
The Mouth-Gut-Body Axis: How Nutrition and the Oral Microbiome Shape Whole- Person Health

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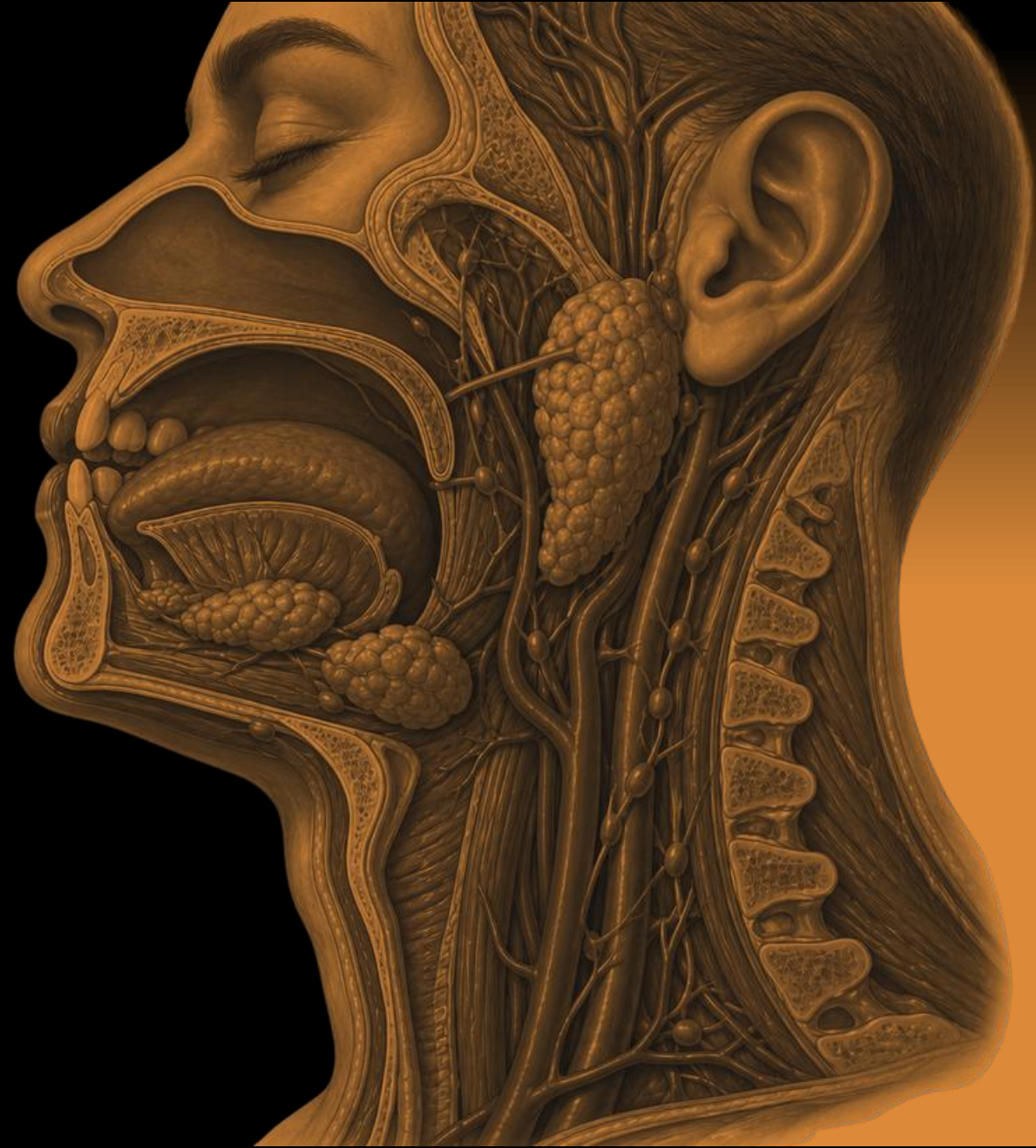
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- Co-Founder-Institute for Functional Dentistry
- Author-Crown Penguin Random House - *Coming SOON*
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We've been **treating** the
body and **ignoring** the
mouth.



The most **overlooked**
window into human
health.



