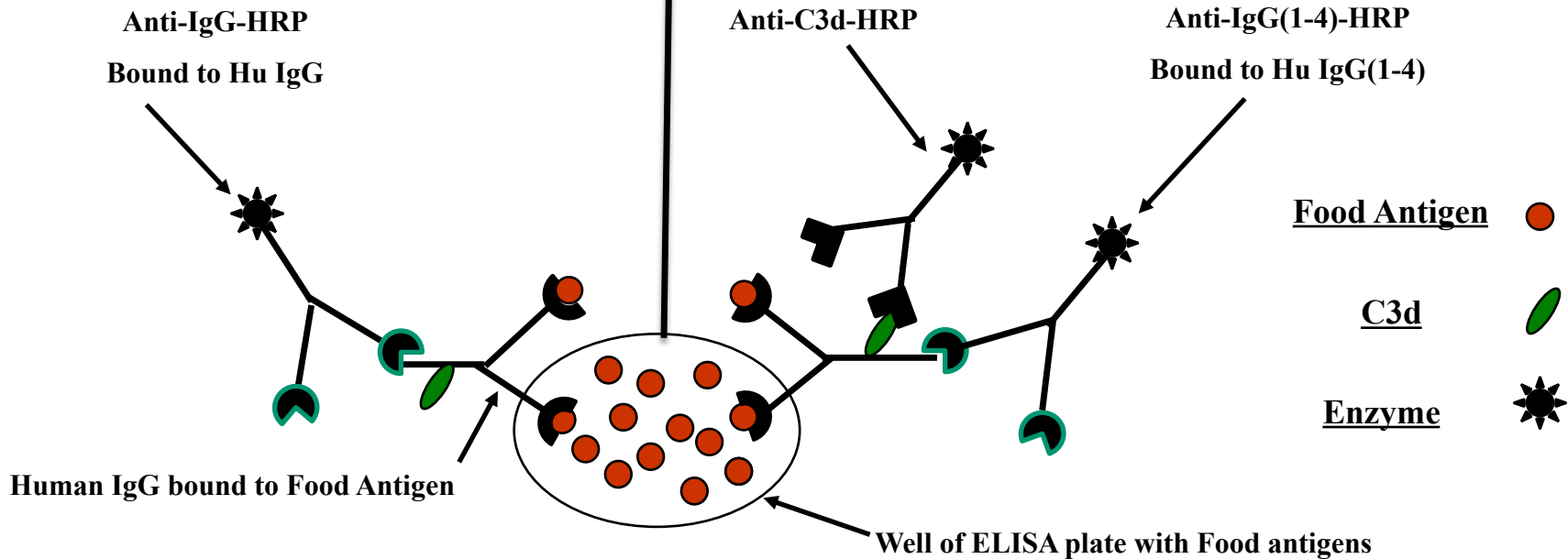
Malabsorption
& nutrient deficiency

The FIT Test: Format and Technology Showing Enhanced Sensitivity

Comparison of conventional conjugate: anti-IgG with enhanced conjugate: anti-IgG(1-4) and anti-C3d

Conventional conjugate generates only one signal

Enhanced Conjugate generates two signals: Patent # 8,309,318



Innate vs. Acquired immunity

The Immune system: Three Levels of Defense against Disease-Causing Organisms, Chemicals and Foreign Proteins

1. Barriers: Skin, Mucus Membranes, Stomach acid/enzymes, Gut bacteria
2. Innate Immunity: WBC- neutrophils/macrophages phagocytosis of bacteria/viruses/foreign proteins;
Complement: opsonize (C3b) bacteria, activated by Immune complexes containing IgG
3. Acquired Immunity: WBC- T cells Tc/Th/APC destroy cancer cells or infected cells. B cells-produce antibodies



Food Sensitivity or Leaky Gut =
Gut Barrier Panel

Which came first



THE GUT BARRIER PANEL:

