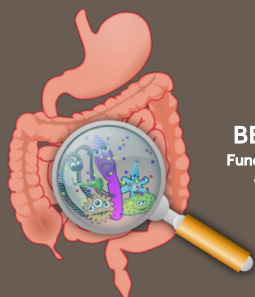


Gut Health Masterclass



Presented By

BERNADETTE ABRAHAM
Functional Nutritional Therapy Practitioner
& AFMC Functional Medicine Coach



I want you to gain:

- A better understanding of how digestion works
- How digestive dysfunction happens
- How the gut is the foundation of health
- Tools to help improve digestion



Functional Medicine

Disease prevention & reversal

Find and address the root cause of disease

Holistic view of the whole body

Client-centered care (bio-individuality)

Combines the best of modern & traditional medicine with an emphasis on nutrition and lifestyle

Asks: "Who is the person who has the disease, why was function lost and how can we restore function?"

Evidence-based from peer-reviewed medical journals, and uncorrupted by corporate and political interests

Educates and empowers client to play an active role in the healing process

Conventional Medicine

Disease diagnosis & management

Suppression of symptoms & life-saving triage

Body is viewed as separate parts each with its own specialist

Disease-centered "one size fits all" approach

Relies almost exclusively on drugs and surgery despite their risks and complications

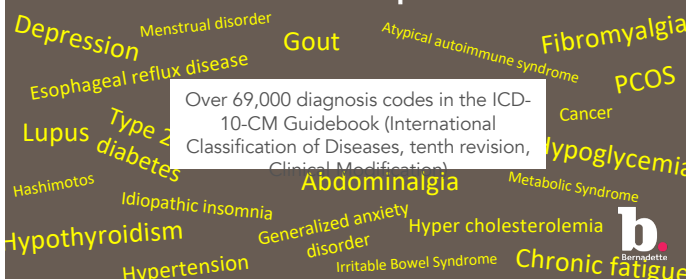
Asks: "What drug or medical procedure matches this disease?"

Heavily influenced by profit-driven pharmaceutical and insurance companies

Client's opinion is often dismissed and very little time is spent on education and client empowerment



No wonder people feel lost, overwhelmed, scared and disempowered...



Over 69,000 diagnosis codes in the ICD-10-CM Guidebook (International Classification of Diseases, tenth revision, Clinical Modification)



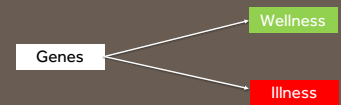
Everything is Interconnected



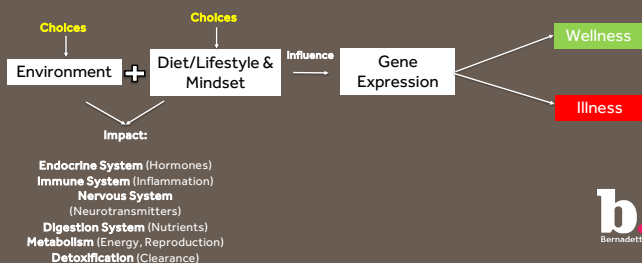
- Oxygen and water intake
- Stress management
- Toxins and detoxification ability
- Sensitivities/allergies and immune health
- Energy production and circulation
- Diet, digestion and absorption ability
- Genetic predispositions and infections
- History/trauma, mindset and belief



Our Genes Load the Gun...



... But It's Our Choices That Pull The Trigger



You Are Not a Victim of Your Genes



<https://learn.genetics.utah.edu/content/epigenetics/>



Reality

We are not designed to be stressed, toxic, inflamed, infected, malnourished, overworked & unrested

Expectation

...And still expect to thrive, grow, reproduce, lose weight, feel amazing, eat anything we want, enjoy perfect BMs, and have amazing libido

This combination is NOT natural!

Why People Struggle

1. Nutrient-poor food (deficiencies, hormone imbalances)
2. Toxins (infections, heavy metals, mold, EMF, pollution...)
3. Stress/trauma (physical, emotional, physiological)



Rapid Relief vs Foundational Work



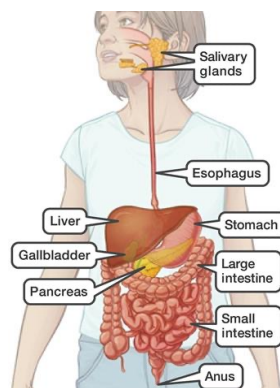
Disclaimer

This masterclass is for general informational purposes only and does not constitute the practice of medicine, nursing or other professional healthcare services, including the giving of medical advice, and no practitioner/patient relationship is formed.

The use of information in this masterclass or materials linked is at the user's own risk.

The content of this masterclass is not intended to be a substitute for professional medical advice, diagnosis or treatment.

Users should not disregard, or delay in obtaining, medical advice for any medical condition they may have, and should seek the assistance of their healthcare professionals for any such conditions.



Meet the Players

Gastrointestinal Tract:

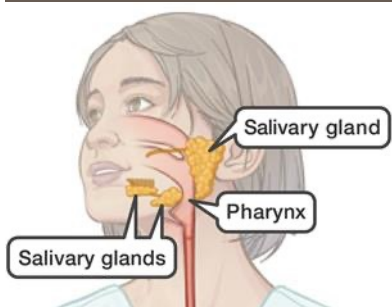
1. Mouth
2. Esophagus
3. Stomach
4. Small Intestine
5. Large Intestine
6. Anus

Accessory Organs:

