

# THE ORAL-GUT CONNECTION:

A HIDDEN FACTOR IN  
CHRONIC GUT ILLNESSES

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Biocidin  
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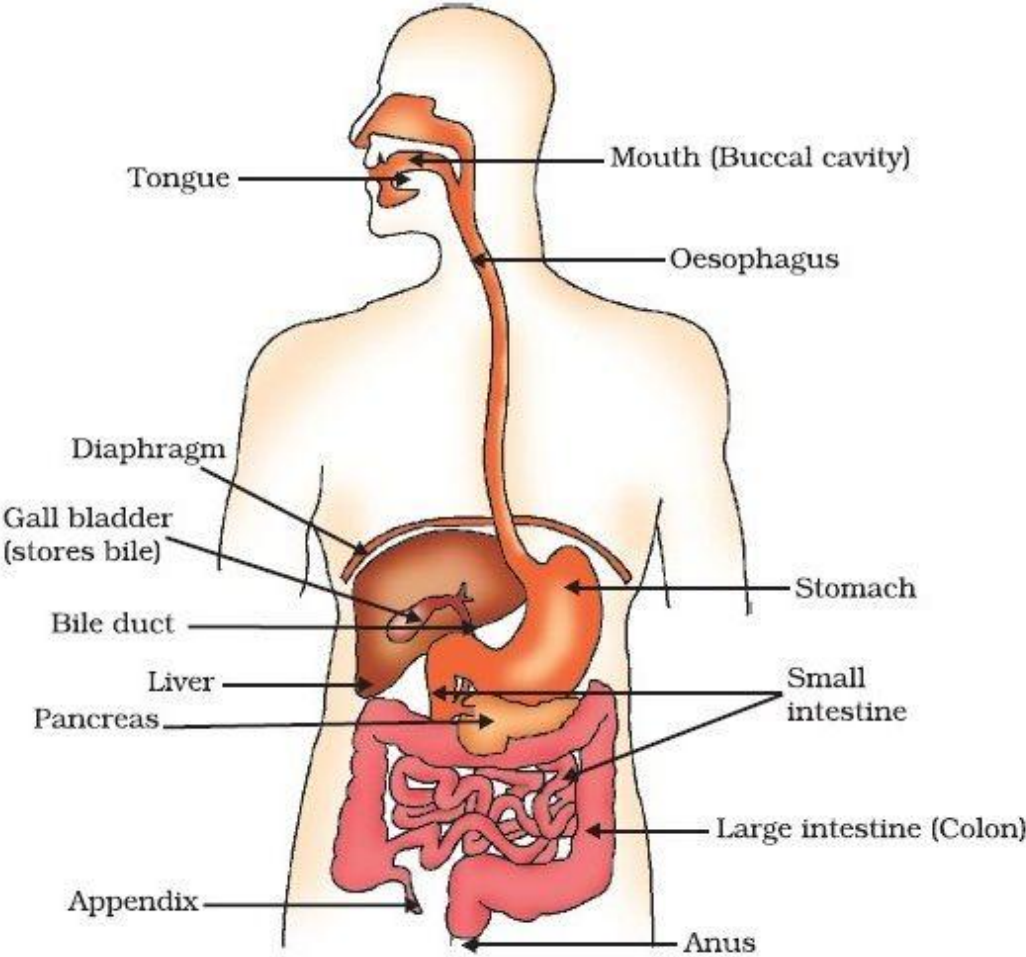
YOUR HEART AND LUNGS LOOK GOOD, TOO.



**“THE MOUTH HOUSES THE SECOND MOST DIVERSE  
MICROBIAL COMMUNITY IN THE BODY.”**

—Mogens Kilian and colleagues; professor, Department  
of Biomedicine, Aarhus University, Denmark

# LOCATION, LOCATION, LOCATION!



**YOU ARE SWALLOWING 140  
BILLION BACTERIA EACH DAY,  
SEEDING YOUR  
GASTROINTESTINAL TRACT WITH  
THE MICROBES FROM YOUR  
MOUTH.**

Segata N, Haake SK, Mannon P, et al. Composition of the adult digestive tract bacterial microbiome based on seven mouth surfaces, tonsils, throat and stool samples. *Genome Biol.* 2012;13(6):R42.

# ORAL MICROBIOME

- More than 770 species
- Aerobic and anaerobic bacteria
- Complex biofilm communities
- High-throughput DNA sequencing technologies allow us to see 50% of oral microbes that were invisible by earlier methods

# SIMILARITIES BETWEEN THE GUT AND THE MOUTH

- Microbes are organized in biofilms
- Microbial imbalances (dysbiosis) and the immune reaction to microbes leads to disease
- Immune system architecture is similar in both mouth and gut
- Epithelial lining that is permeable
- Diet and sugar influence the microbial populations
- C-section birth leads to less microbial diversity



# GASTROINTESTINAL ILLNESSES THAT HAVE BEEN LINKED TO THE ORAL MICROBIOME

- Celiac disease
- Colorectal cancer
- Esophageal cancer
- Gastritis and stomach ulcers (*Helicobacter pylori*)
- Inflammatory bowel disease
- Irritable bowel syndrome (IBS)
- Pancreatic cancer
- Small intestinal bacterial overgrowth (SIBO)
- Stomach cancer

[Kitamoto S, Nagao-Kitamoto H, Hein R, Schmidt TM, Kamada N. The Bacterial Connection between the Oral Cavity and the Gut Diseases. \*J Dent Res\*. Aug 2020;99\(9\):1021-1029. doi:10.1177/0022034520924633](#)

[Meurman JH. Oral microbiota and cancer. \*J Oral Microbiol\*. 2010;2doi:10.3402/jom.v2i0.5195](#)