Zonulin, Occludin and Candida Antibody Using the FIT TEST

Featuring unique recombinant Zonulin Protein
Exclusive to KBMO

Measures Zonulin, Occludin and Candida IgG and IgA Antibody

Test Format: ELISA assay using serum or Blood Spot

Dream Development Team

Dr. Alessio Fasano: Discovered Zonulin and partnering with KBMO

Dr. Brent Dorval: Developer of the first rapid HIV Diagnostic

**FIT 132 + FIT 176 INCLUDE THE
Intestinal barrier panel ASSAY**



FIT: Gut Barrier Panel (GBPanel)

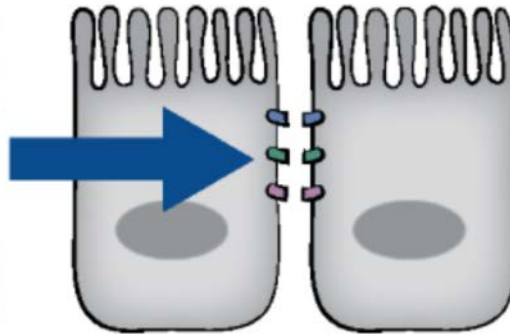
Gut Barrier Panel		
	IgG1-4+C3d	IgA1-2
Candida	Negative	Negative
Zonulin	Positive	Positive
Occludin	Positive	Positive

FIT 132 + FIT 176 INCLUDE THE GB Panel



Zonulin

ZONULIN
is a protein that can
OPEN
TIGHT
JUNCTION
PROTEINS²



**GLIADIN &
INTESTINAL
BACTERIA**
are the main triggers for
ZONULIN
RELEASE²



Overview of Zonulin

- Protein that is synthesized in intestinal and liver cells
- Key biomarker for intestinal permeability
- Only reversible regulator of intestinal permeability
- Elevated levels of Zonulin are associated with:

Autoimmune Diseases	Celiac Disease	Non-Celiac Gluten Sensitivity	Rheumatoid Arthritis	Type I Diabetes
Adult Glucose Intolerance	Inflammatory Bowel Disease	Obesity	Multiple Sclerosis	Juvenile Nonalcoholic Fatty Liver Disease



NEXT Gen Zonulin.....

Zonulin IgG Antibody Screening Assay

Featuring unique recombinant Zonulin Protein

Launched March, 2022: Exclusive to KBMO

Zonulin:

Measures Zonulin IgG Antibody a more stable and specific marker than Zonulin Protein and a similar positivity rate per Dr. Fasano's

Lancet Letter

Test Format:

ELISA assay using serum or Blood Spot as this is the sample type used in all Fasano's Research

Dream Development Team

Dr. Alessio Fasano:

Discovered Zonulin and partnering with KBMO

Dr. Brent Dorval:

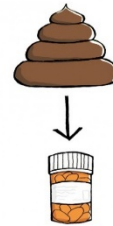
Developer of the first rapid HIV Diagnostic

**FIT 132 + FIT 176 INCLUDES THE
ZONULIN SCREENING ASSAY**



Problems with Zonulin Protein Measurement in ELISA Assays

1. **Cross reactivity:** haptoglobin, properdin, complement fragments block Zonulin binding and results in low positivity rates
2. **Sample timing:** concentration in serum varies widely during the day which results in difficulty getting an accurate measurement
3. **Sample type:** Serumand.....Fecal



Zonulin IgG Antibody Measurement Resolves Problems with Zonulin Protein ELISA

1. **Eliminates Cross reactivity:** unique recombinant zonulin protein eliminates haptoglobin, properdin, complement fragment cross reactivity
2. **Positivity rate:** eliminates zonulin blocking and low positivity rates
3. **Sample timing:** serum IgG concentration is stable, which assures an accurate measurement
4. **Sample type:** Serum or Blood Spot..... not Fecal