The Stakes



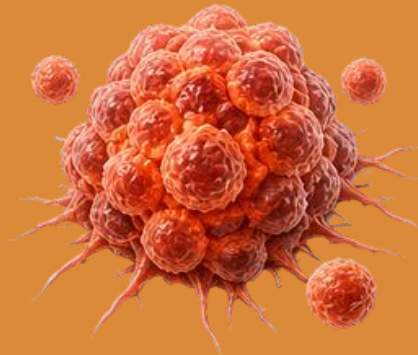
Cardiovascular disease



Alzheimer's



Diabetes



Cancer



Fertility



Gut health

The mouth is upstream of them all.



The **mouth** is the gut.



Two Ecosystems, One Body

ORAL

GUT

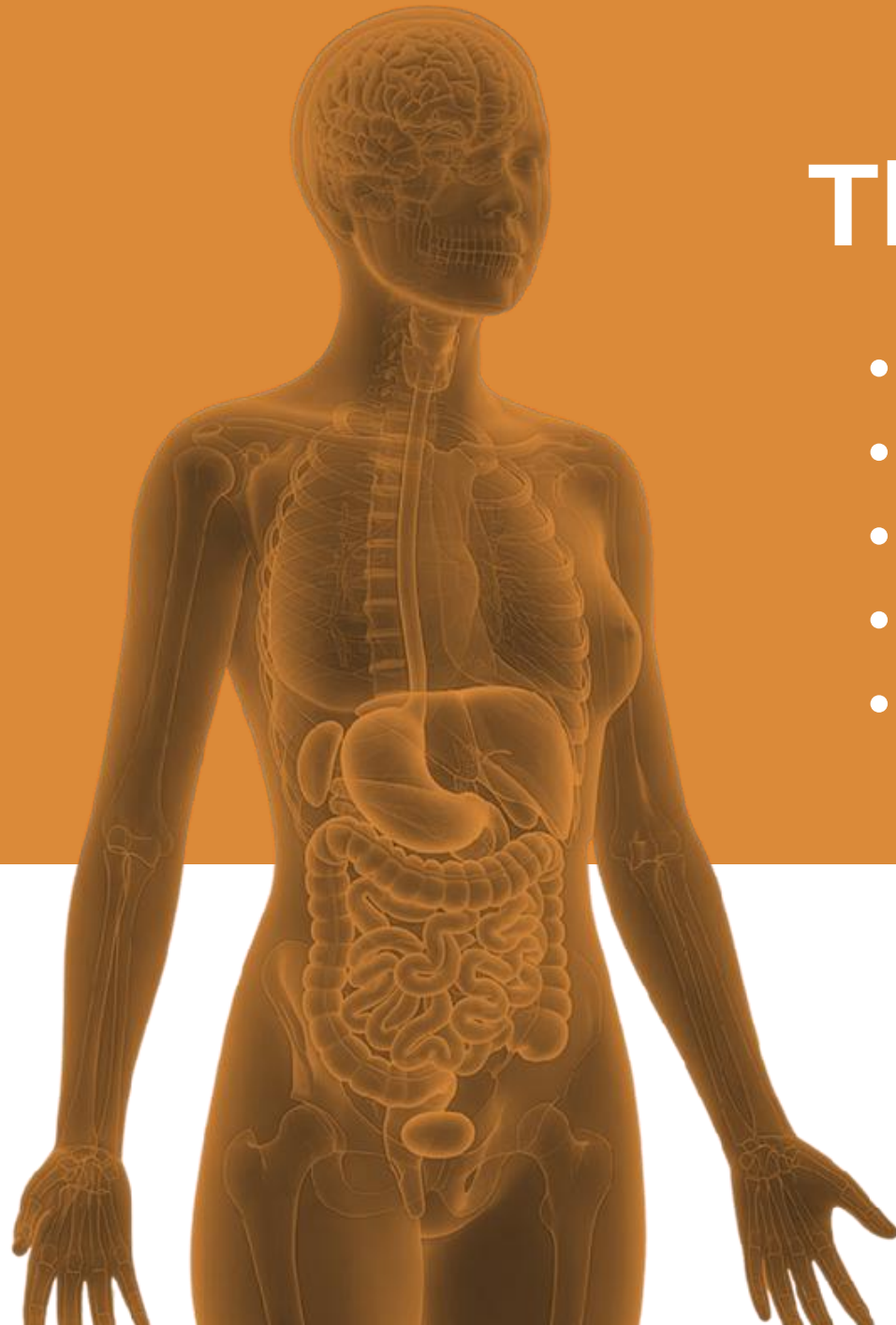


- 700+ species in the mouth
- 1,000+ species in the gut
- In constant communication
- Two microbiomes, one continuous mucosa