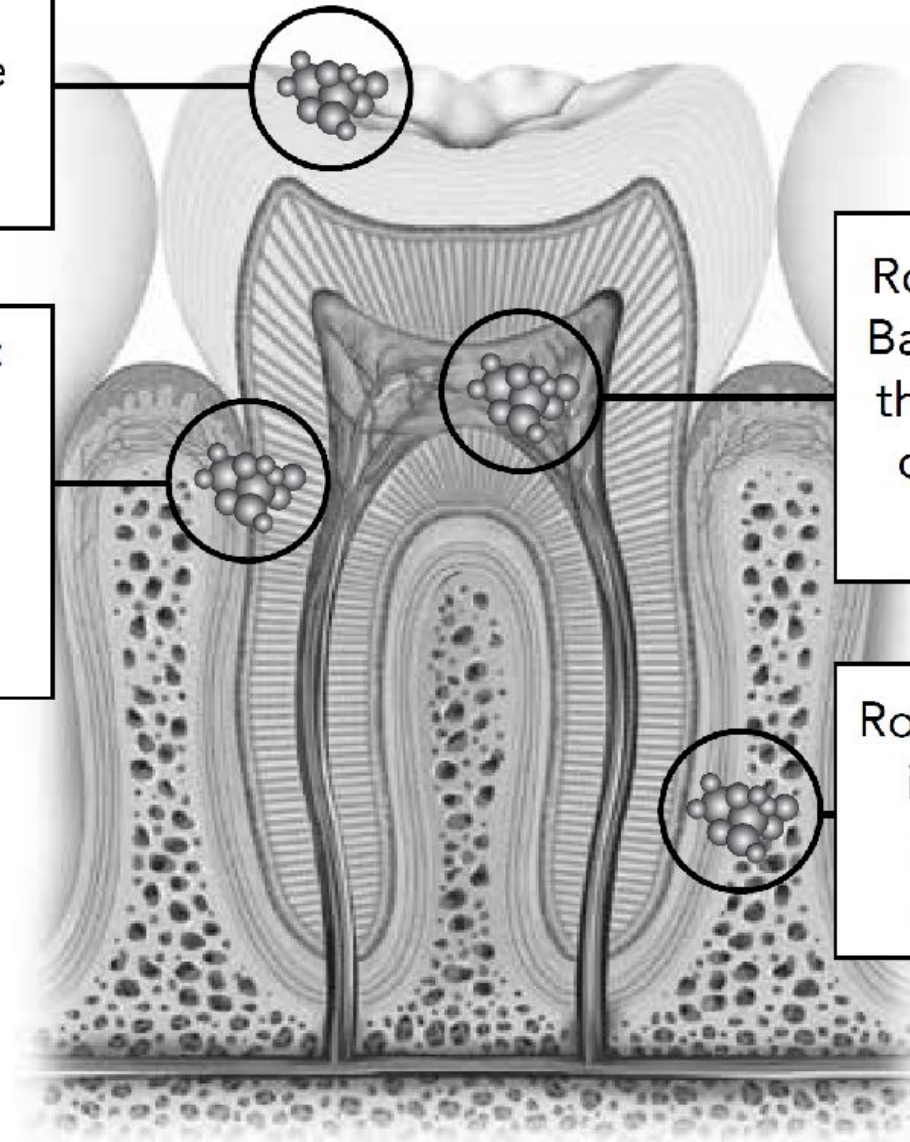
# **PERIODONTAL DISEASE AND CAVITIES ARE THE MOST COMMON ORAL DISEASES OF HUMANKIND.**

One in three Americans has untreated tooth decay.

Fifty percent of the US population over 30 years old has gum disease.

Cavities: Bacterial imbalance can cause cavities on the tooth's surface.

Periodontal disease: Bacterial imbalance under the gums can trigger an immune attack and destroy bone and teeth.