7. Salivary glands
8. Liver
9. Gallbladder
10. Pancreas



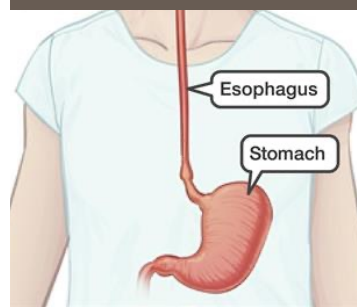
Digestion Starts North



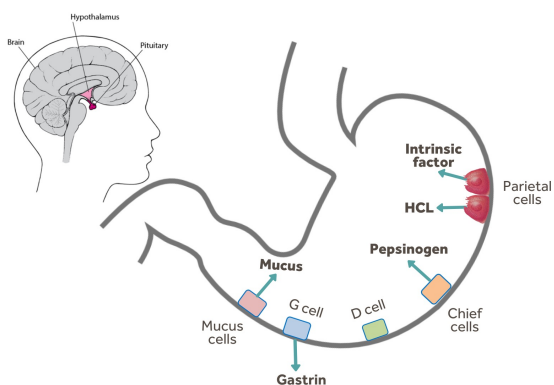
- Sight and smell of food triggers salivary glands to produce saliva
- Saliva is 99.5% water & 0.5% solutes
- Salivary amylase begins chemical breakdown of carbs



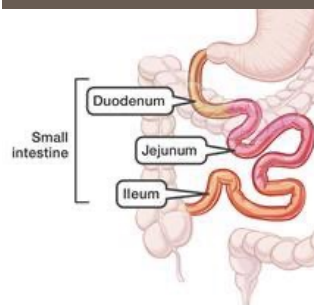
Digestion Continues South... Stomach



- Cardiac sphincter opens to allow bolus to enter stomach
- Millions of tiny gastric glands secrete:
 - Mucous
 - Pepsinogen/Pepsin
 - Hydrochloric Acid
- HCL and pepsin begin breakdown of proteins



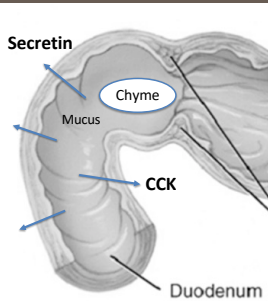
Digestion Continues South... Duodenum



Very acidic "chyme" is released into duodenum through pyloric sphincter



Digestion Continues South... Duodenum

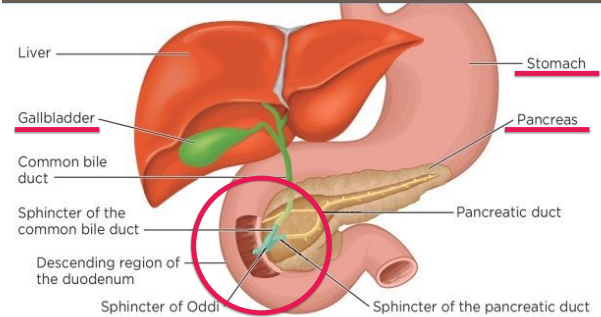


Acidity of chyme triggers release of:

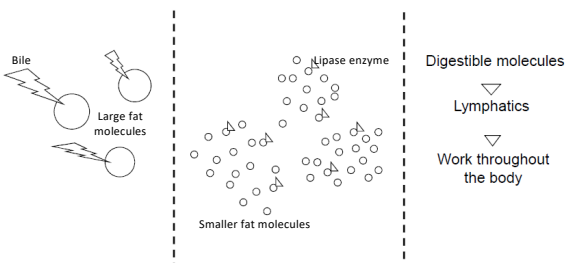
1. Mucous (protective)
2. Secretin tells pancreas to release sodium bicarbonate and digestive enzymes
3. CCK tells gallbladder to release bile



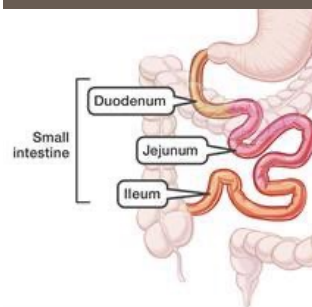
The 3 major players: "GPS"



Normal Bile Function



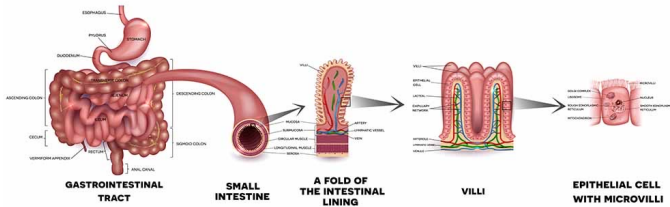
Digestion Continues South... Small Intestine



- Chyme is almost totally digested by the time it leaves duodenum:
 - Carbs broken into glucose
 - Protein into amino acids
 - Fats into fatty acids & glycerol
- Peristalsis moves these absorbable molecules into jejunum & ileum.



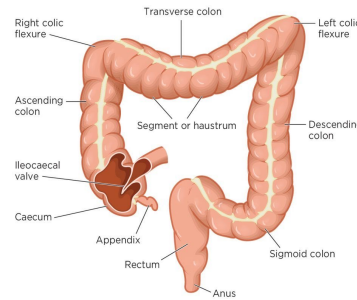
Digestion Continues South... Small Intestine



- Millions of villi & microvilli absorb the nutrients into blood:
 - Glucose, amino acids & SCFA go to capillaries & liver
 - Long chain fatty acids end up in the lymphatic system



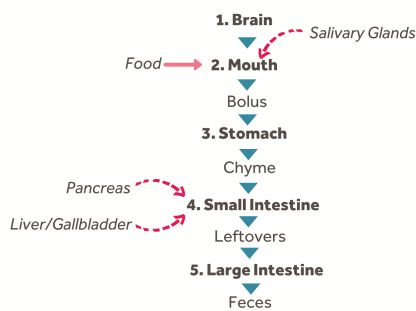
Digestion Continues South... Large Intestine



- Indigestible fibers, bile, water, old cells, lost nutrients get recaptured & recycled
- Converts the nutrients to vitamins K, B1, B2, B12 & butyric acid
- Forms and expels feces