The Daily Download

- 1.5 liters of saliva a day
- 100 million bacteria per minute
- 600 swallows a day
- Up to 1 trillion bacteria reach your gut daily
- Gastric acid does not wipe them out



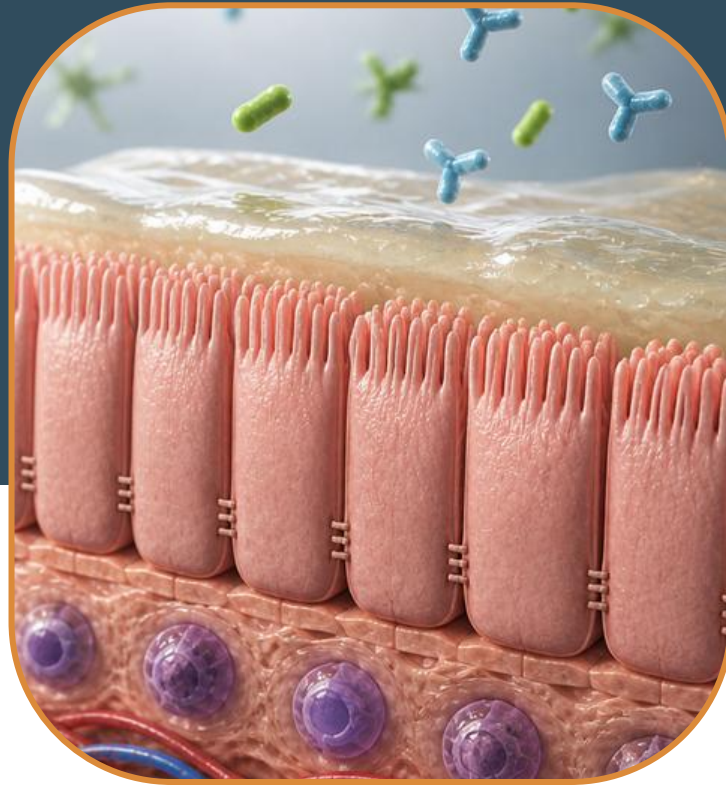
A close-up, grayscale photograph of human teeth, showing the upper and lower arches. The teeth are slightly out of focus, creating a soft background for the text.