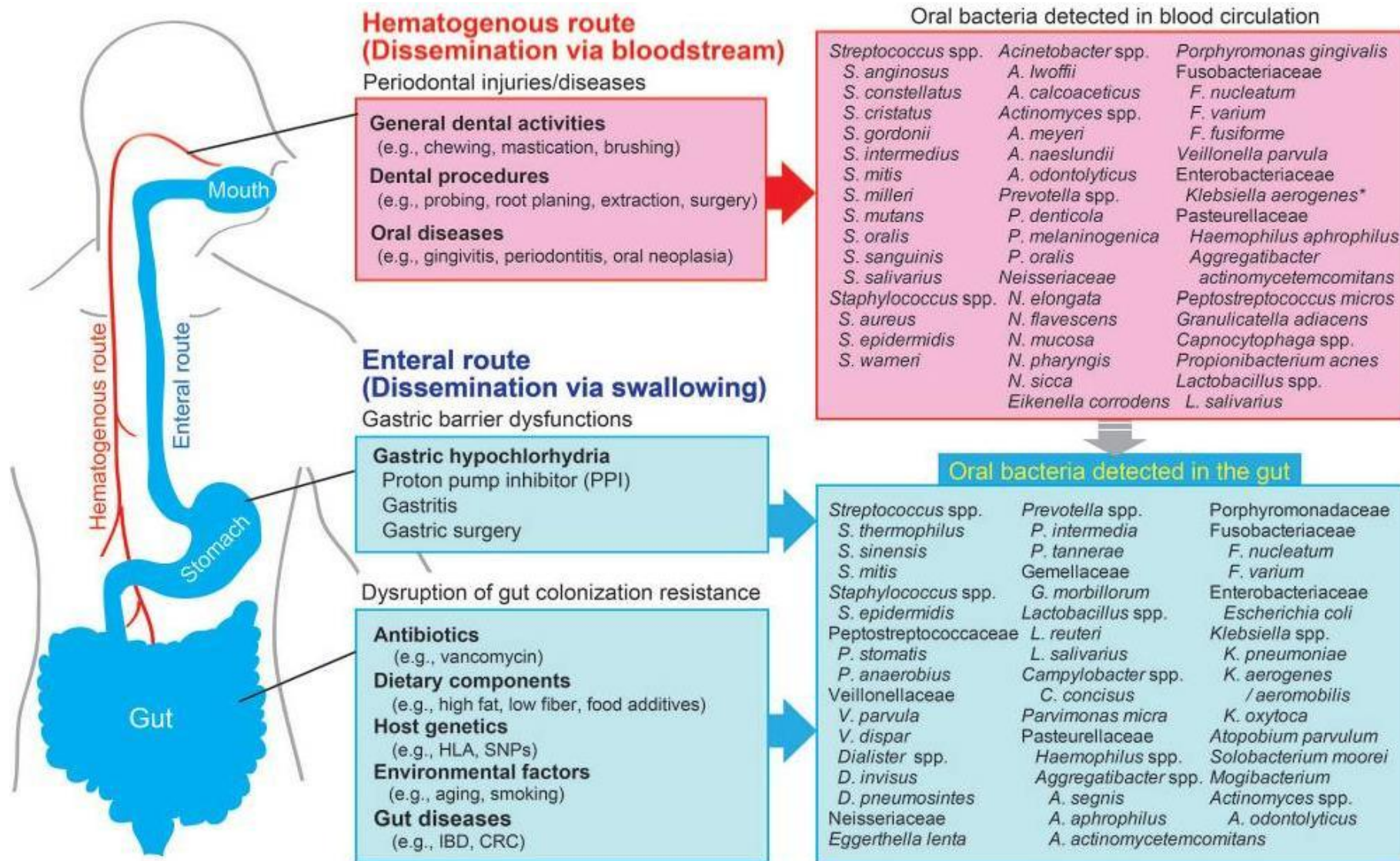


Root canal infections: Bacterial imbalance in the pulp of the tooth can cause infection and damage.

Root cavities: Bacterial imbalance leading to cavities on the root of the tooth.

# DIFFERENT BACTERIA COLONIZE THE MOUTH AND THE GUT

- The stomach has harsh, acidic conditions that should kill oral bacteria coming downstream from the mouth.
- If someone has healthy digestion, a healthy gut microbiome, and a strong gut barrier, it is believed that oral bacteria shouldn't be able to set up shop in the gut.
- That's a big IF!
- However, certain oral bacteria do live in the gut of healthy people, such as *Streptococcus* and *Veillonella* species.



Bacteria from the mouth can arrive in the gut by swallowing or they can travel through the bloodstream.

## LOOK AT THE MOUTH WHEN:

- There is oral disease
- There is gastrointestinal disease, including chronic infections
- There is systemic disease

# CASE STUDY: “BROOKE”

“My gums are bleeding and my teeth are sensitive. I want a more holistic approach to dental care. I feel like my mouth is contributing to my health issues.”

# 37-YEAR-OLD AFRICAN-AMERICAN WOMAN

- Several years since last dental visit
- Dental anxiety
- Bleeding gums
- Sensitive teeth
- 5'3", 135 lbs
- Vegan x 4 years
- Two children
- Iron deficiency anemia
- Eczema ~25-30 yrs
- Constipation
- Extreme fatigue



# ECZEMA SINCE CHILDHOOD



- Backs of legs, arms, elbows, neck, back
- Treated with increasing amounts of topical and injectable steroids long-term
- New doctor limited her prescriptions ->
- Inflamed, extremely itchy, swollen eczema breakouts all over her body
- Topical steroid withdrawal

# PRIOR TEST RESULTS

- Low hemoglobin, total iron, ferritin
- Low vitamin D 15.9 ng/mL (Range 30-100)
- Low serum cortisol 1.2 (6.7-22.6)
- Low serum DHEA 16 ug/dL (Range 23 – 266)
- High CRP 8.2 mg/L (0 - 0.9)
- High SED rate 36 (0 - 20 mm/Hr)
- High IgE Inhalants

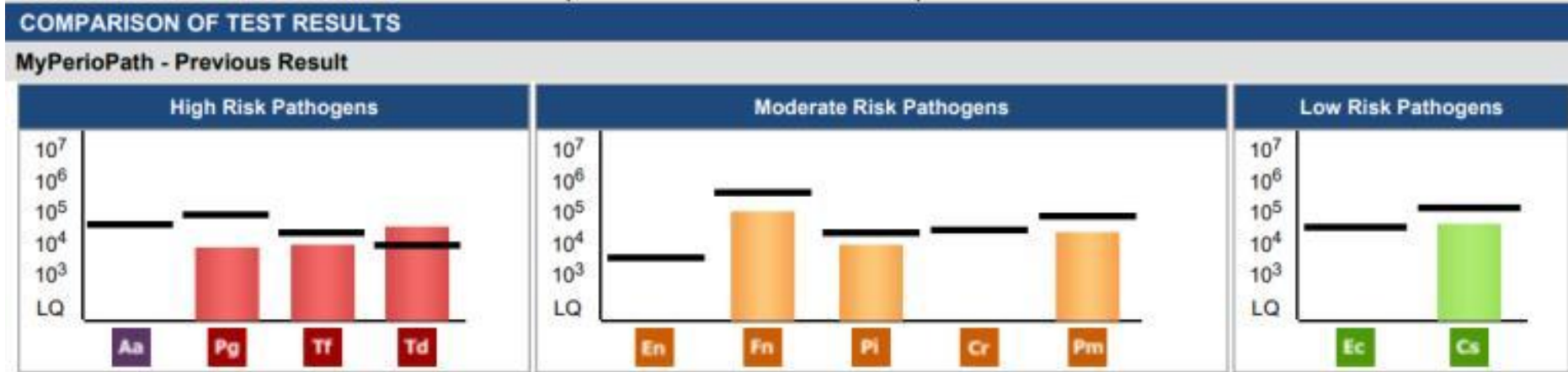
# EXISTING ORAL CARE & TREATMENTS

- Electric toothbrush twice daily and fluoride-free toothpaste
- Hydroxyzine for anxiety
- Taking vitamins C, D, turmeric
- Initiated care with a functional medicine practitioner for her skin and fatigue

# INITIAL DENTAL EXAM: MODERATE GINGIVITIS

- Several cavities
- Old amalgam fillings
- Failed root canal (#3)
- Partially impacted teeth (#17 & #32)
- 1-4 mm general probe depths
- Moderate bleeding, light plaque and tartar
- 15 areas with 4 mm pockets

# INITIAL ORAL DNA TEST



Three high-risk pathogens: *Porphyromonas gingivalis*, *Tannerella forsythia*, and *Treponema denticola*. The latter was well above the mean bacterial level observed in patients with moderate to severe chronic periodontitis.

Three moderate-risk pathogens were measured: *Fusobacterium nucleatum*, *Prevotella intermedia*, and *Peptostreptococcus micros*.

