VAGUS Blueprint

Theory, protocol, and instruments for a strictly evidence-based, 12-week reset of the gut-brain axis.



Gemini Notebook

The gut and brain are engaged in a constant, high-volume biological dialogue.



The Vagus Nerve: 80% of vagal nerve fibers carry information upward. The brain is mostly listening.

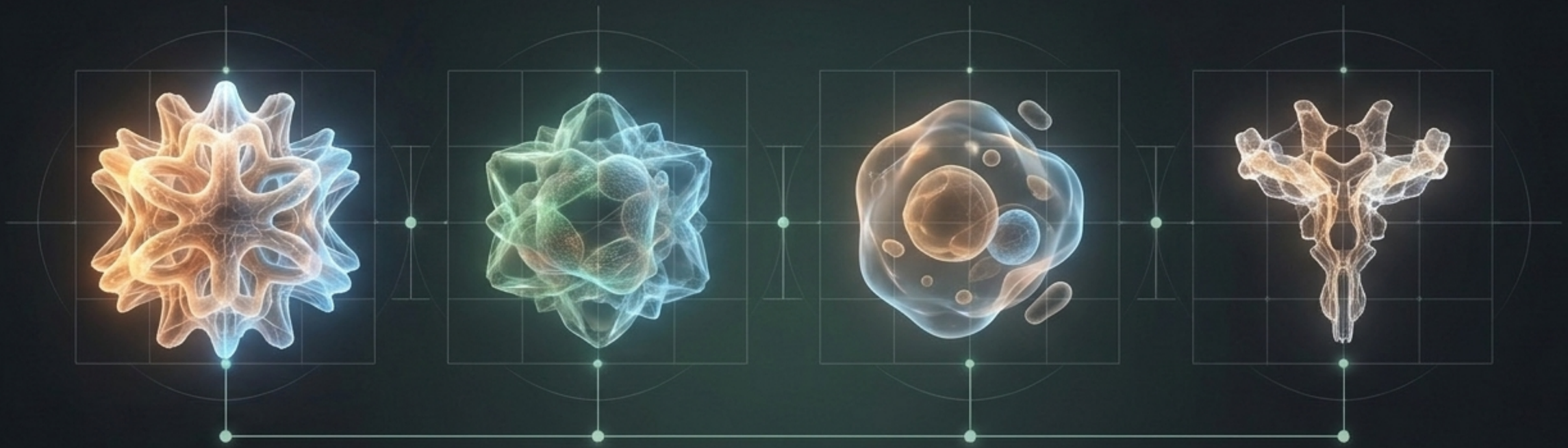
The Enteric Nervous System: 500 million neurons woven into the gut wall—more than in the spinal cord.



The Chemical Factory: 90% of the body's serotonin is manufactured in the gut.

Gemini Notebook

A reset built on honest evidence lasts longer than one built on hope.



Strong
Repeated human trials or formal clinical guidelines.

Moderate
Some human trials, mixed results, or small sample sizes.

Emerging
Animal models, mechanistic explanations, or single trials.

Clinician
Requires specific medical testing or a prescription.