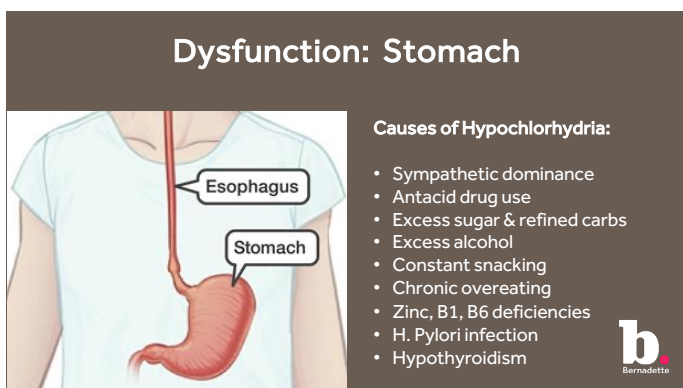
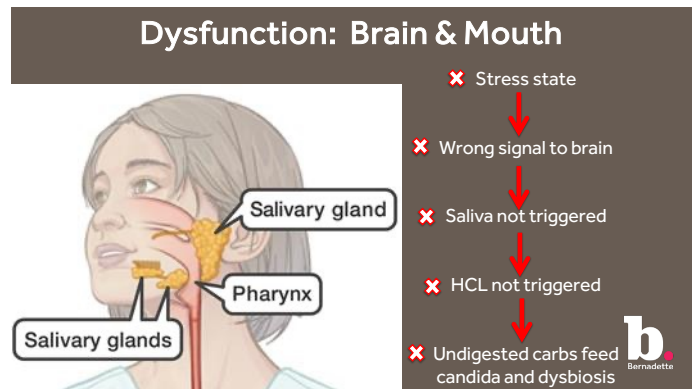
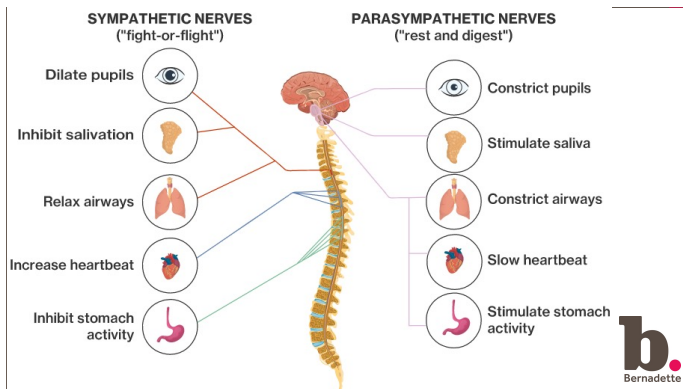


North to South Summary



Dysfunction ALSO Starts North



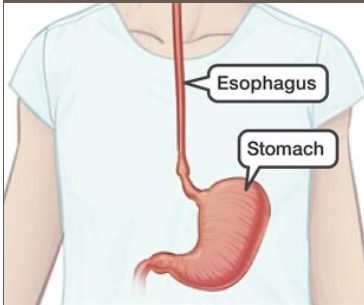


Dysfunction: Stomach

Dysfunction	Affects	Resulting In (e.g.)
Low stomach acid	Low Vitamin B12	Low energy, Neuropathy, Arterial inflammation
Low stomach acid	Low magnesium	Osteopenia, Chronic Headaches, Constipation, Muscle spasm, Atrial fibrillation, Hypertension, GERD
Low stomach acid	Low iron	Anemia (low RBC), Fatigue, Poor tissue oxygenation (cold, numb), hypothyroidism

b.
Bernadette

Causes of Hypochlorhydria

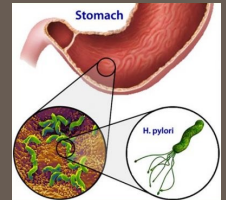
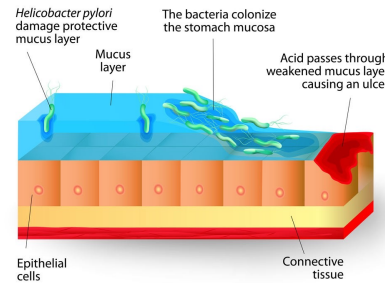


Causes of low stomach acid:

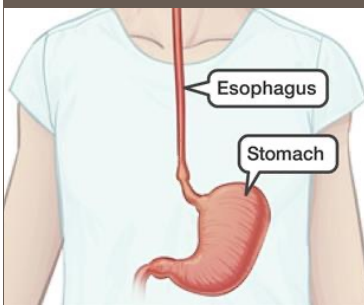
- Sympathetic dominance
- Antacid drug use
- Excess sugar, refined carbs
- Excess alcohol
- Constant snacking
- Chronic overeating
- Mineral Supplements
- Zinc, B1, B6 deficiencies
- H. Pylori infection
- Hypothyroidism
- Age



Dysfunction: H. Pylori in the Stomach



Dysfunction: Stomach



Causes of Hypochlorhydria:

- Sympathetic dominance
- Antacid drug use
- Excess sugar, refined carbs
- Excess alcohol
- Constant snacking
- Chronic overeating
- Mineral Supplements
- Zinc, B1, B6 deficiencies
- H. Pylori infection
- Hypothyroidism
- Age



Signs of Hypochlorhydria

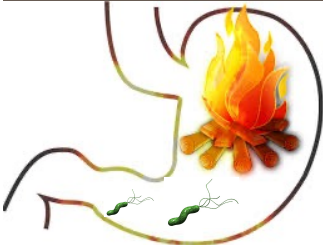


Common Signs of Hypochlorhydria:

- Heartburn
- GERD
- Stomach pain
- Belching
- Nausea
- Sense of fullness
- Decreased appetite
- Bad taste in the mouth



Other Signs of Hypochlorhydria



- Gas & bloating within 1 hour after meal
- Loss of taste for meat / vegan
- Feel like skipping breakfast
- Feel better not eating
- Sleepy after meals
- Weak/brittle fingernails
- Iron anemia
- Undigested food in stool



Stomach Acid Test



1. Upon rising on an empty stomach, mix:
- ½ cup (125mL) of cold water with
- ¼ tsp baking soda
2. Drink all at once
3. Time yourself for 5 minutes



When do you first start burping?