# INITIAL FUNCTIONAL MEDICAL TESTS

- Gluten reactivity in bloodwork
- Low cortisol
- Low progesterone
- Oxalates
- Ferritin 3 ng/ml (RR 16-154)
- Total iron, hematocrit, hmgb, MCH, MCHC – all low
- Hs-CRP normal
- High blood eosinophils 725 (RR 15-500 cells/uL)
- SIBO Breath Test – highly positive
- Stool test – bacterial and fungal overgrowth
- Mycotoxins/mold exposure
- Organic acids/Nutritional insufficiencies

Functional Diagnostic Nutrition Practitioner: Ryan Monahan, The Mindful Nutrivore

# INITIAL GI-MAP STOOL TEST

## Normal Bacterial Flora

	Result		Normal
<i>Bacteroides fragilis</i>	<b>3.16e11</b>	<b>High</b>	1.60e9 - 2.50e11
<i>Bifidobacterium spp.</i>	<b>5.86e11</b>		>6.70e7
<i>Enterococcus spp.</i>	<b>3.46e5</b>		1.9e5 - 2.00e8
<i>Escherichia spp.</i>	<b>1.95e7</b>		3.70e6 - 3.80e9
<i>Lactobacillus spp.</i>	<b>7.60e7</b>		8.6e5 - 6.20e8
<i>Clostridia (class)</i>	<b>7.20e7</b>	<b>High</b>	5.00e6 - 5.00e7
<i>Enterobacter spp.</i>	<b>1.12e7</b>		1.00e6 - 5.00e7
<i>Akkermansia muciniphila</i>	<b>2.88e5</b>	<b>High</b>	1.00e1 - 5.00e4
<i>Faecalibacterium prausnitzii</i>	<b>7.90e6</b>		1.00e3 - 5.00e8

## Phyla Microbiota

	Result		Normal
<i>Bacteroidetes</i>	<b>1.03e12</b>		8.61e11 - 3.31e12
<i>Firmicutes</i>	<b>1.82e11</b>		5.70e10 - 3.04e11
<i>Firmicutes:Bacteroidetes Ratio</i>	<b>0.18</b>		<1.00

# BACTERIAL OVERGROWTH

## Opportunistic Bacteria

### Additional Dysbiotic/Overgrowth Bacteria

	Result		Normal
<i>Bacillus spp.</i>	<b>9.26e5</b>	<b>High</b>	<1.50e5
<i>Enterococcus faecalis</i>	<b>6.80e5</b>	<b>High</b>	<1.00e4
<i>Enterococcus faecium</i>	<b>2.95e3</b>		<1.00e4
<i>Morganella spp.</i>	<b>1.27e4</b>	<b>High</b>	<1.00e3
<i>Pseudomonas spp.</i>	<b>4.10e4</b>	<b>High</b>	<1.00e4
<i>Pseudomonas aeruginosa</i>	<b>2.93e2</b>		<5.00e2
<i>Staphylococcus spp.</i>	<b>3.80e2</b>		<1.00e4
<i>Staphylococcus aureus</i>	<b>1.65e5</b>	<b>High</b>	<5.00e2
<i>Streptococcus spp.</i>	<b>8.19e4</b>	<b>High</b>	<1.00e3
<i>Methanobacteriaceae (family)</i>	<b>1.82e10</b>	<b>High</b>	<5.00e9



# CANDIDA, POOR DIGESTION, LOW SIgA

## Fungi/Yeast

	Result	Normal
<i>Candida spp.</i>	<b>1.01e3</b>	<5.00e3
<i>Candida albicans</i>	<b>&lt;dl</b>	<5.00e2
<i>Geotrichum spp.</i>	<b>&lt;dl</b>	<3.00e2

## Intestinal Health

	Result	Normal
<b>Digestion</b>		
Steatocrit	<b>&lt;dl</b>	<15 %
Elastase-1	<b>304</b>	>200 ug/g
<b>GI Markers</b>		
b-Glucuronidase	<b>1915</b>	<2486 U/mL
Occult Blood - FIT	<b>0</b>	<10 ug/g
<b>Immune Response</b>		
Secretory IgA	<b>371</b>	510 - 2010 ug/g
Anti-gliadin IgA	<b>77</b>	0 - 157 U/L
<b>Inflammation</b>		
Calprotectin	<b>10</b>	<173 ug/g



# TREATMENT OF THE ORAL-GUT AXIS

FUNCTIONAL DENTISTRY  
AND FUNCTIONAL MEDICINE



# FUNCTIONAL DENTISTRY TREATMENT

Systemic antibiotics were given  
(500 mg metronidazole 1 tab,  
twice daily for 8 days)



EMS Guided Biofilm Therapy,  
and ultrasonic, ozone water  
Ozone gases subgingivally

Cleanings:

- 7/12/21
- 1/17/22
- 7/26/22
- 2/14/23

# FUNCTIONAL DENTISTRY AT-HOME CARE

- SPM Active fish oil (Metagenics)
- Vitamin D
- Dental probiotic (ProbioraPro<sup>®</sup>)
- Oral probiotics for gut-systemic health
- Sonicare electric toothbrush 2x/day
- Dentalcidin<sup>®</sup> LS liposomal oral rinse
- Closys oral rinse

# FUNCTIONAL DENTISTRY TREATMENT

- Amalgams were removed using The Safe Mercury Amalgam Removal Technique (SMART)
- Extracted the failed root canal and impacted lower wisdom teeth
- Active tooth decay was treated

# FUNCTIONAL MEDICINE TREATMENT- GUT

- Biocidin<sup>®</sup> LSF
- Candid-X
- Matula Tea
- MotilPro (motility)
- Atrantil
- Candibactin AR/BR
- Bitters No. 9
- HCl
- *S. boulardii*
- MegaSpore
- Mega IgG



# DENTALCIDIN® ORAL CARE SYSTEM

ORAL MICROBIOME TOOTHPASTE & LIPOSOMAL RINSE

## Dentalcidin® Toothpaste

- Supports oral microbiome balance for whole-body health\*
- Removes plaque, whitens, and keeps teeth smooth and clean all day

## Dentalcidin® LS Oral Rinse

- Antioxidant and tissue-soothing activity.\*
- Utilizes liposomal technology for deeper penetration in the periodontal area\*