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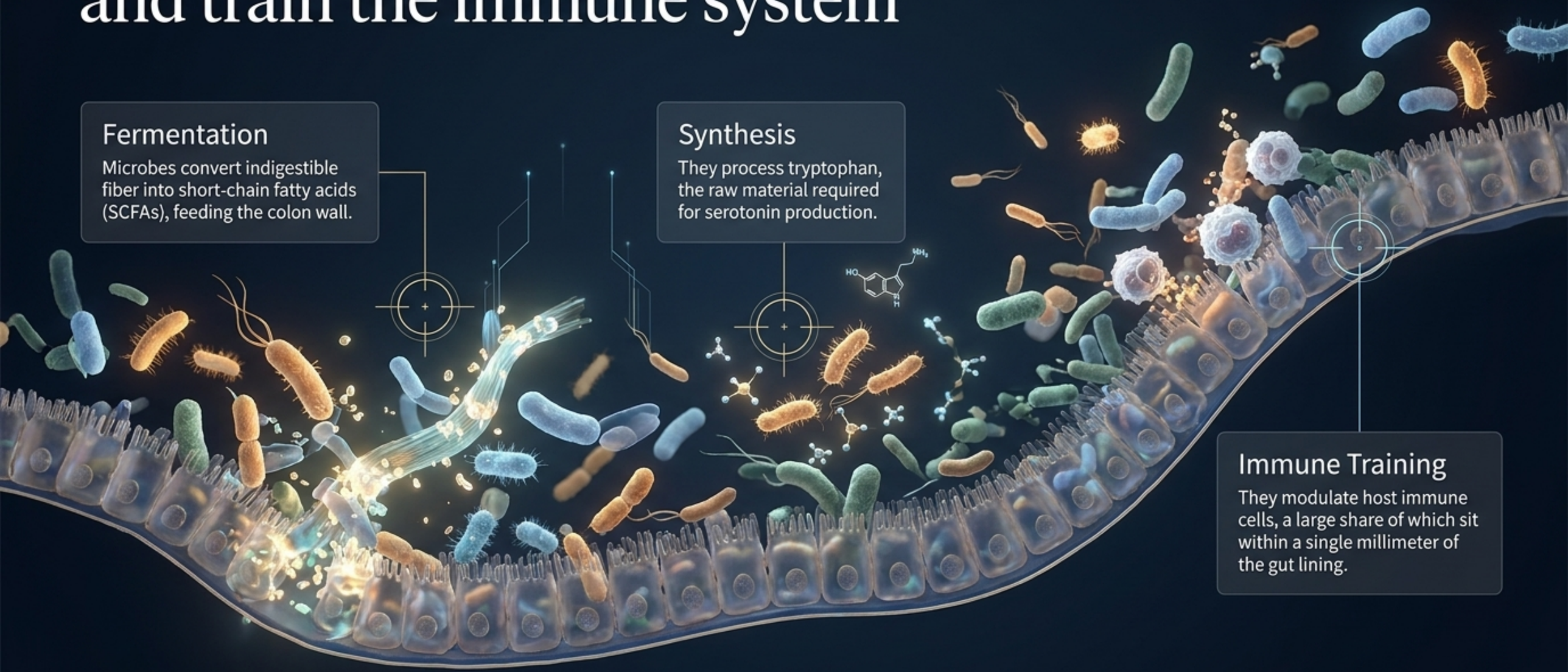
Four distinct biological routes carry inflammatory signals to the brain.



Headline	Synthesis
Neural (Milliseconds)	Vagal and spinal fibers reading stretch and nutrients.
Endocrine (Minutes to Hours)	Cortisol from the stress axis; gut hormones GLP-1, PYY, and ghrelin.
Immune (Hours to Days)	Cytokines (IL-6, TNF-α) and immune cells circulating in the blood.
Metabolic (Hours)	Microbial products like short-chain fatty acids (butyrate) and bile acids.

Gemini Notebook

38 trillion microbes manage the gut boundary and train the immune system



Fermentation

Microbes convert indigestible fiber into short-chain fatty acids (SCFAs), feeding the colon wall.

Synthesis

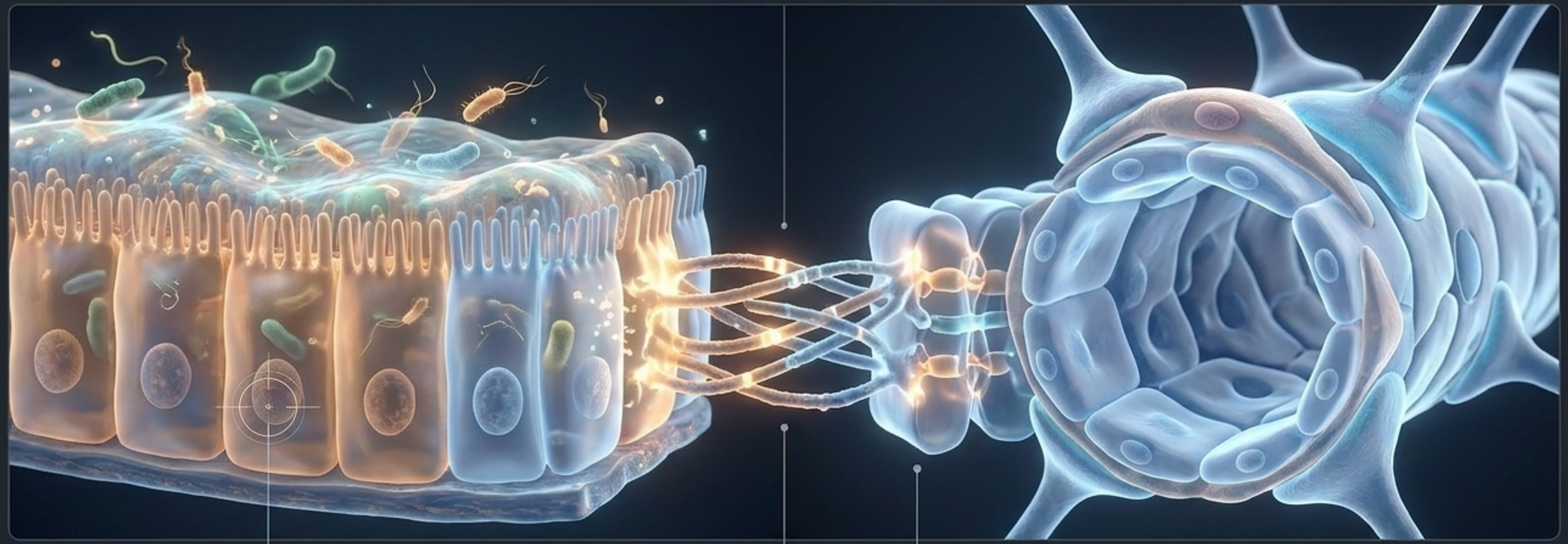
They process tryptophan, the raw material required for serotonin production.

