

NUTRITION

GUT MICROBIOME

FIBER

Processed Food Is

Starving Your Gut Bacteria.

What feeding trillions of gut bacteria has to do with whole food, and why fiber matters more than willpower.

OVERVIEW

In this guide

A walk through what ultra-processed food does to the gut lining, the fiber gap behind it, and what Scripture and Ellen White both said about eating close to the ground long before microbiome science existed.

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PART ONE: The Problem

THE REFRAME

The belief: food is just calories in, calories out.

The truth: your body only handles food after gut bacteria process it first.

Cutting carbs or counting macros treats the gut like a simple pipe. It's closer to a second organ system, one that decides how much of a meal actually reaches the bloodstream and how well the intestinal wall holds up under stress.

THE NUMBERS

What the data actually says

55%

of American calories now
come from ultra-
processed food

CDC, 2025

9%

of U.S. women get
enough daily fiber (5% of
men)

ASN / NHANES

24 hrs

for gut bacteria to shift
after a change in diet

Duke Univ., Nature 2014

12%

lower all-cause mortality
for largely plant-based
eaters

Adventist Health Study 2

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PART TWO: The Science

THE SCIENCE

Your Gut Bacteria Eat What You Don't

Dietary fiber isn't digested by the body directly, it's fermented by bacteria living in the colon. When fiber runs short, those bacteria don't stay idle. A 2016 Stanford study found they start consuming the mucus layer lining the colon instead, the same layer that normally keeps them from touching the intestinal wall directly.

KEY TERMS

- Colonic mucus barrier
- Fiber fermentation
- Short-chain fatty acids
- Intestinal permeability

The Microbiome Moves Fast

Gut bacteria don't take months to respond to a new habit. Duke researchers tracking volunteers on controlled diets found detectable shifts in bacterial populations within 24 hours of a dietary change, for better or worse. That speed cuts both ways: a week of convenience food and a week of whole food both leave a measurable signature behind.

KEY TERMS

- Bacteroides vs. Firmicutes
- Short-chain fatty acid production
- Diet-microbiome feedback loop
- Fermentable fiber

“Test your servants for ten days: let us be given vegetables to eat and water to drink.”

DANIEL 1:12, ESV

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PART THREE: The Original Plan's Answer

Three practical steps

1

Add one whole food to every plate

A vegetable, fruit, legume, or whole grain at each meal feeds gut bacteria the fiber they can actually use.

2

Read the ingredient list, not just the calorie count

Fewer, more recognizable ingredients usually means less of what strips fiber and adds fillers.

3

Give it a week before judging results

Bacterial populations respond within days, but a steadier gut lining takes a little longer to show.

A NATURAL REMEDY

Feeding the gut instead of fighting it

Manufactured fiber supplements have their place, but they aren't a substitute for fiber that comes bundled with real food, along with the vitamins, antioxidants, and water that make it work. Original Plan isn't about food-fear, it's about restoring what was already normal.

TRY THIS

- A daily serving of legumes: lentils, beans, or chickpeas
- Whole fruit instead of juice, skin on when possible
- One extra vegetable at dinner in place of a processed side

*“Grains, fruits, nuts, and vegetables constitute the diet chosen for us
by our Creator.”*

THE MINISTRY OF HEALING, P. 296

THE TAKEAWAY

Eat like something depends on it. Something does.

Whole food feeds bacteria that processed food leaves hungry.

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SOURCES

References

STATISTICS

Centers for Disease Control and Prevention, NCHS Data Brief No. 536, 2025. **Slide 5**

American Society for Nutrition, analysis of NHANES fiber intake data. **Slide 5**

Orlich MJ, et al. Adventist Health Study 2, JAMA Internal Medicine, 2013. **Slide 5**

SCIENCE

Desai MS, et al. “A Dietary Fiber-Deprived Gut Microbiota Degrades the Colonic Mucus Barrier.” Cell, 2016. **Slide 7**

David LA, et al. “Diet Rapidly and Reproducibly Alters the Human Gut Microbiome.” Nature, 2014. **Slides 5, 8**

SCRIPTURE & SPIRIT OF PROPHECY

Daniel 1:12–15, ESV. **Slide 9**

Ellen G. White, The Ministry of Healing, p. 296. **Slide 13**



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