**Biocidin  
Botanicals™**

\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

# BIOCIDIN BOTANICAL TREATMENTS FOR ORAL-GUT AXIS







# NUTRITION, OXALATE METABOLISM, AND MOLD

- House tested for mold
- Moved homes
- Treatment for mold with BioToxin Binder



- Iron supplementation (Rx iron then transitioned to HemeVite and organ meats)
- MagSRT
- Riboflavin
- P5P
- Minerals (Vykon Slow Ox)
- Vitamin D3/K2

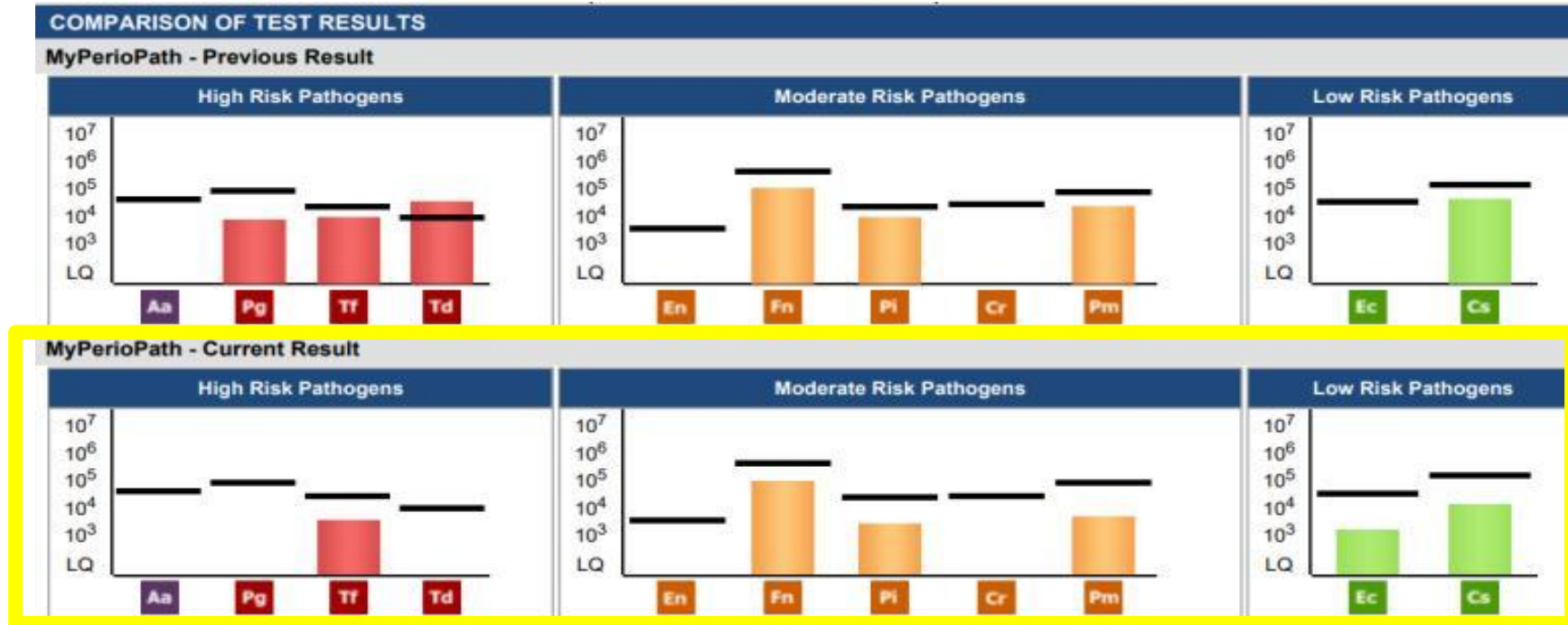
# FUNCTIONAL MEDICINE TREATMENT – HORMONAL SUPPORT

- Chaste Tree Berry (Vitex)
- Liposomal glutathione
- Topical progesterone
- ADR Formula for adrenals
- Adrenal cocktail