Immune Training

They modulate host immune cells, a large share of which sit within a single millimeter of the gut lining.

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The gut lining and the blood-brain barrier fail under the exact same pressures.



Shared Architecture:
Both walls are secured by identical tight junction protein seals.

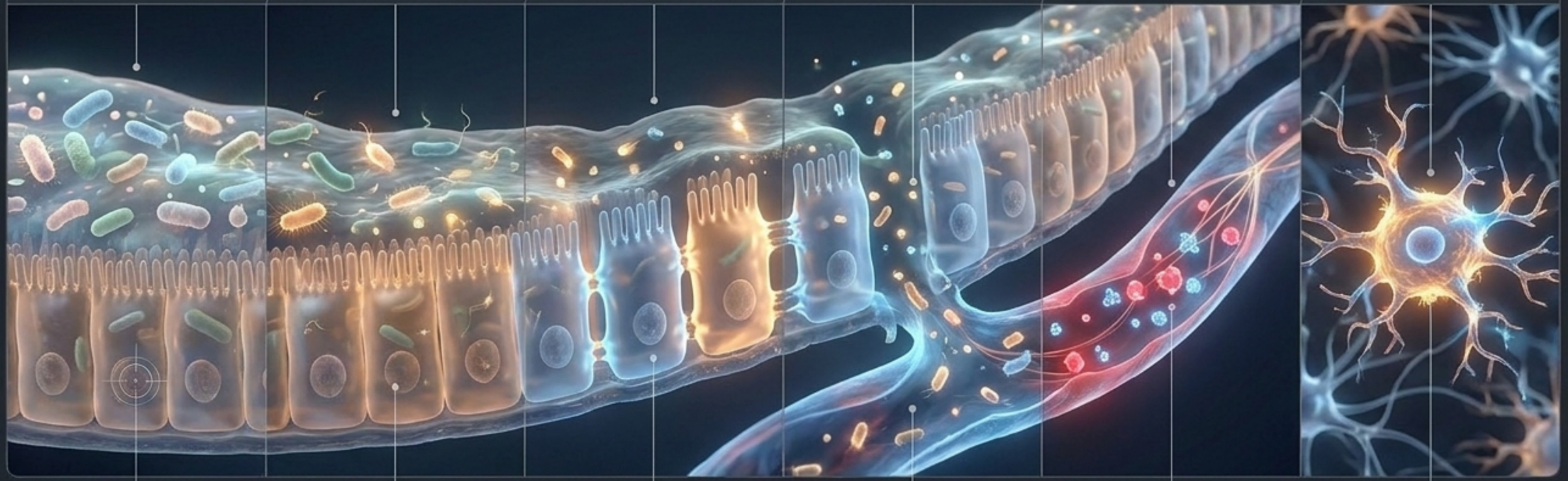
The Gut Boundary: 32 square meters of surface area, completely dependent on a single-cell thickness and a mucus layer.

The Shared Vulnerability: What weakens one barrier (stress hormones, low fiber, inflammatory signals) demonstrably weakens the other.

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The biological chain reaction from gut disturbance to neuroinflammation.