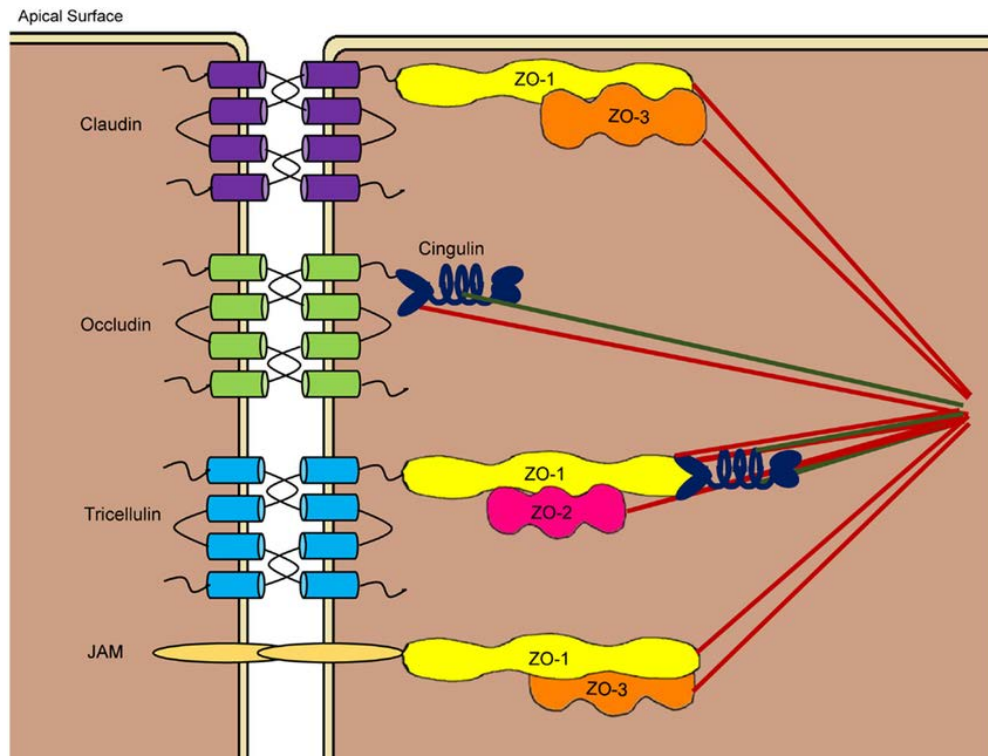
Overview of Occludin

- Key protein that forms the tight junction: 4 trans membrane domains
- Tight junction is 0.001 μm diameter
- Key biomarker for intestinal permeability
- Barrier function to regulate transport
- Occludin is opened in response to zonulin
- Elevated levels are associated with progression of intestinal permeability



Overview of Occludin

www.researchgate.net/figure/Schematic-drawing-of-tight-junction-structures-at-the-apicolateral-membranes-of-the_fig4_284563347

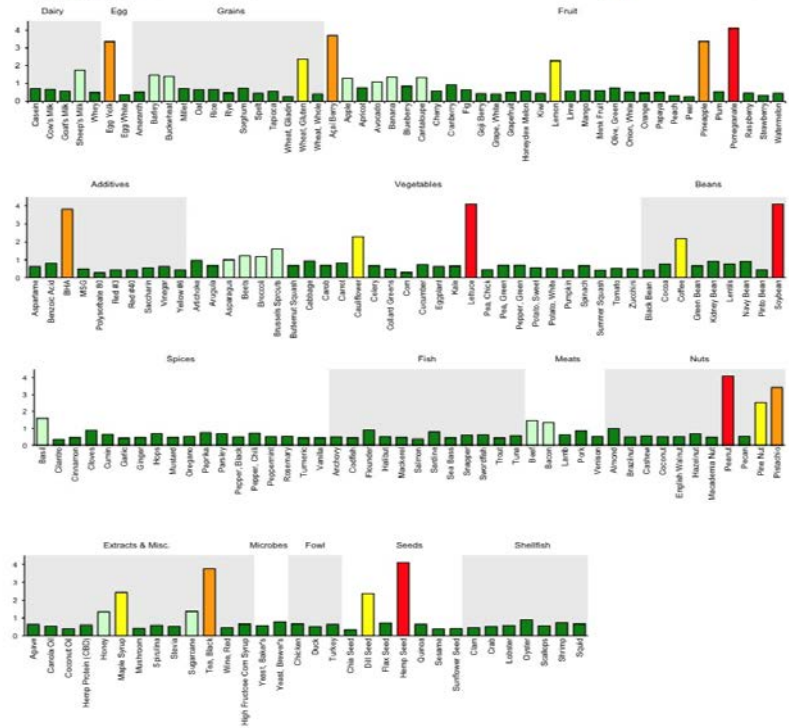


Patient Report: Gut Barrier Panel inc: Candida, Zonulin and Occludin



Name: PATIENT 1
 Provider: DOCTOR 1
 Sample Type: Serum
 Date Drawn: 01/01/2020
 Date Completed: 01/01/2020