45%

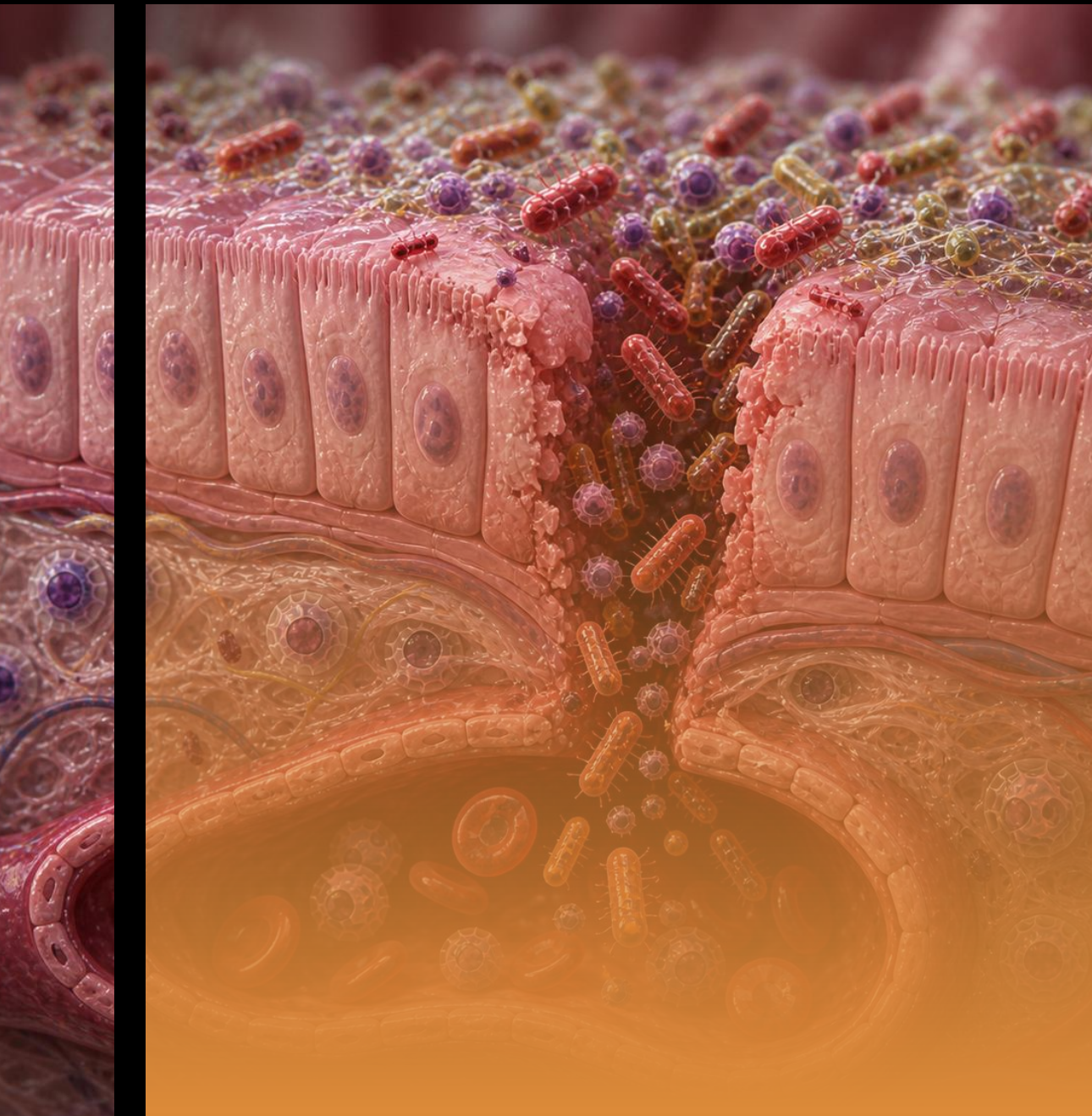
**45% of your gut microbiome originated
in your mouth.**



Ectopic Colonization



- **Klebsiella, Fusobacterium, Porphyromonas**
- **Found in the gut of IBD, IBS, and colorectal cancer patients**
- **Harmless in the mouth, inflammatory in the gut**



Leaky

Mouth

- Bleeding gums = open wound
- Bacteria enter bloodstream in seconds
- Drives chronic endotoxemia
- Severe gum disease = a wound the size of your palm



Inflammation Starts Here

- Elevated hsCRP, IL-6, TNF-alpha
- Independent risk for all-cause mortality
- The fire most longevity protocols miss
- Treating gum disease lowers hsCRP and HbA1c in months



The Mouthwash Problem

- "Kills 99.9% of bacteria"
- Including the ones lowering your blood pressure
- Systolic BP rises within 7 days
- Abolishes the BP benefit of dietary nitrate





Before food is **digested**, it
is interpreted.