# 7-MONTH FOLLOW-UP



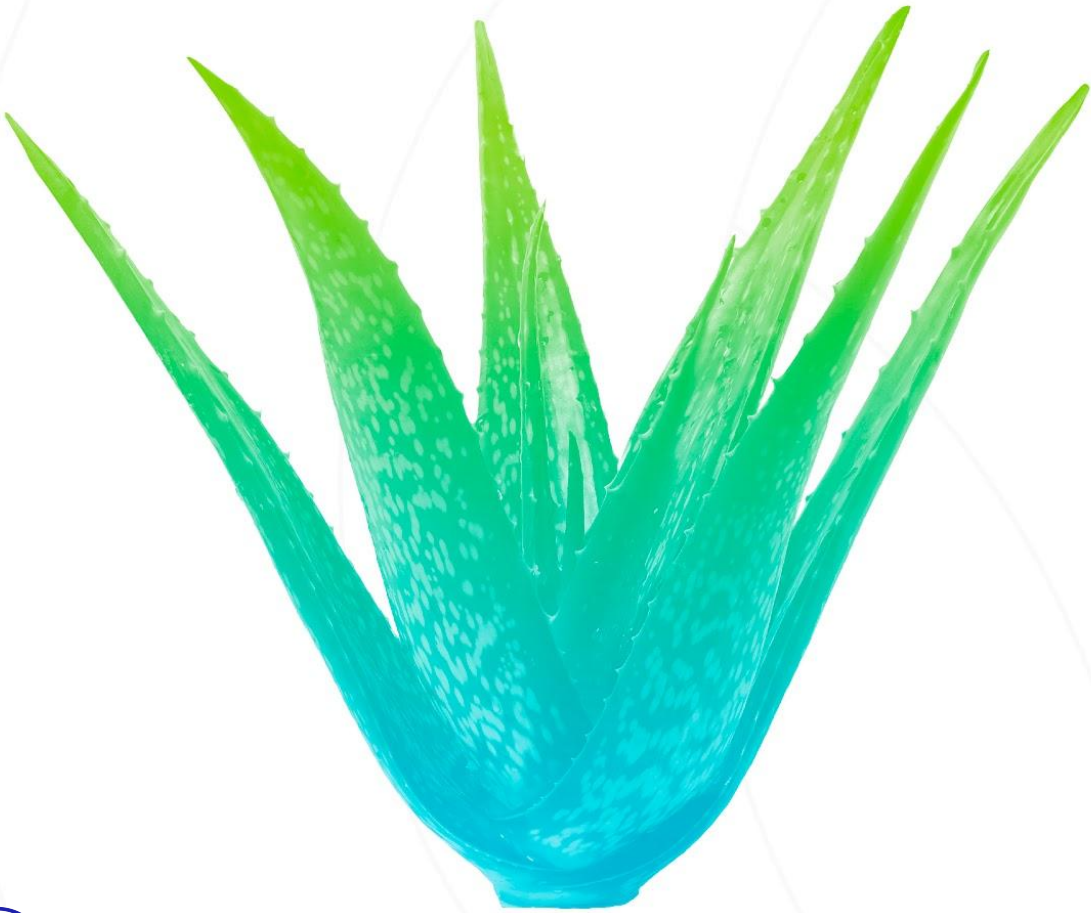
# ORAL DNA FOLLOW-UP TEST



- Brooke's follow-up oral microbiome lab test showed a 44% reduction in her bacterial load.
- High-risk pathogens *Porphyromonas gingivalis* and *Treponema denticola* undetectable.
- Moderate-risk pathogens and low-risk pathogens were decreased.

# 7-MONTH FOLLOW-UP: REMARKABLE RECOVERY

- “Remarkable improvement in inflammation, appearance of the tissue, and plaque.”
- Before treatment, Brooke had 15 areas of 4 mm pockets with bleeding and after treatment, she only had one 4 mm pocket with bleeding.
- Pocket depths and bleeding were greatly reduced.



# GUT IMPROVEMENTS



**Biocidin  
Botanicals™**

# 7-MONTH FOLLOW-UP STOOL RESULTS

## BEFORE

Normal Bacterial Flora			
	Result		Normal
<i>Bacteroides fragilis</i>	<b>3.16e11</b>	High	1.60e9 - 2.50e11
<i>Bifidobacterium spp.</i>	<b>5.86e11</b>		>6.70e7
<i>Enterococcus spp.</i>	<b>3.46e5</b>		1.9e5 - 2.00e8
<i>Escherichia spp.</i>	<b>1.95e7</b>		3.70e6 - 3.80e9
<i>Lactobacillus spp.</i>	<b>7.60e7</b>		8.6e5 - 6.20e8
<i>Clostridia (class)</i>	<b>7.20e7</b>	High	5.00e6 - 5.00e7
<i>Enterobacter spp.</i>	<b>1.12e7</b>		1.00e6 - 5.00e7
<i>Akkermansia muciniphila</i>	<b>2.88e5</b>	High	1.00e1 - 5.00e4
<i>Faecalibacterium prausnitzii</i>	<b>7.90e6</b>		1.00e3 - 5.00e8
Phyla Microbiota			
	Result		Normal
<i>Bacteroidetes</i>	<b>1.03e12</b>		8.61e11 - 3.31e12
<i>Firmicutes</i>	<b>1.82e11</b>		5.70e10 - 3.04e11
<i>Firmicutes:Bacteroidetes Ratio</i>	<b>0.18</b>		<1.00

- *H. pylori* low level
- Good bugs depleted

## AFTER

### H. pylori

	Result	Normal
<i>Helicobacter pylori</i>	<b>1.3e2</b>	<1.0e3

### Normal Bacterial Flora

	Result		Normal
<i>Bacteroides fragilis</i>	<b>1.85e9</b>		1.60e9 - 2.50e11
<i>Bifidobacterium spp.</i>	<b>2.79e9</b>		>6.70e7
<i>Enterococcus spp.</i>	<b>&lt;dl</b>		1.9e5 - 2.00e8
<i>Escherichia spp.</i>	<b>4.92e7</b>		3.70e6 - 3.80e9
<i>Lactobacillus spp.</i>	<b>9.85e6</b>		8.6e5 - 6.20e8
<i>Clostridia (class)</i>	<b>9.35e5</b>	Low	5.00e6 - 5.00e7
<i>Enterobacter spp.</i>	<b>2.42e5</b>	Low	1.00e6 - 5.00e7
<i>Akkermansia muciniphila</i>	<b>7.25e5</b>	High	1.00e1 - 5.00e4
<i>Faecalibacterium prausnitzii</i>	<b>7.70e4</b>		1.00e3 - 5.00e8
Phyla Microbiota			
	Result		Normal
<i>Bacteroidetes</i>	<b>9.35e10</b>	Low	8.61e11 - 3.31e12
<i>Firmicutes</i>	<b>2.32e9</b>	Low	5.70e10 - 3.04e11
<i>Firmicutes:Bacteroidetes Ratio</i>	<b>0.02</b>		<1.00



# FOLLOW-UP GI-MAP STOOL RESULTS

## Opportunistic Bacteria

Additional Dysbiotic/Overgrowth Bacteria	Result	Normal
<i>Bacillus spp.</i>	1.20e5	<1.50e5
<i>Enterococcus faecalis</i>	4.44e2	<1.00e4
<i>Enterococcus faecium</i>	4.77e2	<1.00e4
<i>Morganella spp.</i>	<dl	<1.00e3
<i>Pseudomonas spp.</i>	<dl	<1.00e4
<i>Pseudomonas aeruginosa</i>	<dl	<5.00e2
<i>Staphylococcus spp.</i>	<dl	<1.00e4
<i>Staphylococcus aureus</i>	3.64e2	<5.00e2
<i>Streptococcus spp.</i>	<dl	<1.00e3
<i>Methanobacteriaceae</i> (family)	1.30e7	<5.00e9

Potential Autoimmune Triggers	Result	Normal
<i>Citrobacter spp.</i>	3.21e8 <b>High</b>	<5.00e6
<i>Citrobacter freundii</i>	<dl	<5.00e5

## Fungi/Yeast

	Result	Normal
<i>Candida spp.</i>	<dl	<5.00e3
<i>Candida albicans</i>	<dl	<5.00e2