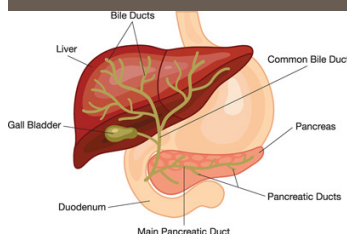
If you burp within 2-3 minutes -> likely sufficient stomach acid

If you burp after 3 minutes (or none at all) -> likely insufficient stomach acid

**Repeat the test at least three (ideally five) consecutive mornings to get the most accurate data possible*



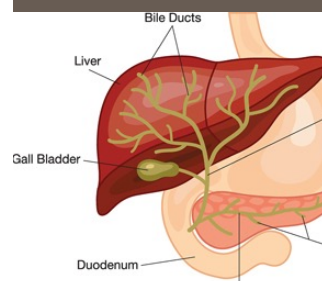
Dysfunction: Pancreas



- ✗ If pH is too low
- ✗ No Sodium Bicarbonate
- ✗ No Enzyme Action
- ✗ Incomplete Chemical Digestion
- ✗ Intestinal Problems



Dysfunction: Gallbladder



- ✗ Low fat diet or bad fats/oils
- ✗ No bile released
- ✗ Undigested fat molecules
- ✗ Rancidify: gas & burping
- ✗ Fatty acid deficient



Dysfunction: Gallbladder

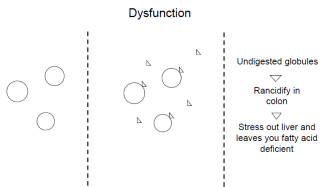
✗ Low fat diet or bad fats/oils

✗ No bile released

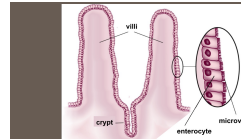
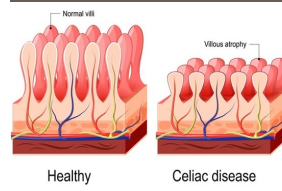
✗ Undigested fat molecules

✗ Rancidify: gas & burping

✗ Fatty acid deficient



Dysfunction: Small Intestine



✗ Undigested proteins impact villi and microvilli

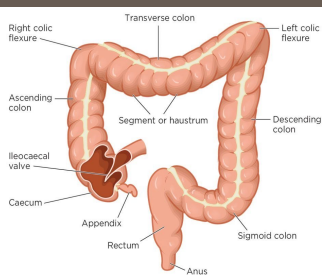
✗ Intestinal permeability

✗ Food sensitivities

✗ Overwhelm the immune system



Dysfunction: Large Intestine



✗ Maldigested foods full of parasites & microorganisms

✗ Clogs the ileocecal valve

✗ Causes dysbiosis

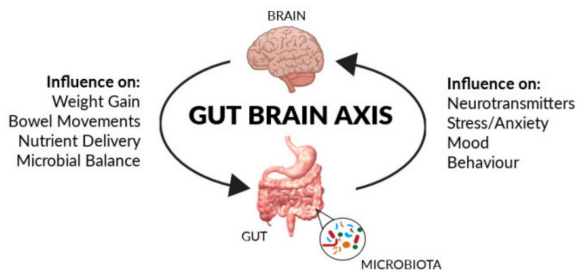
✗ Subject to GI inflammation (IBS, Crohn's, Colitis, Celiac)



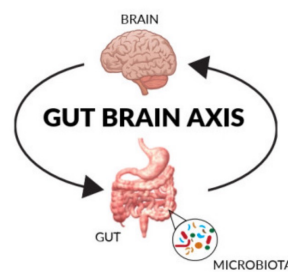
Dysfunction: North to South Summary



The Gut Brain Axis



Our 2nd Brain: Enteric Nervous System

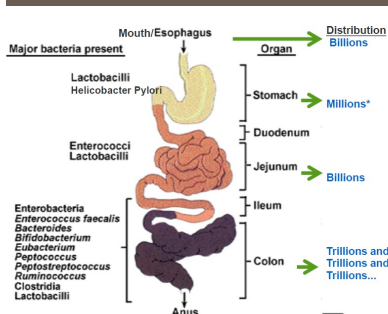


ENS controls the GI system but also influences rest of the body:

- 90% serotonin:
-Good sleep, pain regulation, balanced mood
- 50% dopamine:
-Ability to focus, control our muscles, good memory
- 70% immune system
-99% of time it is surveilling



We Are NOT In Charge!

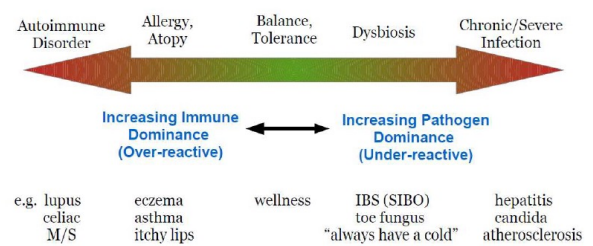


- Tens of trillions microorganisms reside within us.
- They contribute 300 x as much DNA as we do
- Our reality is dictated by the microbes within us.
- Keeps our immune system healthy



Healthy Microbiome = Healthy Immune Function

An ideal immune system is appropriately tolerant



How "Dis-ease" Begins in the Gut!

Dysfunction	Affects	Resulting in (e.g.)
Low stomach acid	Low Vitamin B12	Low energy, Neuropathy, Arterial inflammation
Low stomach acid	Low magnesium	Osteopenia, Chronic Headaches, Constipation, Muscle spasm, Atrial fibrillation, Hypertension, GERD
Low stomach acid	Low iron	Anemia (low RBC), Fatigue, Poor tissue oxygenation (cold, numb), hypothyroidism
Bacterial imbalance or overgrowth	Poor essential fat absorption	Depression, Anxiety, Dry skin, Elevated triglycerides
Bacterial imbalance or overgrowth	Poor serotonin creation	Insomnia, depression, constipation
Low digestive enzymes	High diet residue in intestines	Bloating, Flatulence, Fatigue, Bacteria overgrowth, Constipation
Low digestive enzymes (Insulin resistance?)	Inadequate tyrosine	Hypothyroidism, ADHD/ADD, Depression, Restless Leg Syndrome



How "Dis-ease" Begins in the Gut!