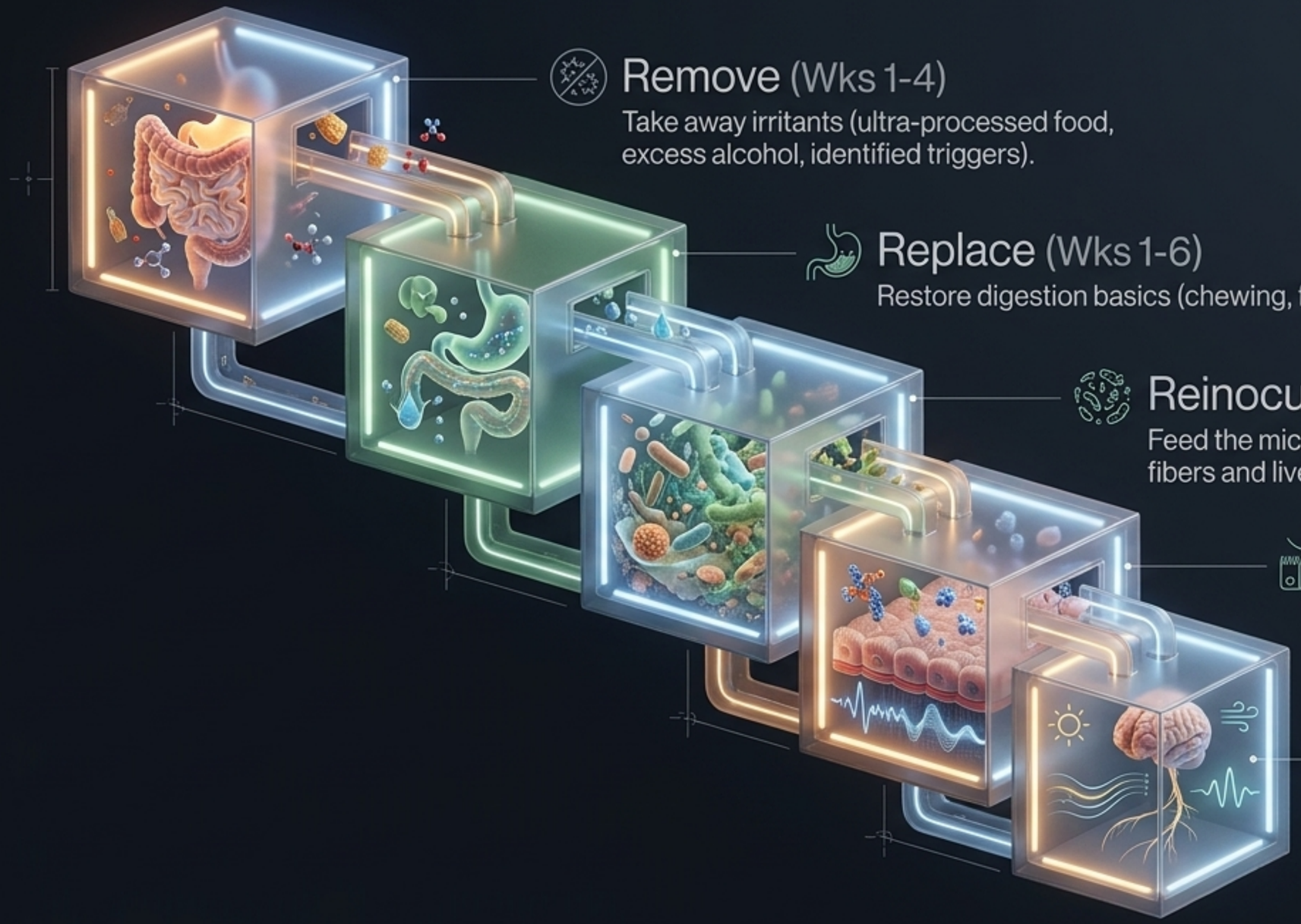
1. Diversity Falls	2. Mucus Thins	3. Junctions Loosen	4. LPS Reaches Blood	5. Cytokines Signal	6. Microglia Stay Primed



Low fiber and stress shrink microbial range.	Starved microbes consume the protective layer.	Seals between lining cells open.	Bacterial fragments (lipopolysaccharides) enter circulation.	Inflammatory messengers reach the vagus and blood-brain barrier.	The brain's immune cells react faster and settle slower, resulting in fatigue and fog.

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The Functional Medicine method requires completing five steps in a precise sequence



Remove (Wks 1-4)

Take away irritants (ultra-processed food, excess alcohol, identified triggers).

Replace (Wks 1-6)

Restore digestion basics (chewing, fiber, fluid).

Reinoculate (Wks 3-10)

Feed the microbiome with prebiotic fibers and live ferments.

Repair (Wks 2-12)