Severe Reaction 4+
 High Reaction 3+
 Moderate Reaction 2+
 Mild Reaction 1+
 No Reaction Negative



Name: PATIENT 1
 Provider: DOCTOR 1
 Sample Type: Serum

Gut Barrier Panel

KBMO has created a unique Gut Barrier Panel which in recognition that leaky gut occurs across a spectrum we have included the following gatekeeper markers: Candida, Zonulin and Occludin. For each marker, we measure IgG 1-4 /C3d in addition to IgA 1 and 2.

Gut Barrier Panel		
	IgG1-4+C3d	IgA1-2
Candida	Negative	Negative
Zonulin	Positive	Positive
Occludin	Positive	Positive

Candida:
 we measure and use any candida overgrowth in the stomach/dysbiosis as a precursor to leaky gut occurrence

Zonulin:
 Is a marker of intestinal permeability, otherwise known as leaky gut. If a patient has elevated Zonulin levels, the normal regulation of the tight junctions is compromised. This Zonulin marker is unique to KBMO please follow the link for more information:
<http://kbmodiagnostics.com/zonulin-test/>

Occludin:
 is a marker of tight junction stabilization and optimal barrier function. Elevated occludin indicates that the tight junctions are breaking down.

GB Panel Interpretation:
 If any of the 6 markers are positive, we recommend to consult your provider with regards a gut healing protocol.



FIT: Gut Barrier Panel (GBPanel)

Gut Barrier Panel		
	IgG1-4-C3d	IgA1-2
Candida	Positive	Positive
Zonulin	Negative	Positive
Occludin	Negative	Negative
LPS	Positive	Negative