Chewing is a Signal

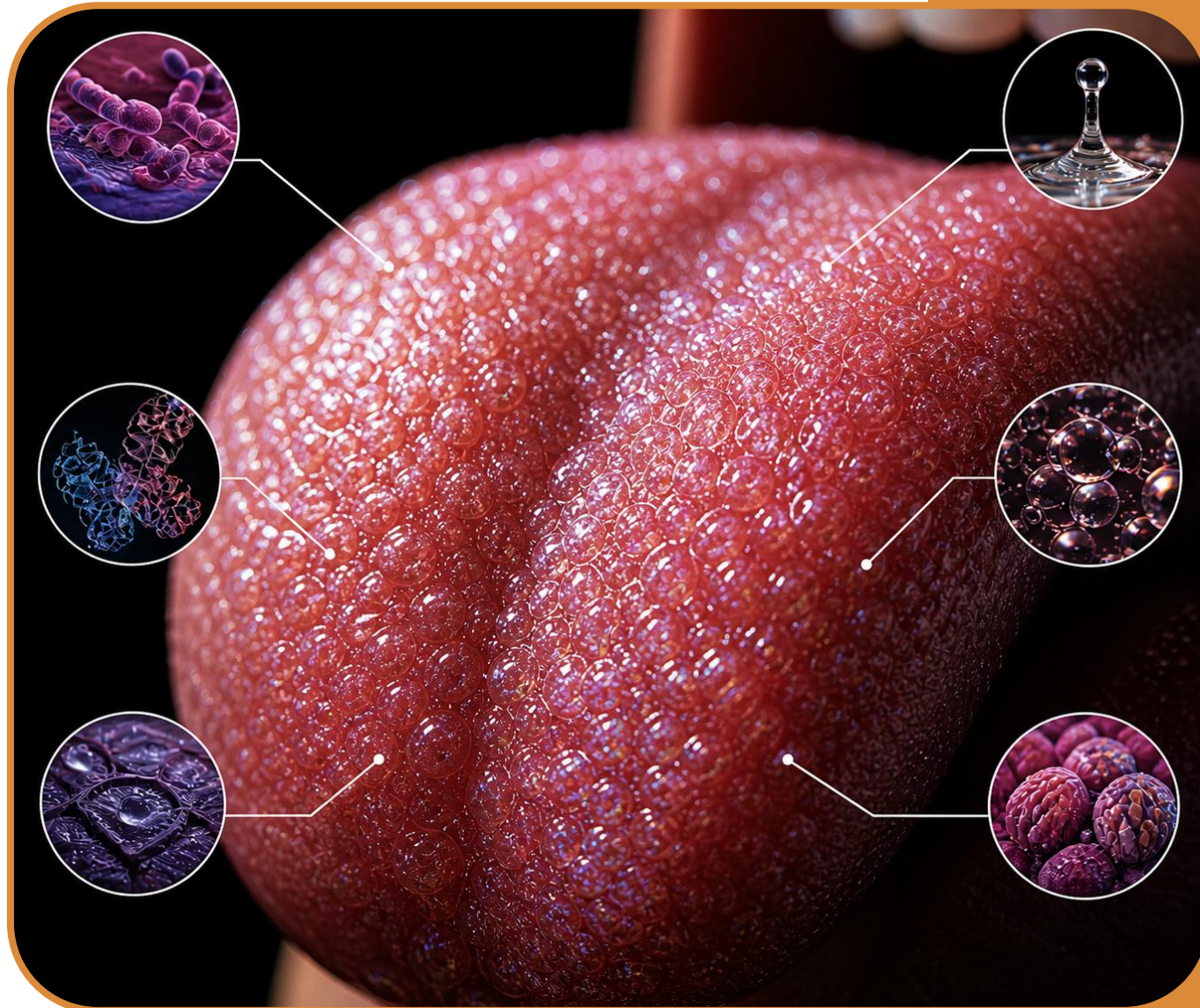
- Mechanical breakdown
- Vagal activation
- Cephalic phase digestion
- Craniofacial bone remodeling





Mastication Has Changed

- 30+ chews per bite (traditional)
- 6-8 chews per bite (modern average)
- 20% of digestion is cephalic



Saliva-”The Golden Elixir”

- Digestive enzymes (amylase, lipase)
- Antimicrobials (lactoferrin, lysozyme, histatins)
- Secretory IgA
- Calcium, phosphate, bicarbonate
- Growth factors (heals mouth and gut)
- 1.5 L/day