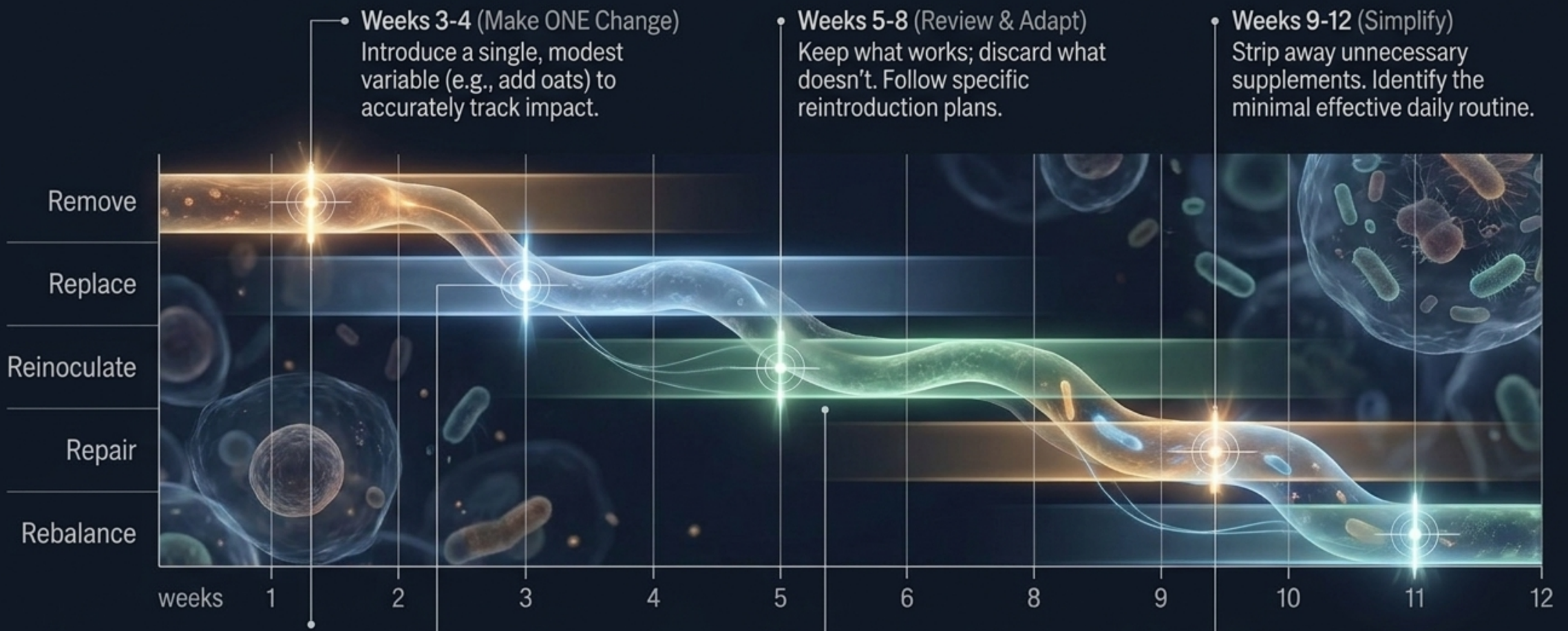
Supply rebuilding materials (protein, zinc, omega-3, sleep).

Rebalance (Wk 1+)

Settle the nervous system (daylight, movement, slow breathing).

Gemini Notebook

The 12-week overlapping blueprint prioritizes observation over immediate restriction.



Gemini Notebook

A clinical history makes the next decision clearer than any expensive panel.



Antecedents

What set the stage? (Family history, childhood antibiotics).

Triggers

What lit the match? (Food poisoning, concussion, high-stress event).

Mediators

What keeps it burning? (Sleep debt, alcohol, inactivity).

Observable Goals

Target tangible outcomes (e.g., sit through an afternoon meeting without leaving) over abstract biomarker scores.

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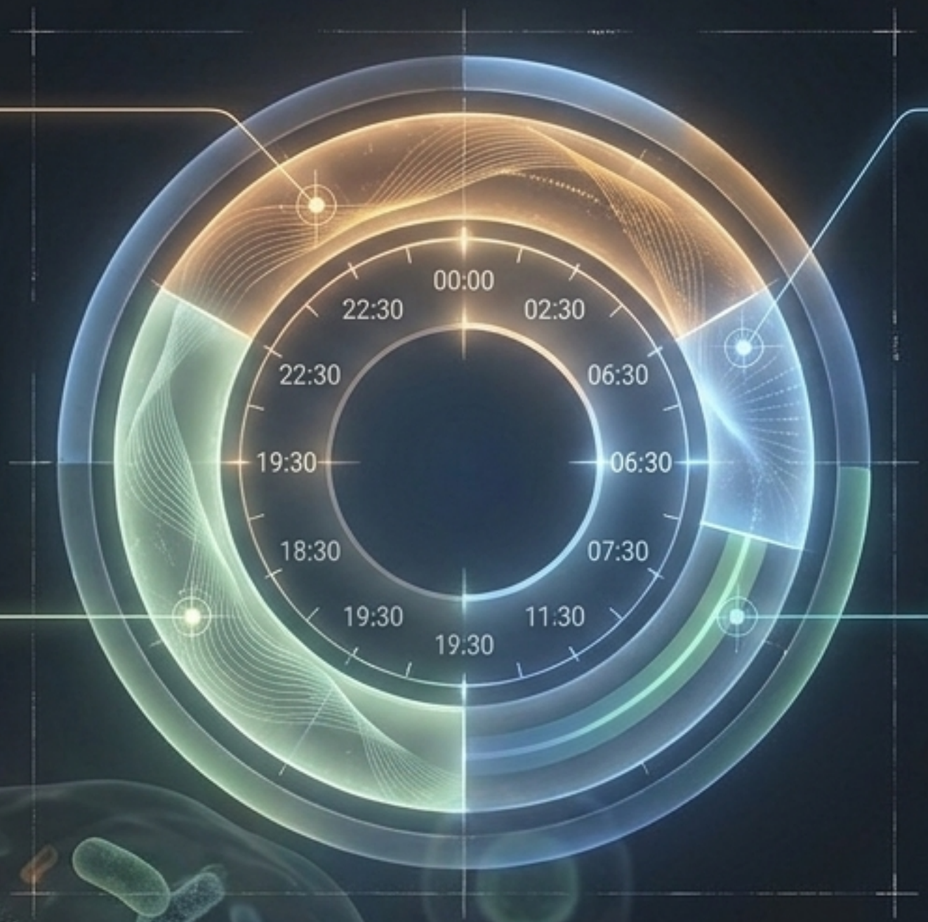
Gut microbes, digestive hormones, and brain cleaning cycles all run on a 24-hour clock.