FIT 132 + FIT 176 INCLUDE THE GB Panel

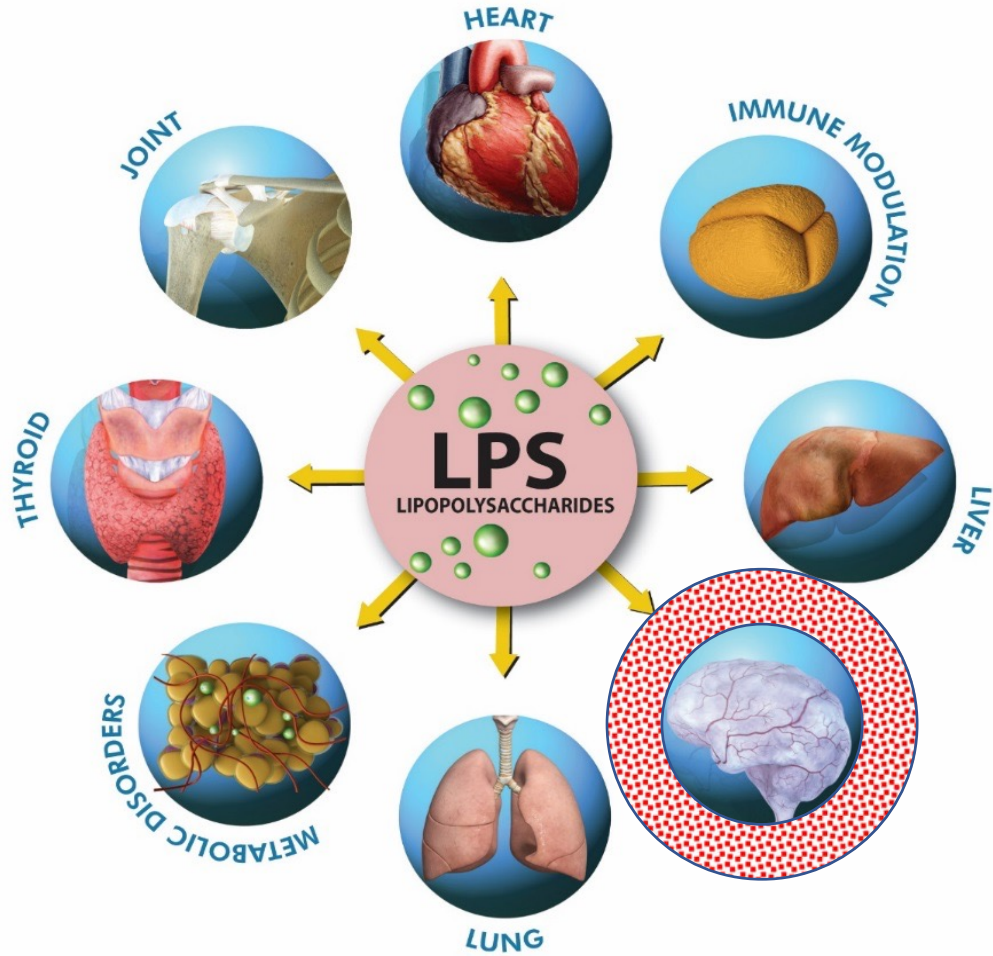


LPS

- LPS - major outer surface membrane components present in almost all gram-negative bacteria
- Many of these bacteria are pathogen
- Acts as extremely strong stimulator of innate immunity in humans
- Endotoxin
- Triggers release of vast number of inflammatory cytokines
- Can create direct epithelial damage in the gut
- Crosses the BBB