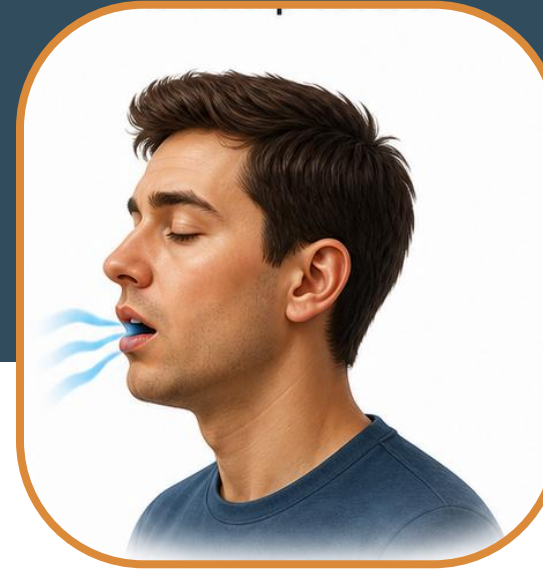
The Major Disruptors



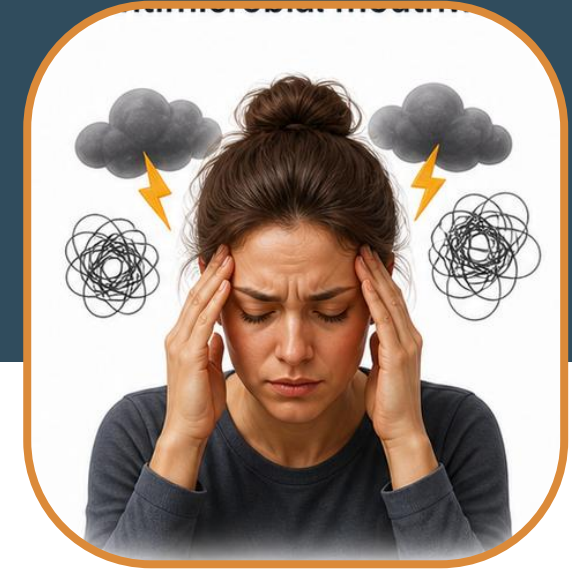
Sugar and UPF



Dehydration



Mouth breathing



Chronic stress

All four impact systemic health and oral health.

What Else Kills Your Saliva



**Antimicrobial
Mouthwash**



Medications

~30% of adults have reduced salivary flow



**So how do we nourish our
mouths?**





The most powerful,
most underused tool in
oral medicine.



Four Food Levers



Fiber



Polyphenols



Fat-solubles



Fermented foods



Fiber

- Stimulates saliva and chewing
- Feeds commensals in mouth and gut
- Produces butyrate, heals gut barrier
- Target 35-50g/day; most adults eat 15g

Polyphenols

- Inhibit *S. mutans* biofilm
- Selectively feed *Akkermansia*
- 34% lower periodontitis risk in highest intake
- Suppress *F. nucleatum*, the colorectal cancer pathogen



Fat-Soluble Vitamins

- A, D, K2 are the architects of enamel
- 50% caries reduction with adequate vitamin D
- Vitamin D ≥ 800 IU/day $\rightarrow$ 33% lower odds of severe periodontal disease



Fermented Foods and Oral Probiotics

- Streptococcus salivarius K12 and M18
- L. reuteri reduces gingivitis
- Probiotics improve PPD, CAL, BOP
- Work best fed by the fiber and polyphenols above