22:30–06:30 (Sleep)

Eight hours in bed; deep sleep flushes brain metabolic waste.

06:30–08:30 (Daylight)

Outdoor light exposure sets the circadian rhythm.



Overnight (12h Fast)

The small intestine requires a 90-120 minute gap between meals to run internal housecleaning sweeping waves.

07:30–19:30 (Eating Window)

Three structured meals, minimal snacking.

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Six foundational habits carry the vast majority of the biological benefit.



Moderate

30 Plants / Week (Moderate)

Drives microbial diversity (includes spices, nuts, seeds).



Moderate

1-6 Ferment Servings / Day (Moderate)

Lowers inflammatory proteins. Start small and build.



Strong

25-38g Fiber / Day (Strong)

The essential floor for gut health. Raise gradually with water.



Emerging

12 Hours Overnight (Emerging)

Let the fasting gut clean house.



Strong

7-9 Hours Sleep (Strong)

Protect the brain's overnight metabolic flush.



Strong

150 Minutes Movement / Week (Strong)

Lowers inflammation and speeds gut transit.

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Slow, paced breathing is a mechanical lever for raising vagal tone.



The Protocol

Breathe in gently for 4 seconds, breathe out for 6 seconds.

The Duration

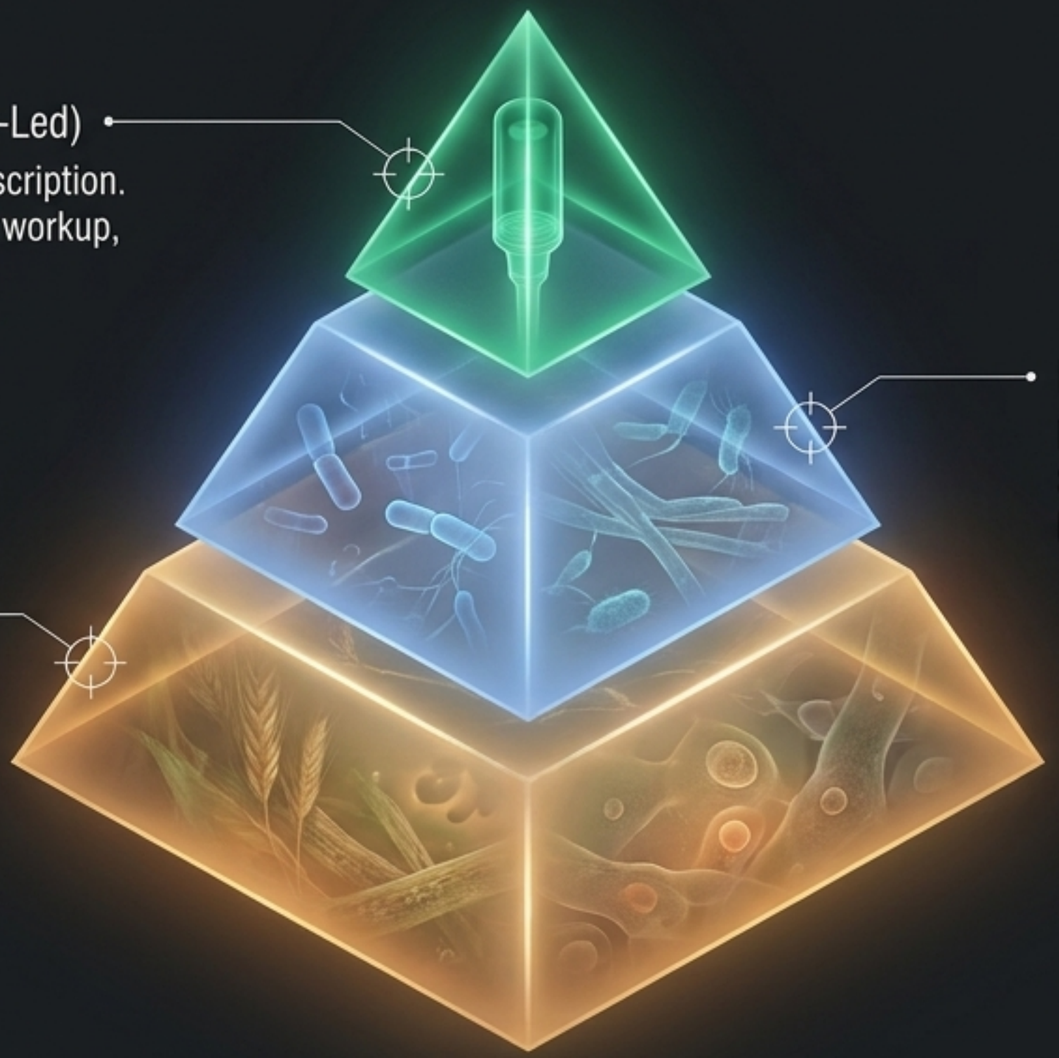
Five minutes, once or twice a day.