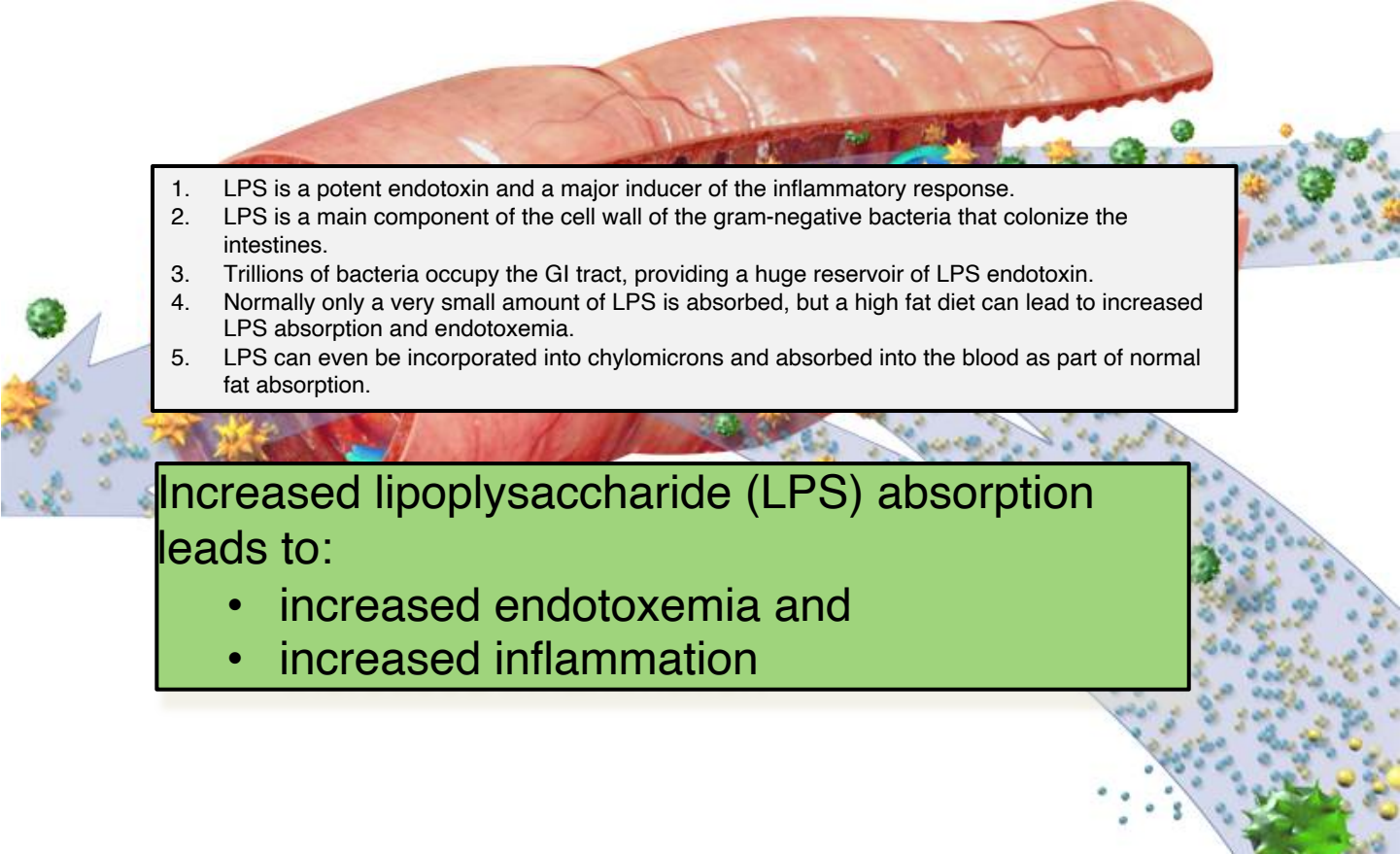


SYSTEMIC LPS IS LINKED TO MULTIPLE DISORDERS



Forsyth et al. Increased intestinal permeability correlates with sigmoid mucosa alpha-synuclein staining and endotoxin exposure markers in early Parkinson's disease. *PLoS ONE*, 2011; 6(12): e28032
Lee et al. Neuro-inflammation induced by lipopolysaccharide causes cognitive impairment through enhancement of beta-amyloid generation. *J Neuroinflammation*, 2008; 5:37



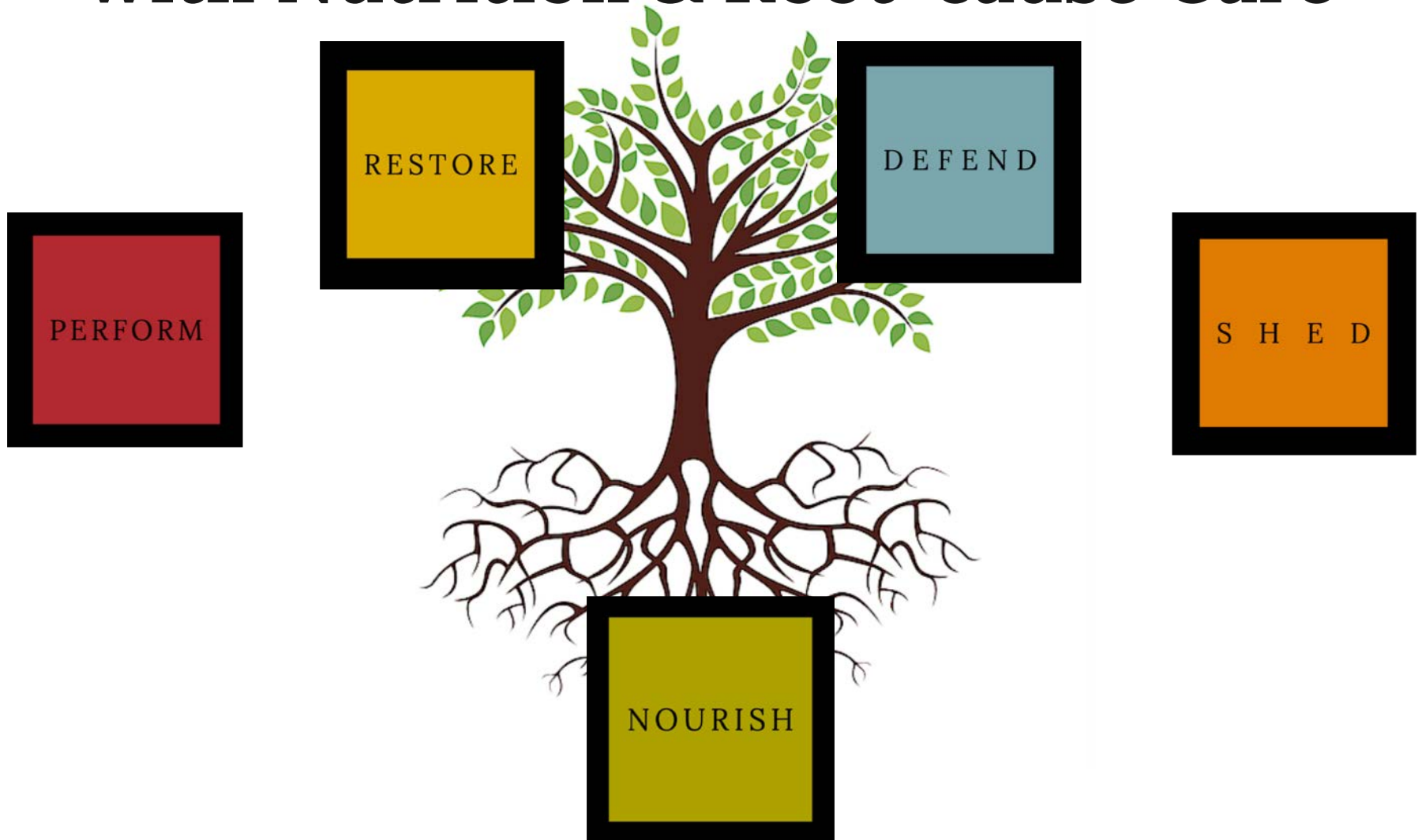
- 
1. LPS is a potent endotoxin and a major inducer of the inflammatory response.
 2. LPS is a main component of the cell wall of the gram-negative bacteria that colonize the intestines.
 3. Trillions of bacteria occupy the GI tract, providing a huge reservoir of LPS endotoxin.
 4. Normally only a very small amount of LPS is absorbed, but a high fat diet can lead to increased LPS absorption and endotoxemia.
 5. LPS can even be incorporated into chylomicrons and absorbed into the blood as part of normal fat absorption.