- Lower opportunistic
- *Candida* undetectable
- *Citrobacter* high

## BEFORE

Opportunistic Bacteria			
Additional Dysbiotic/Overgrowth Bacteria	Result		Normal
<i>Bacillus spp.</i>	<b>9.26e5</b>	<b>High</b>	<1.50e5
<i>Enterococcus faecalis</i>	<b>6.80e5</b>	<b>High</b>	<1.00e4
<i>Enterococcus faecium</i>	<b>2.95e3</b>		<1.00e4
<i>Morganella spp.</i>	<b>1.27e4</b>	<b>High</b>	<1.00e3
<i>Pseudomonas spp.</i>	<b>4.10e4</b>	<b>High</b>	<1.00e4
<i>Pseudomonas aeruginosa</i>	<b>2.93e2</b>		<5.00e2
<i>Staphylococcus spp.</i>	<b>3.80e2</b>		<1.00e4
<i>Staphylococcus aureus</i>	<b>1.65e5</b>	<b>High</b>	<5.00e2
<i>Streptococcus spp.</i>	<b>8.19e4</b>	<b>High</b>	<1.00e3
<i>Methanobacteriaceae</i> (family)	<b>1.82e10</b>	<b>High</b>	<5.00e9

## AFTER

Opportunistic Bacteria			
Additional Dysbiotic/Overgrowth Bacteria	Result		Normal
<i>Bacillus spp.</i>	<b>1.20e5</b>		<1.50e5
<i>Enterococcus faecalis</i>	<b>4.44e2</b>		<1.00e4
<i>Enterococcus faecium</i>	<b>4.77e2</b>		<1.00e4
<i>Morganella spp.</i>	<b>&lt;dl</b>		<1.00e3
<i>Pseudomonas spp.</i>	<b>&lt;dl</b>		<1.00e4
<i>Pseudomonas aeruginosa</i>	<b>&lt;dl</b>		<5.00e2
<i>Staphylococcus spp.</i>	<b>&lt;dl</b>		<1.00e4
<i>Staphylococcus aureus</i>	<b>3.64e2</b>		<5.00e2
<i>Streptococcus spp.</i>	<b>&lt;dl</b>		<1.00e3
<i>Methanobacteriaceae</i> (family)	<b>1.30e7</b>		<5.00e9
Potential Autoimmune Triggers			
	Result		Normal
<i>Citrobacter spp.</i>	<b>3.21e8</b>	<b>High</b>	<5.00e6
<i>Citrobacter freundii</i>	<b>&lt;dl</b>		<5.00e5

# FOLLOW-UP GI-MAP STOOL RESULTS

## BEFORE

Intestinal Health		
<b>Digestion</b>	Result	Normal
Steatocrit	<dl	<15 %
Elastase-1	304	>200 ug/g
<b>GI Markers</b>	Result	Normal
b-Glucuronidase	1915	<2486 U/mL
Occult Blood - FIT	0	<10 ug/g
<b>Immune Response</b>	Result	Normal
Secretory IgA	371	510 - 2010 ug/g
Anti-gliadin IgA	77	0 - 157 U/L
<b>Inflammation</b>	Result	Normal
Calprotectin	10	<173 ug/g

- Better pancreatic function
- Cont. low SIgA
- Gluten exposure
- High gut-lining inflammation

## AFTER

Intestinal Health		
<b>Digestion</b>	Result	Normal
Steatocrit	<dl	<15 %
Elastase-1	476	>200 ug/g
<b>GI Markers</b>	Result	Normal
b-Glucuronidase	1870	<2486 U/mL
Occult Blood - FIT	0	<10 ug/g
<b>Immune Response</b>	Result	Normal
Secretory IgA	391	510 - 2010 ug/g
Anti-gliadin IgA	181	0 - 157 U/L
<b>Inflammation</b>	Result	Normal
Calprotectin	401	<173 ug/g

# 10-MONTH FOLLOW-UP

- Getting her life back
- Big skin flares stopped at 10 months, especially when she identified triggers such as hidden gluten
- Skin started healing

# 14-MONTH FOLLOW-UP

Can go out in public

Empowered

“My faith and actions got me through this”

Wants to help others with TSW

Can smile again

Life is so much better

“I have joy”

Itching and flaking is gone

No inflamed or broken skin, but discolored skin is still healing

# 20-MONTH FOLLOW-UP

ProbioraPro<sup>®</sup> dental probiotic

Adrenal support

Topical progesterone

Iron, vitamins C, and D3

1-3 mm probing depths and no bleeding

“Great periodontal improvement and healthy gums”

# 20-MONTH CLINICAL FOLLOW-UP

Skin was dramatically improved,  
though not “perfectly clear”

“I don’t aspire for perfection  
anymore”

Eczema was gone on her legs,  
arms, elbows, and back

No longer used steroids

No steroid withdrawal symptoms

Brooke felt she was a new woman

Happy with her health

Regular bowel movements

Good energy

# 20-MONTH CLINICAL FOLLOW-UP

She would still get occasional flare-ups of eczema on hands and neck

Stress and gluten triggered her eczema breakouts

Had tools to address

Less anxious

Empowered and hopeful about the future





**“I DON’T KNOW IF IT WAS MY GUT OR MY MOUTH THAT HELPED ME GET BETTER, BUT I DON’T THINK I WOULD HAVE GOTTEN BETTER HAD I NOT TREATED BOTH ... I BELIEVE THE INFLAMMATION IN MY MOUTH WAS AFFECTING MY WHOLE BODY.”**

## FOLLOW-UP MEDICAL TEST RESULTS

Hormones cortisol and progesterone still low

Blood sugar and insulin, had decreased, although still in normal range.

No retest info for SIBO, SED rate, IgE, or inhalant allergens

Normal CRP <1.7 (optimal <1.0)

Normal Vitamin D 39 ng/mL (30-100)

Normal iron markers (ferritin, iron, hematocrit, etc.)