The Progression of "Dis-ease"

❖ Deficiency-Driven Dysfunction

- e.g. anemia, neuropathy, depression, headache

❖ Gastrointestinal Dis-ease

- e.g. IBS, constipation, belching, bloating

❖ GI-origin Inflammation

- e.g. osteoarthritis, asthma, migraine, chronic fatigue, fibromyalgia, eczema, intestinal permeability

❖ Autoimmune Dis-ease

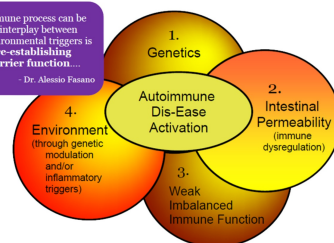
- Hashimoto's thyroiditis, lupus, multiple sclerosis, Crohn's disease, rheumatoid arthritis



Autoimmunity: The Perfect Storm

"...the autoimmune process can be arrested if the interplay between genes and environmental triggers is prevented by re-establishing intestinal barrier function..."

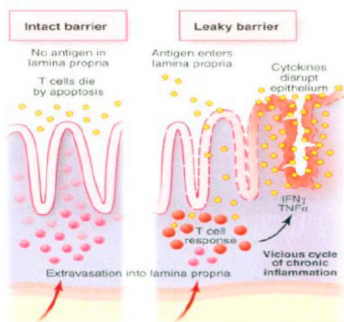
- Dr. Alessio Fasano



Triggers & Causes of Leaky Gut

Potential Triggers/Causes

- ❖ Low Vitamin D
- ❖ NSAID drugs
- ❖ Other Drugs
(e.g. SSRI, hormones, birth control pills, chemotherapy)
- ❖ Gut microbial imbalances and overgrowths (e.g. candida)
- ❖ Pathogenic microbes
- ❖ Antibiotics
- ❖ Isolation from "old friends"
- ❖ Gluten (zonulin)
- ❖ Stress
- ❖ Highly processed foods
- ❖ Toxins, chemicals



CAUSES OF LEAKY GUT

@Bernadette.Abraham

Inflammatory Foods



Toxins



Infections



Are You Looking?



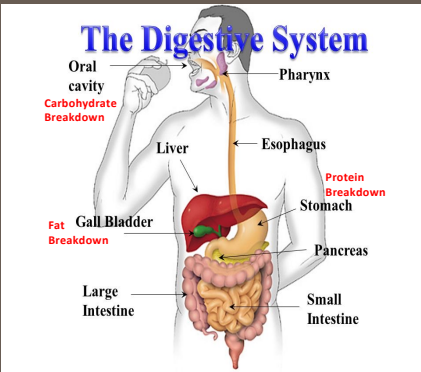
What Do You Notice?



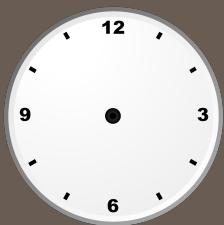
If you see food, there's maldigestion. Typically from:

1. Low stomach acid and/or insufficient digestive enzymes
2. Poor eating hygiene!





Transit Time

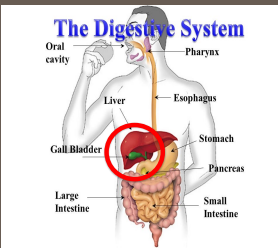


- ✓ Daily. Ideally 2-3 times per day
- ✗ Re-absorbing toxins



What Is Stool?

Bristol stool chart	
	Type 1 Separate hard lumps, like nuts (hard to pass)
	Type 2 Sausage-shaped, but lumpy
	Type 3 Sausage-shaped, but with cracks on surface
	Type 4 Sausage or snake like, smooth and soft
	Type 5 Soft blobs with clear-cut edges (easy to pass)
	Type 6 Fluffy pieces with ragged edges, mushy
	Type 7 Watery, no solid pieces (entirely liquid)

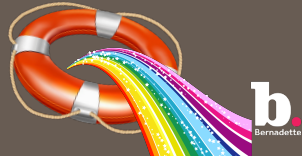


White, Orange & Yellow Stool?

White/light colored: fat maldigestion, insufficient lipase, acute pancreatitis, biliary congestion, sluggish bile production and flow

Yellow/orange & floating: fat maldigestion & absorption

Need fats for: satiety, cell to cell communication, hormones, energy, skin, brain & heart health, etc.



Common Reasons For Fatty Stools

1. Insufficient digestive enzymes (insulin resistance, T2D?) or insufficient bile from the liver
2. Thick bile or blocked bile/pancreatic duct
3. SIBO or an overgrowth of various species (gut healing!)
4. Gallbladder removed? It's not an optional organ!



Common Causes of Constipation

1. Dehydration

-Water bottle w/ elastics, infused water

2. Insufficient magnesium

-Magnesium citrate, Epsom salt, green leafy veggies, nuts

3. Insufficient intake of dietary fats

-avocados, olives, extra virgin olive oil, coconut oil, grass-fed butter, nuts & seeds, nut butters

4. Hypothyroidism: "sluggish thyroid = sluggish everything"

-Insulin resistance, stress, nutrient deficiencies (iodine, protein, zinc, vitamin A, iron, selenium)