What to Reduce / Cut Out

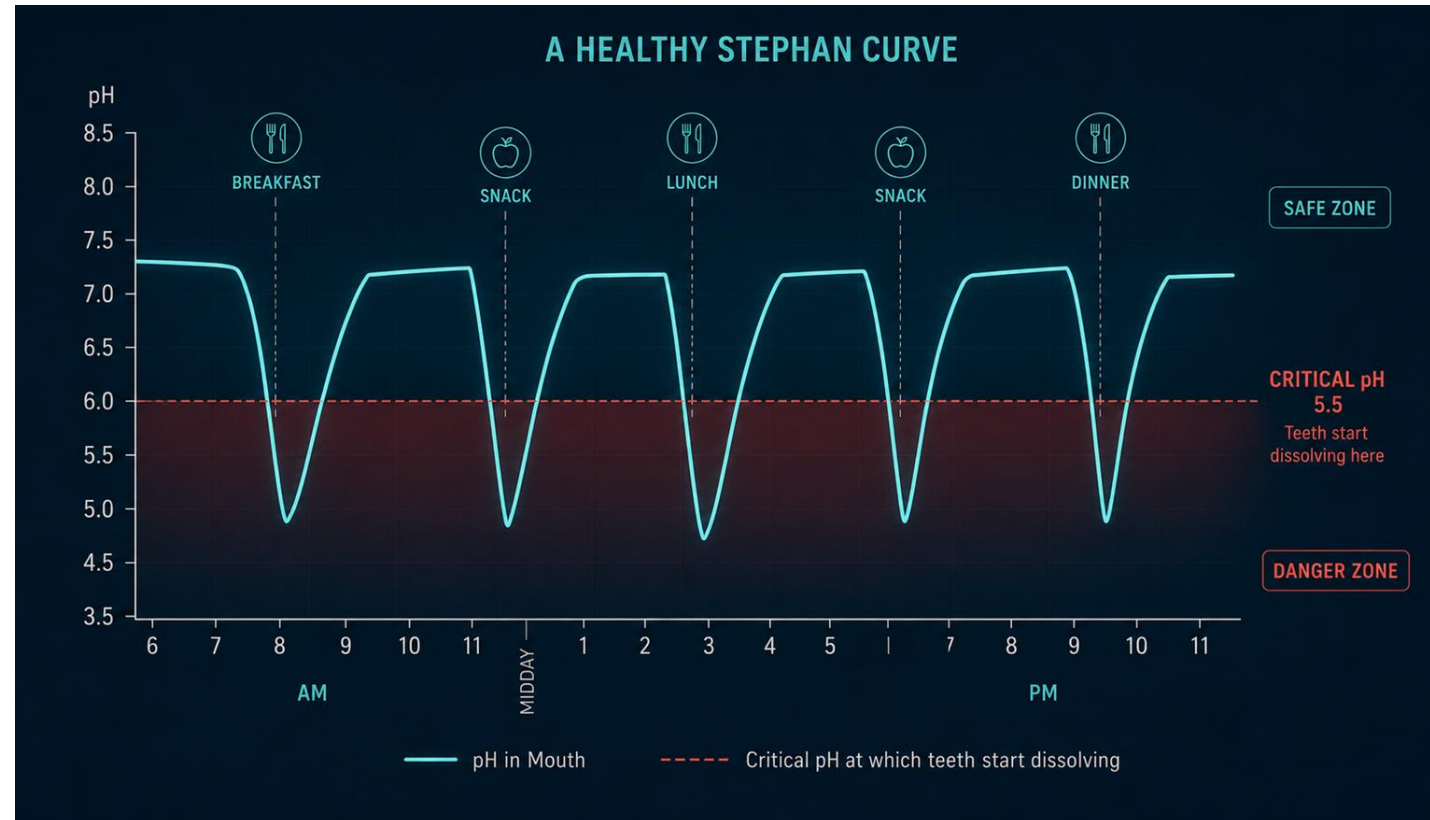


- Added sugars, especially liquid
- Antimicrobial mouthwashes
- Frequent snacking and grazing
- Acidic drinks between meals