Increased lipopolysaccharide (LPS) absorption leads to:

- increased endotoxemia and
- increased inflammation



Return to Wellness with Nutrition & Root-cause Care



PERFORM

RESTORE

DEFEND

S H E D

**STRONG
& LONG**

**BROKEN
& TIRED**

**INFECTED
& INFLAMED**

**TOXIC &
SWOLLEN**

Return to Wellness with Nutrition & Root-cause Care

PERFORM

- Improve performance, strength, stamina, and exercise recovery

RESTORE

- Manage injuries and trauma to optimize repair and recovery

NOURISH

- Ensure you have your basic nutrition needs covered

DEFEND

- Minimize inflammation and address allergenic reactions

SHED

- Shed the weight and fluid retention with effective formulations

	PERFORM	RESTORE	DEFEND	S H E D
Fiber & Phyto	<input type="checkbox"/> Fiber <input type="checkbox"/> Intestinal Cleanse <input type="checkbox"/> Fruits & Greens <input type="checkbox"/> Fruits & Greens Immune	<input type="checkbox"/> GI Integrity <input type="checkbox"/> Intestinal Cleanse <input type="checkbox"/> Fruits & Greens <input type="checkbox"/> Fruits & Greens Immune	<input type="checkbox"/> GI Integrity <input type="checkbox"/> Intestinal Cleanse <input type="checkbox"/> Fruits & Greens <input type="checkbox"/> Fruits & Greens Immune	<input type="checkbox"/> Fiber <input type="checkbox"/> Intestinal Cleanse <input type="checkbox"/> Fruits & Greens <input type="checkbox"/> Fruits & Greens Immune
EFAs	<input type="checkbox"/> EPA/DHA 720 - 1000 <input type="checkbox"/> Omega Pure Complete <input type="checkbox"/> PRM Resolve	<input type="checkbox"/> DHA Liquid Omega <input type="checkbox"/> Omega Pure Complete <input type="checkbox"/> PRM Resolve	<input type="checkbox"/> EPA/DHA 720 - 1000 <input type="checkbox"/> Omega Pure Complete <input type="checkbox"/> PRM Resolve	<input type="checkbox"/> EPA/DHA 720 - 1000 <input type="checkbox"/> Omega Pure Complete <input type="checkbox"/> PRM Resolve
Dynamic Protein	<input type="checkbox"/> PaleoProtein <input type="checkbox"/> Collagen Renew	<input type="checkbox"/> GI Restore <input type="checkbox"/> Brain Restore	<input type="checkbox"/> Inflam-eze <input type="checkbox"/> CardioMetabolic	<input type="checkbox"/> Detox <input type="checkbox"/> Hormone Balance
Targeted Nutrients & Advanced Formulations	<p>Peak Performance</p> <input type="checkbox"/> Performance Formula <input type="checkbox"/> Hydrate <input type="checkbox"/> Brain Support <input type="checkbox"/> Chondro-Relief Int Care <p>Fat Loss</p> <input type="checkbox"/> Keto Burn <p>Training Recovery</p> <input type="checkbox"/> Mag Calm Pro <input type="checkbox"/> CardioFlow <p>DOCTOR KRISTI</p>	<p>Gut Restoration</p> <input type="checkbox"/> Digestive Complete <input type="checkbox"/> Lipo-Flow <p>Brain Restoration</p> <input type="checkbox"/> Brain Restore <input type="checkbox"/> Brain Support <p>Mito/Cellular Energy</p> <input type="checkbox"/> Mito Recharge <input type="checkbox"/> CoQ10 <p>Sleep Restoration</p> <input type="checkbox"/> Good Night <p>Mood Restoration</p> <input type="checkbox"/> Neuro Balance <p>HPAT</p> <input type="checkbox"/> Stress Essential Line <input type="checkbox"/> Cortisol Pro <input type="checkbox"/> Thyroid Pro <input type="checkbox"/> 7-Keto DHEA	<p>Inflammation/Allergies</p> <input type="checkbox"/> Inflam-eze Plus <input type="checkbox"/> Aller Pro <p>Immune/Infection</p> <input type="checkbox"/> Immune Resilience <input type="checkbox"/> Immune Support <input type="checkbox"/> GI Defend <input type="checkbox"/> Spectrum AR <input type="checkbox"/> Spectrum BR <input type="checkbox"/> Micro-eze <input type="checkbox"/> NutriCidin <p>Metabolic Balance</p> <input type="checkbox"/> Gluco IR <input type="checkbox"/> Berberine Pro <input type="checkbox"/> CardioFlow	<p>Systemic Detox</p> <input type="checkbox"/> Detox Support <input type="checkbox"/> Detox Phase I & II <input type="checkbox"/> Renex <input type="checkbox"/> Alcohol Detox <input type="checkbox"/> Glutathione <input type="checkbox"/> Sulforaphane Complex <p>Estrogen Metabolism</p> <input type="checkbox"/> Hormone Balance <input type="checkbox"/> EstroBalance <input type="checkbox"/> TestroBalance <input type="checkbox"/> I3C Plus <p>Bowel Motility</p> <input type="checkbox"/> Magnesium Citrate

Targeted Therapeutics &
Specialty Nutraceuticals

Functional Foods &
Dynamic Protein Formulations

Essential Fatty Acids,
Quality Fats & Oils

Foundational Fiber,
Phytonutrients, & Prebiotics

2023 Personalized Nutrition Plan

Nutraceuticals	Upon Rising	Breakfast	Mid Morning	Lunch	Mid Afternoon	Supper	Mid Evening	Before Sleep

New Materials

Treatment Protocols: Biotics, NutriDyn Nutritional Frontiers

Videos: Launch:4mins Dr Silverman: 18mins

Patient Report for FIT 132, 176 and GB Standalone

Patient Trifold

Foods We Test

Website: [Gut Barrier Panel - KBMO Diagnostics](#)

App Completed



The FIT Test: Conclusions

- Patented Multi pathway detection technology broadly adapted
- Best in Class patient compliance tools
- Excellent clinical outcomes backed by IRB Approved clinical study
- New Products Developed by World Class Scientists and Physicians



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