5. SIBO (Microbial overgrowth) / not enough serotonin



Common Causes of Diarrhea

1. Stress!

-Reduce stress, do less, find balance

2. Food sensitivities

-Remove dairy & gluten

3. Damaged brush border lining

-Lactose intolerance, glucose/fructose

4. SIBO (microbial overgrowth) / too much serotonin

-S. Boulardii, lactobacillus plantarum or rhamnosus

5. Certain medications & supplements



Testing Options: GI Map

Diagnostic Solutions		GI-MAP™ DNA Stool Analysis		Patient: Ima Sample		Accession: 20180212-0001		Specimen: Stool		Acquisition: 01/02/2018	
8888 Street NW, Ste 101 Atlanta, GA 30305 877-465-5336		Collected: 2/12/2018 DOB: 7/11/1981 Ordered by: Diana Fathi, MD		Received: 2/12/2018 Completed:		Additional Dysbiosis/Overgrowth Scores		Result		Range	
Pathogens		Result		Normal		Bacterial		2.56x		<1.00x	
Sectional Pathogens		Result		Normal		Enterococcus faecalis		2.56x		<1.00x	
Campylobacter		<dl		<1.00x		Enterococcus faecium		1.11x		<1.00x	
C. difficile Toxin A		1.21x5		High		Mycobacterium		<dl		<1.00x	
C. difficile Toxin B		2.21x5		High		Pseudomonas spp.		1.21x4		High	
Enterobacteriaceae E. coli		<dl		<1.00x		Shigella flexneri spp.		1.05x4		High	
E. coli O157		8.80x5		High		Shigella sonnei		1.05x4		High	
Enterobacteriaceae E. coli O157		<dl		<1.00x		Shigella dysenteriae		1.05x4		High	
Enterobacteriaceae E. coli O157		<dl		<1.00x		Shigella flexneri		1.05x4		High	
Shiga-like Toxin E. coli O157		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Shiga-like Toxin E. coli O157		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Salmonella		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Vibrio cholerae		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Yersinia enterocolitica		4.46x1		High		Shiga-like Toxin E. coli O157		1.05x4		High	
Parasitic Pathogens		Result		Normal		Shiga-like Toxin E. coli O157		1.05x4		High	
Cryptosporidium		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Entamoeba histolytica		<dl		<1.00x		Shiga-like Toxin E. coli O157		1.05x4		High	
Viral Pathogens		Result		Normal		Shiga-like Toxin E. coli O157		1.05x4		High	
Adenovirus 40/41		<dl		<1.00x10		Shiga-like Toxin E. coli O157		1.05x4		High	
Norovirus GI/II		<dl		<1.00x7		Shiga-like Toxin E. coli O157		1.05x4		High	



Testing Options: GI Map

Intestinal Health			
Digestion	Result		Range
Elastase-1	212		>200 ug/g
Steatocrit	<dl		<15 %
Immune Response			
Secretory IgA	207	Low	510 - 2010 ug/g
Anti-gliadin IgA	259	High	0 - 100 U/L
Inflammation			
Calprotectin	49		<50 ug/g
Additional Tests			
b-Glucuronidase	3115	High	<1123 U/mL
Fecal Occult Blood	Negative		Negative
Zonulin	43.8		<107 ng/g



Boosting Low SIgA

1. S. Boulardii
-Ex. Metagenics UltraFlora Spectrum 2 x per day
2. Colostrum
-Ex. Orthomolecular SBI Protect (dairy-based), Microbiome Labs Megalg2000 (non-dairy)
3. L-Glutamine (caution if prone to anxiety)
-Ex. 3g, 2-3 x per day
4. Omega-3 fats
-Ex. Biotics Research Biomega-1000
5. Beta Glucans (found in reishi mushroom)
-Ex. Pure Encapsulations Innate Immune Support
6. Optimizing immune nutrients (vitamins A, D & zinc)

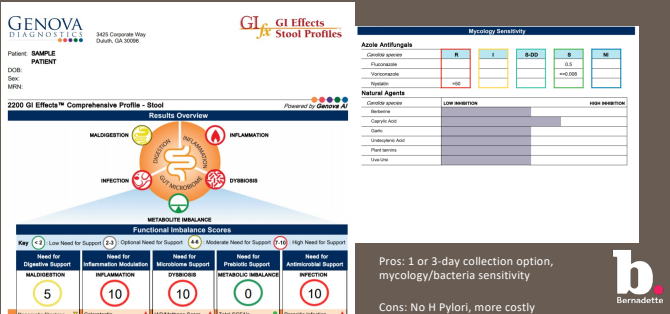


Testing Options: GI Map

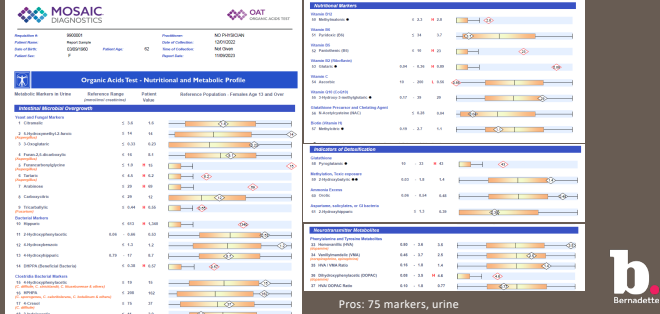
Intestinal Health			
Digestion	Result		Range
Elastase-1	212		>200 ug/g
Steatocrit	<dl		<15 %
Immune Response			
Secretory IgA	207	Low	510 - 2010 ug/g
Anti-gliadin IgA	259	High	0 - 100 U/L
Inflammation			
Calprotectin	49		<50 ug/g
Additional Tests			
b-Glucuronidase	3115	High	<1123 U/mL
Fecal Occult Blood	Negative		Negative
Zonulin	43.8		<107 ng/g



Testing Options: GI Effects by Genova




Testing Options: OAT by Mosaic



Rapid Relief: Constipation

- Typically something other than at least one, easy-to-pass, complete bowel movement daily *without straining*

Many possible causes: e.g. magnesium deficiency, neurological disorders, microbial imbalance or overgrowth (SIBO), low serotonin, hypothyroid, hypoadrenal, too high or low adrenaline (or drugs that affect it), stress/anxiety, insufficient water, fiber, fats, retroflexed uterus (or other structural blockages).