Eosinophils were still high but better 568 (RR 15-500 cells/uL)

# ORAL-GUT-SKIN AXIS

- Removed toxins, gluten, and mold exposure
- Treated infections in mouth and gut
- Used diet and supplements to address inflammation/histamine
- Provided nutrients
- Optimized digestion
- Supplied hormones for healing
- Boosted the microbiome
- Improved oral barrier and gut barrier (likely contributing to her eczema resolution)

# OUTCOMES

- Healthy skin
- Reduced systemic inflammation
- Calmed immune dysregulation
- No longer dependent on steroids
- Improved energy
- Decreased oral inflammation and plaque
- Healthy gum tissues
- Normalized nutritional and microbial test results
- Regular bowel movements

# ACKNOWLEDGEMENTS

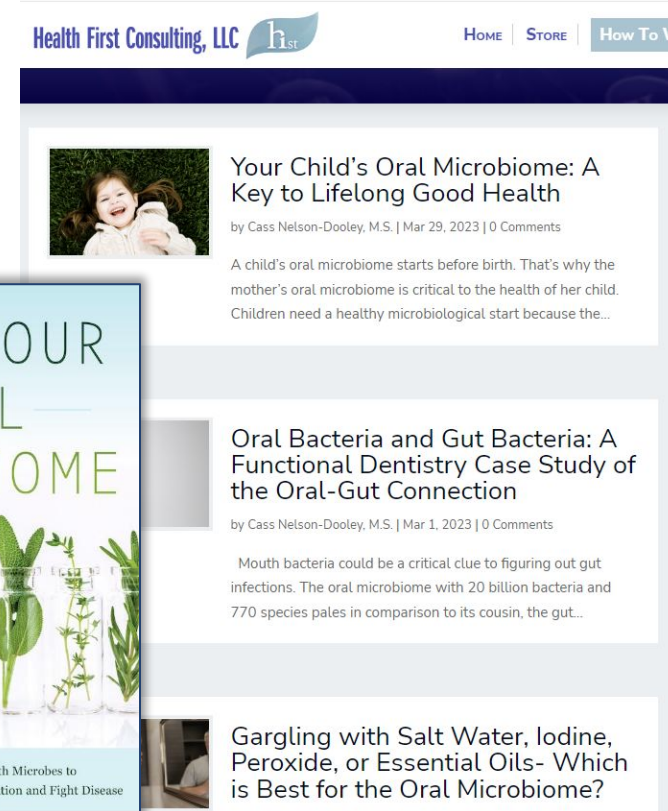
- Case contributed by Dr. Sarah Tevis Poteet, DDS, at Dallas Functional Dentistry
- Managing functional medicine practitioner Ryan Monahan (FDN) at The Mindful Nutrivore
- “Brooke,” who shared her test results, her story, and answered questions

# HEED THE ORAL-GUT CONNECTION

- Dysbiosis of the oral microbiome should always be considered with gut disease.
- Test and treat the oral microbiome as part of routine care.
- Natural treatments can shift the oral microbiome and support oral and gut health.

# FIND ME ONLINE AND SIGN UP FOR MY E-NEWSLETTER

- Quality, referenced monthly blog
- Monthly e-newsletter with discounts on oral health products
- Signed copies of the book for sale



[healthfirstconsulting.com](https://healthfirstconsulting.com)

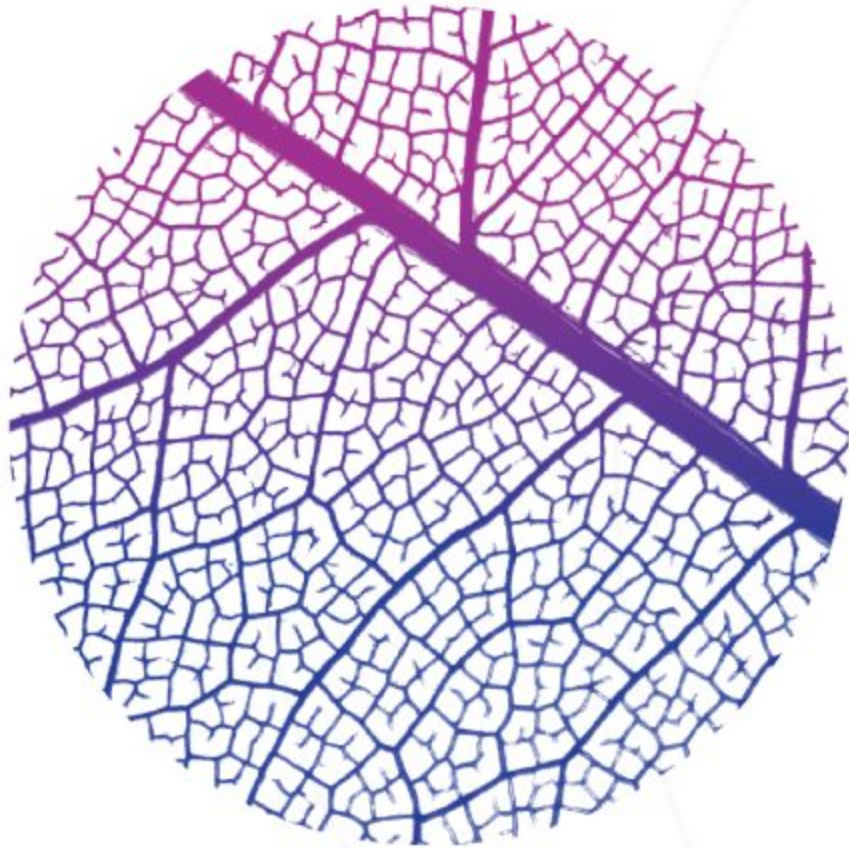
# FIND ME ON SOCIAL

- Instagram @cassnelsondooley
- Facebook @Health First Consulting, LLC
- LinkedIn @Cass Nelson-Dooley



**@cassnelsondooley**





*Professional:*

Topic: Mouth-Gut Connection

Title: Oral and Gut Bacteria: How Your Microbiomes are Connected

Description: As the entrance to the gastrointestinal tract, the mouth plays an integral role in gut health and overall wellness. For stubborn GI issues, oral dysbiosis could be a possible hidden cause. Conversely, addressing gut and mucosal health can improve oral health. Learn about the Oral-Gut Connection and treatment considerations to help your patients support whole-body health.

- 30-35 minute pre-recorded presentation
- Topic: Mouth-Gut Connection