The Mechanism

Consistently practicing this rhythm reliably raises Heart Rate Variability (HRV), the primary clinical marker of vagal nerve activity and nervous system recovery.

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Start on the lowest rung that works and climb only with a clinical reason.



Peak - Directed (Clinician-Led)

Requires a diagnosis or prescription. SIBO breath testing, coeliac workup, gastroenterology referral.

Middle - Targeted (Matched to Pattern)

Make one change at a time for 4-8 weeks. Soluble fiber, specific probiotic strains, low-FODMAP.

Base - Foundations (Everyone)

Run for 4-6 weeks before judging anything else. Mediterranean diet, sleep, movement, plant diversity.

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The Intervention Matrix matches specific treatments to measured outcomes.

Mediterranean Diet (Strong)	For low mood/systemic inflammation. (Based on SMILES trial for moderate-to-severe depression).
Low-FODMAP Diet (Strong)	For IBS with bloating. Requires structured reintroduction after 2-6 weeks to prevent bifidobacteria loss.
Gut-Directed Hypnotherapy / CBT (Strong)	For sensitive guts. Treats the brain end of the axis.
Soluble Fiber / Psyllium (Strong)	For constipation/IBS. Start low; insoluble bran can worsen IBS.
Omega-3 EPA-led (Moderate)	For low mood. Check with a clinician if taking blood thinners.
Fermented Foods (Moderate)	For low diversity. Introduce gradually if reacting to histamine.

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Isolate plausible mechanisms from proven clinical treatments.

Strain-Specific Probiotics (Moderate)	Benefits belong to specific strains, not generic products. Match strain to trial; stop after 8 weeks if ineffective.
HRV Biofeedback (Moderate)	Reliably raises HRV; evidence for direct gut repair is thin.
Probiotics for Mood (Emerging)	Small average effects; does not replace depression treatment.
L-Glutamine (Emerging)	Shown to help diarrhea-type IBS post-infection in one trial; not repeated at scale.
Lining Support [Curcumin/Zinc/Butyrate] (Emerging)	Plausible mechanisms, but food sources of fiber and polyphenols have a stronger clinical case.
Rifaximin (Clinician)	Prescription antibiotic for confirmed overgrowth; high relapse without root cause resolution.

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Never dismiss a clinical warning sign as a temporary detox reaction.

Red Flags (Urgent Care Required):

- Blood in the stool or black, tarry stools.
- Unintended, unexplained weight loss.
- Symptoms severe enough to wake you repeatedly at night.
- Difficulty swallowing or persistent vomiting.
- New bowel symptoms appearing after age 50.
- Sudden confusion, new weakness, vision changes, or severe headaches.



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Measure to inform decisions, not to generate anxiety







Keep (Clinically Validated):

hs-CRP & HbA1c: Reliable markers for systemic inflammation and blood sugar.

Faecal Calprotectin: Distinguishes true inflammatory bowel disease from non-inflammatory problems.

Coeliac Serology: Essential baseline, but must be drawn while still eating gluten.

Skip (Commercially Flawed):

IgG Food Sensitivity Panels: Measures exposure and tolerance, not allergy or intolerance.

Consumer Microbiome Scores: No agreed definition of a perfect microbiome; lacks clinical utility.

Zonulin Leaky Gut Tests: Commercial kits detect the wrong proteins; results are analytically flawed.