Stephan

IDEAL

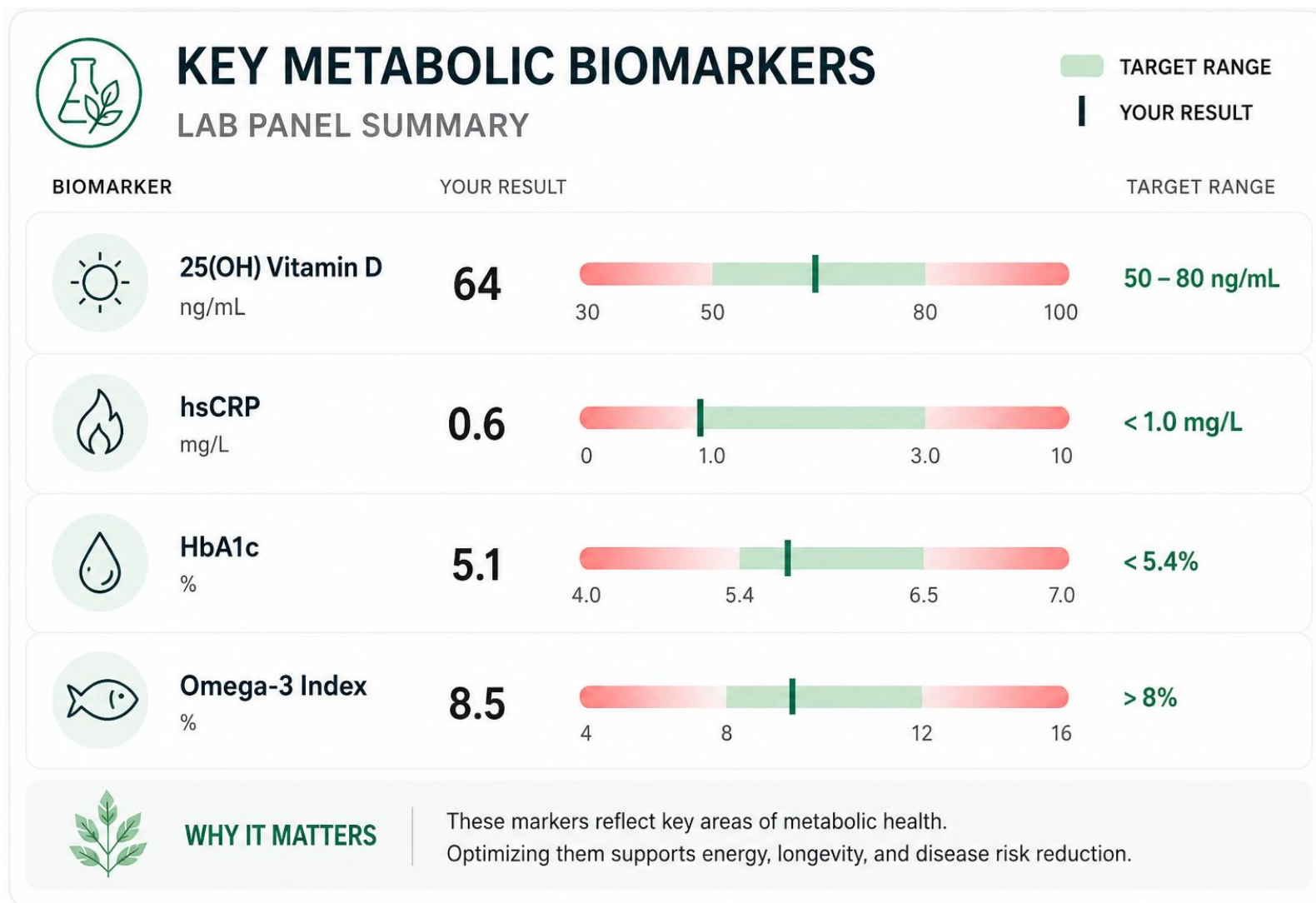


UNIDEAL



It's not just what you eat and drink.
It's how often.

Biomarkers You Need To Know



- 25(OH) Vitamin D (50-80 ng/mL)
- hsCRP (<1.0 mg/L)
- HbA1c (<5.4%)
- Omega-3 Index (>8%)

You probably already track these. Read them as oral markers, too.

The Mirror You Already Have



**Tongue coating +
scalloping**



**Gingival color +
bleeding**



Angular cheilitis



**Enamel
translucency**

Free and Immediate Self-Assessment



**You cannot biohack your longevity
with a dysbiotic mouth.**



R_x | **H. WILLOUGHBY, M.D.**
1234 MAPLE STREET
PORTLAND, OR 97201
(503) 555-0147

Date: 5/24/24
Name: Wellness Plan
Address: _____

R_x Whole Foods
Leafy greens (kale, spinach, arugula)
Broccoli
Carrots
Sweet potatoes
Berries (blueberries, strawberries)
Apples
Avocados
Quinoa
Brown rice
Lentils
Chickpeas
Nuts (almonds, walnuts)
Seeds (chia, flax, pumpkin)
Olive oil
Garlic
Turmeric
Green tea
Water

Refill: As needed | Signed: H. Willoughby, M.D.

Food on Prescription

- The mouth is the first organ food touches
- The microbiome is the first interpreter
- Digestion, immunity, hormones, longevity
- Whole-person health begins here

Q and A





Thank You!

Staci Whitman, DMD, FMCP

Co-Founder | Institute for Functional Dentistry

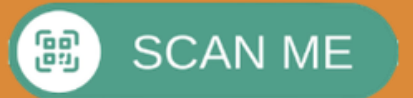
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*Let's connect and keep changing
the future of dentistry.*

#bridgethegap



Scan for my weekly
deep-dive:
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