- Insufficient magnesium:
 - Try 200-800mg magnesium citrate at bedtime; start low and slow.
 - Insufficient healthy fat
 - Increase olive oil dramatically (not if active gallbladder issues)
 - Insufficient hydration
 - Drink more water, less coffee/caffeinated teas
 - Hard to pass/straining: Insufficient insoluble fiber
 - Try more whole grains (except oats), non-starchy vegetables, fruit w/skin, nuts, seeds
 - Watery, incomplete stools: Insufficient soluble fiber
 - Try more oats, banana, okra, chia seeds, psyllium husks, brussels sprouts, root vegetables
- 



FIBER TO THE RESCUE

⑤Bernadette.Abrahar

SOLUBLE = SLOW

Helps alleviate loose stools

		Per Cup
Chia seeds, dry		57g
Psyllium husks		48g
Flax seeds		14g
Pear, cooked		9g
Lima beans, cooked		7g
Prunes		7g
Oat bran		7g
Okra		6g
Apple, unpeeled		4g
Brussels sprouts		4g

INSOLUBLE = GO

Helps alleviate constipation

		Per Cup
Wheat bran		23g
Rice bran		22g
Dried figs		16g
Buckwheat, dry		15g
Lentils, cooked		14g
Almonds		14g
Avocado		14g
Chestnuts		13g
Prunes, cooked		12g
Green peas		6g



Rapid Relief: Diarrhea

1. Reduce stress

-Sleep on time, meditate, journal, box breathing, Epsom salt baths, delegate/do less

2. Eliminate top 6 food sensitivities

-Gluten/gliadin (oats), dairy, eggs, corn, peanuts, yeast, grains (AIP diet)

3. Probiotic

-S. Boulardii, lactobacillus plantarum and/or rhamnosus



-S. Boulardii & Lactobacillus rhamnosus + other strain



-Lactobacillus plantarum



-S. Boulardii & Lactobacillus plantarum + other strains



-Lactobacillus rhamnosus + other strains



Gut Healing Therapies

□ Slippery elm and marshmallow root (tea, lozenge, tincture or capsules)

-Single Herb Supplements: Oregon Wild Harvest, Nature's Way, Gaia Herbs

-Loose Herbs: Mountain Rose Herbs, Frontier Coop, Starwest Botanicals

-Tea Bags: Traditional Medicinals Throat Coat (beware has licorice)

-Lozenges: Thayers Slippery Elm Lozenges (helps soothe the esophagus)

□ Cabbage juice

-Rich in vitamin U – an ulcer remedy; its high sulfur content is also antiparasitic

-150-180mL daily raw organic cabbage juice (or lightly steamed if causes bloating) for 30 days

□ Aloe vera

-George's Aloe Vera (tastes like water) & Lilly of the Desert Aloe Very Juice

□ Bone broth (see recipe)

□ Broccoli sprouts

-Sulforaphane-rich to support mucosal layer; also anti-H Pylori and supports detox

□ Zinc carnosine (anti-H. Pylori tool)

-Pure Encapsulations Peptic-Care, Seeking Health Zinc Carnosine

□ Multi-Herbal Gut Healing Formulas:

-Designs For Health GI Revive (with glutamine)

-Pure Encapsulations DGL Plus (without glutamine)

-Thorne GI Encap (without glutamine and cheaper than DGL Plus)



GUT HEALING THERAPIES

@Bernadette.Abraham



CABBAGE JUICE



ORGANIC BONE BROTH



ALOE VERA



MARSHMALLOW ROOT TEA



CHIA SEEDS



SLIPPERY ELM BARK TEA



COLLAGEN POWDER



L-GLUTAMINE



ZINC CARNOSINE



Herbal H. Pylori Remedies



-Mastic gum, zinc carnosine & DGL Licorice



Stomach Acid Support



HCL Dosing Challenge

A word of caution before beginning the HCL Challenge:

Everyone is a *bio individual* meaning that every person will not experience the same symptoms or reactions as another. Therefore, if you experience **any** discomforting symptoms or reactions please **stop** the HCL Challenge and consult with a practitioner.

TAKE WITH MEALS!!!

Begin by taking one HCL supplement capsule/tablet per meal per day and increase by one capsule/tablet per meal per day until a feeling of warmth in the stomach or burning sensation (heartburn) occurs within 5 minutes of ingesting the supplement. Quell the burning sensation by sipping a solution of 1 tsp. baking soda in 4 oz. room temperature water, by chewing 2-3 tablets of a calcium supplement and swallowing with a small amount of water, or by using an over the counter antacid remedy if needed. The last dosage which was comfortable to you will be the initial per meal dose of supplemental HCL.

EXAMPLE:

Day 1 - 1 per meal
Day 2 - 2 per meal
Day 3 - 3 per meal
Day 4 - 4 per meal

Always taken MID-MEAL!

If warming or burning sensation occurs at 4, then your recommended dose is 3 per meal.

***Note:** When determining the proper HCL supplement dosage:

- If burning sensation occurs *16 hour or more after the meal*, then you **HAVEN'T TAKEN ENOUGH HYDROCHLORIC ACID**; **increase dose by 1 per meal to enhance digestion**
- If burning occurs *within 5 minutes* of ingesting the acid, then you have **TAKEN TOO MUCH HYDROCHLORIC ACID**; **reduce dose by 1 per meal**. Eat a few bites to utilize the HCL and to reduce discomfort.