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A 14-day symptom record reveals patterns that single days obscure.

One Main Symptom:
Track severity from 0-10.

Sleep & Stool:
Approximate hours slept; stool form using the Bristol scale.

Context Note:
Log single variables like a new medicine, travel, or unusual stress.

The Guardrail:
If tracking increases food anxiety, restriction, or compulsive checking, stop immediately. Single bad days do not establish biological cause.



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The rhythm that replaces the reset is what secures the long-term result.



Daily
Plants at every meal, 1-2 ferments, 12h fasting window, daylight before screens.

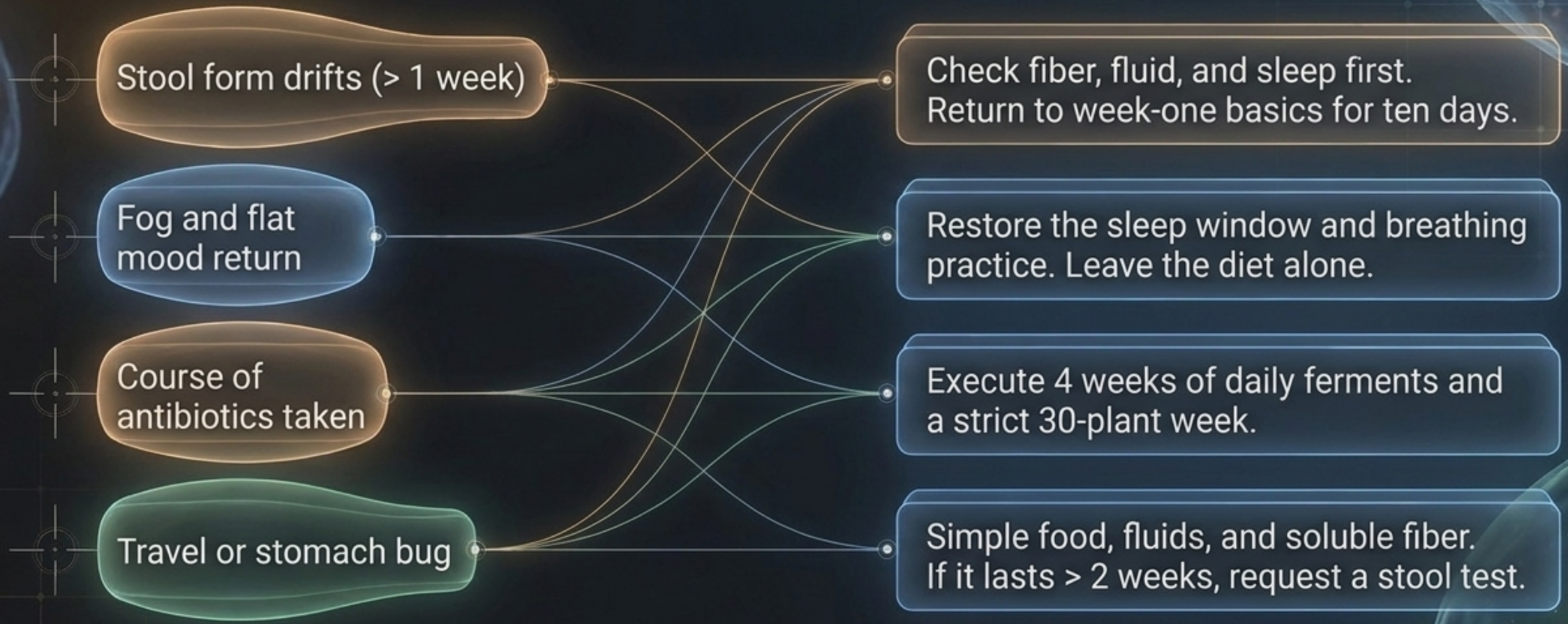
Weekly
Hit the 30-plant target, 150 minutes of movement, one unhurried social meal.

Quarterly
Run a brief two-week tune-up after travel, illness, or a high-stress season. Drop any supplement lacking clear effect.

Yearly
Repeat baseline blood tests; conduct a medication review.

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Troubleshooting relapse: Match the signal to the exact first response.



Gemini Notebook

The Master Blueprint: Theory, Approach, and Practice synthesized



Repairing the Gut-Brain Axis is not about finding a single supplement, but layering targeted habits (Fiber/Ferments) over biological mechanics (Vagal Breathing/Fasting) in a structured sequence.

Gemini Notebook



The goal is more capacity for living.

A **functional reset** is meant to make your next clinical decision more informed, not to make your diet permanently smaller or your life more restricted.

Keep what works, release the rest, and leave room for the rest of life.

Gemini Notebook