*****If a burning sensation occurs within 5 minutes after taking JUST ONE tablet/capsule, inform your practitioner as additional stomach healing agents may be indicated.**

*****If you take 7 of the high dose capsules (700mg per cap) and still feel no warming or burning sensation, additional digestive aid nutrients such as enzymes or pituitary support may be indicated.**



Digestive Enzyme Support

- Enzymes are available for very targeted intolerance needs or for food sensitivities
- Combination digestive enzyme formulas with HCL support and/or bile salt support are available



Liver & Gallbladder Support

- Loss of the gallbladder (cholecystectomy) means loss of the ability to concentrate bile for a more comprehensive fulfillment of bile's roles across the GI tract. Supplementing with bile salts during meals can restore concentrated bile function.
 - Optimal dosage is going to vary significantly (50-500mg/meal)
- Bile flow can become sluggish ("sludge") and gum up ducts or reduce effectiveness of GB emptying due to suboptimal ratio of ingredients (e.g. high cholesterol, dehydration, fewer bile salts, insufficient taurine* (which requires methylation and extra B6), dysmobility, or poor synthesis (e.g. fatty liver, insulin resistance/metabolic syndrome, toxicity).
 - Signs: Floating/lighter stools, poor Vit. D response to supplements, resistant acid reflux, gassy w/fatty foods
 - Taurine supplementation can improve bile flow/composition (1-2g/day)
 - Look for alkaline phosphatase being suboptimally high, >90 U/L (RR30-120 U/L), especially without strong elevation in other liver enzymes (ALT, AST, GGT).
- Gallstones are usually from precipitated cholesterol and can build-up in bile duct and/or gallbladder
 - D-limonene dissolves crystallization, ~1000mg 1-2x/day
 - Remember: removing the gallbladder doesn't address root causes! It just takes away the victim. Bile duct stones can cause post-cholecystectomy syndrome. Go upstream. Support the liver and the ducts!
 - Clean out sludge with d-limonene, taurine, milk thistle, curcumin, choline (PC), inositol, taurine
 - Increase emptying of GB with polyphenols (EVOO), artichoke, digestive bitters



A collection of various dietary supplement bottles and boxes. The products shown include:

- IBEROLUX** (Biotin) - 90 capsules
- Digestion Q10** (LipoActive) - 60 capsules
- 6-Limonene** (LipoActive) - 60 capsules
- Beta Plus** (LipoActive) - 60 capsules
- Artichoke** (LipoActive) - 60 capsules
- Thorne** (LipoActive) - 60 capsules
- Liver Detox** (LipoActive) - 60 capsules
- IBEROLUX** (Biotin) - 90 capsules
- Digestion Q10** (LipoActive) - 60 capsules
- 6-Limonene** (LipoActive) - 60 capsules
- Beta Plus** (LipoActive) - 60 capsules
- Artichoke** (LipoActive) - 60 capsules
- Thorne** (LipoActive) - 60 capsules
- Liver Detox** (LipoActive) - 60 capsules



- 1. REMOVE** (e.g. stress, processed foods, constipation, harmful microbes, allergen/sensitivity foods, foods that feed undesired microbes).
- 2. REPLACE** (e.g. digestive enzymes, stomach acid support, bile acids, herbal remedies to boost immune system insufficiency, adrenal and/or thyroid support)
- 3. REINOCULATE** (e.g. probiotics, prebiotics, cultured foods, dietary fiber increase)
- 4. REPAIR** (e.g. villi regeneration, nurturing mucosal layer, increasing SCFA with larch gum or other fiber additions)
- 5. REBALANCE** (e.g. stress relief, long-term diet changes, attitude/mindset/beliefs)

Order of operations is important. e.g. Probiotics may make someone with IBS feel worse! Additional digestive fiber (or a probiotic formula that includes prebiotics) will *very* likely do this.

Stages of the 5Rs will nearly always overlap each other. Duration and approach need to be customized for each unique case.

[illegible]

1. **REPAIR** (gut healing, stress-relief, address traumas, etc) & **REMOVE** sources of inflammation (food sensitivities, inflammatory diet, blood sugar roller coaster, known & controllable toxic exposures, etc)
2. **REPLACE, REPLENISH & REINOCULATE** (support "GPS" - digestive enzymes, stomach acid support, bile acids, replete nutrient insufficiencies, adrenal and/or thyroid support, blood sugar support, targeted probiotics, prebiotics, cultured foods, dietary fiber increase, etc)
3. **FIGHT** if needed. (e.g. anti-microbial, anti-fungal, anti-parasitic, anti-viral herbal support)
4. **MAINTAIN** (stress relief, long-term diet changes, attitude/mindset/beliefs)

ORDER OF OPERATIONS IS IMPORTANT!



The Fight - Antimicrobial



b
Bernadette

The Fight - Antifungal



b
Bernadette

The Fight – Antiparasitic



b
Bernadette

The Fight – Biofilm & Binders



b
Bernadette

The Fight – Probiotics & Gut Immunity



Case Study #1

- ❖ 63 y/o male. Borderline Type 2 Diabetes. "IBS-like" symptoms. Frequent bloating, belching. Increased bodyfat, low testosterone.
- ❖ Key stool findings:
 - General moderate dysbiosis. Relatively low bifidobacteria and lactobacillus. High e coli.
 - High putrefactive SCFAs (low stomach acid)
 - Low overall SCFAs
 - High beta glucuronidase
- ❖ Separate testing revealed many low-grade food sensitivities, especially to all dairy foods.
- ❖ Support plan included stomach acid replacement (HCl), twice-daily probiotics (Therbiotic Complete), calcium d-glucurate, food eliminations, dietary shift to more vegetables, and temporary prebiotic support (after first couple weeks of probiotics to ensure no symptom exacerbation). **No antimicrobials.**



Case Study #2

- ❖ 25 y/o female. Chronic constipation, belching & bloating. Fatigue. Anemia. SAD diet. High stress, demanding career.
- ❖ Key stool findings:
 - Very low beneficial bacteria
 - Several opportunistic bacterial overgrowths
 - High steatocrit (likely low stomach acid & bile)
 - High sIgA (immune system is reacting aggressively)
 - High zonulin
- ❖ OAT test revealed high oxalates (binds to iron!) and high fungal overgrowth. Separate mold test confirmed mycotoxins.
- ❖ Initial support plan included intestinal lining support (GI Revive), removal of food sensitivities (gluten, dairy, eggs, peas, oats), stomach acid support (temporary), biliary tract support (d-limonene), gut immune support (MegaMucosa, Therbiotic Complete), optimized vitamin D and anti-microbial support for 45 days after 1 month of gut healing (Biocidin + Biotoxin binder). Focused on stress relief measures, VPF diet and better eating hygiene.
- ❖ Food therapy included cabbage juice, dandelion root & stinging nettle infusion, fermented foods



Congratulations!

