



Core Supports for Digestive Function

Review several primary components that support healthy digestion and elimination. These include:

- fiber,
- water,
- support for stomach acid,
- probiotics, from foods and supplements,
- digestive enzymes.

These foundational elements form the basis for restoring digestive capacity and supporting more efficient elimination, which will be explored in the next section.

Fiber: Supporting Transit, Balance, and Elimination

Fiber is the portion of plant foods that remains after digestion in the small intestine. Rather than being absorbed as fuel, fiber continues into the colon, where it plays several essential roles in digestive and systemic balance (Dimidi et al. 2025). These include:

- making stool soft and bulky,
- speeding transit time through the colon,
- diluting potentially irritating or toxic compounds so they do not linger,
- helping escort unwanted bacteria and waste out of the body,
- when prebiotic, providing nourishment for beneficial bacteria in the colon.



For most people, fiber is an important and often missing component of the diet. In modern eating patterns, fiber intake is frequently far below what the digestive system evolved to handle, and reintroducing it thoughtfully can be transformative (Makki et al. 2018). As a general principle, fiber should be added gradually, starting with small amounts and increasing slowly over time.

Low-fiber diets are consistently associated with digestive challenges, including:

- diverticulitis,
- irritable bowel syndrome (IBS),
- chronic constipation,
- colon cancer,
- hemorrhoids.

Diverticulitis, identifiable by the suffix “-itis” indicating inflammation, involves infection and inflammation of diverticula, small pouch-like protrusions in the intestinal wall, most commonly in the sigmoid colon. It is widely regarded as a lifestyle-related condition and often responds positively to dietary shifts that restore fiber and hydration (Strate and Morris 2019).

Types of Fiber and Their Roles

There are two primary categories of fiber:

Soluble fiber, which dissolves in water,

Insoluble fiber, which does not dissolve in water.

Each serves a different purpose:

- soluble fiber helps bind toxins and excess cholesterol, supports blood sugar regulation, and can be soothing to the gut,
- insoluble fiber increases stool bulk and accelerates elimination,
- both are needed for resilient, well-functioning digestion.



Common sources of soluble fiber include:

- lentils and other beans,
- pectin-rich foods such as apples, carrots, and citrus peels,
- psyllium husk.

Most vegetables provide insoluble fiber, and many plant foods naturally contain a combination of both types.

As fiber intake increases, adequate water becomes essential. Without sufficient hydration, fiber can slow transit rather than support it. The guiding principle applies here as well, start low and go slow.

Fiber and Bio-Individuality

Fiber is not universally tolerated in the same way. For some individuals: (Sood et al. 2025; NIDDK 2024)

Soluble fiber feels calming and supportive,

Insoluble fiber may irritate an already inflamed or sensitive digestive tract.

This is another clear illustration of a core principle: Foods are not inherently good or bad, their impact depends on the individual and their current digestive capacity. (NIDDK 2024; Crohn's & Colitis Foundation 2024)

For individuals with severely compromised digestion, such as those with SIBO, active Crohn's disease, or inflammatory bowel flares, vegetables and fibers often need to be modified to reduce digestive stress. (Sood et al. 2025; Crohn's & Colitis Foundation 2024; Piwowarczyk et al. 2025) In these cases, the goal is not removal forever, but temporary preparation strategies that reduce mechanical and chemical burden while capacity is being rebuilt. (Sood et al. 2025; Crohn's & Colitis Foundation 2024)



Three Practical Guidelines for Fragile Digestion

These guidelines apply specifically to individuals with highly sensitive or compromised digestion. They are not necessary for everyone. (Sood et al. 2025; Crohn's & Colitis Foundation 2024)

Rule 1: Pre-break down vegetables

Mash, chop, grate, blend, or thoroughly slow-cook vegetables, such as steaming, boiling, or braising until very soft.

Rule 2: Temporarily avoid high-insoluble-fiber stems and peels, including:

- leafy greens such as spinach, lettuce, kale, mesclun, collards, arugula, watercress,
- onions, shallots, leeks, scallions, garlic,
- cabbage, bok choy, Brussels sprouts,
- broccoli, cauliflower,
- whole peas, snow peas, snap peas, pea pods,
- green beans,
- bell peppers, eggplant, celery.

Rule 3: Avoid insoluble fiber on an empty stomach

Instead, pair it with foods rich in soluble fiber, such as:

- carrots,
- winter squash,
- summer squash, especially peeled,
- starchy tubers including yams, sweet potatoes, and potatoes,
- turnips, rutabagas, parsnips,
- beets,
- plantains, taro, yuca.

These strategies provide a clear framework for decision-making in more fragile cases and help reduce irritation while supporting gradual digestive restoration.



Water and Stomach Acid: Foundations of Digestive Capacity

Water is the next essential support for healthy digestion, and its role is often underestimated. Adequate hydration is required for the stomach to carry out one of its most important tasks, producing hydrochloric acid (HCl) at the proper concentration. (Guyton and Hall 2021; TeachMePhysiology 2025)

Water is essential for the body to generate stomach acid, but it does not need to be present in the stomach at the exact moment digestion begins. Instead, it must be available systemically so the body can manufacture hydrochloric acid effectively. (TeachMePhysiology 2025; Guyton and Hall 2021) This distinction helps explain why chronic, low-level dehydration can impair digestion even when someone drinks fluids with meals. (Dimidi 2025; Bharucha and Lacy 2020)

As explored earlier in this intensive, digestion requires the stomach's pH to drop to approximately pH 3 or lower. (BioNumbers 2025; Merck Manual Professional Edition 2024) This highly acidic environment initiates protein breakdown and prepares food for the next stages of digestion. (Merck Manual Professional Edition 2024) At the same time, this level of acidity would be damaging to stomach tissue without protection. This brings us to water's second critical role, supporting the stomach's mucous lining. (OpenStax 2024; Thakur and Sengupta 2020)

Although the stomach does not absorb significant nutrients, water is constantly moving across the gastric mucosa in both directions. This movement:

- bathes and protects the mucous lining,
- supports the transport of water-soluble substances, including minerals such as sodium and potassium, into circulation.

When the mucous lining is insufficient, hydrochloric acid can irritate or damage the stomach wall, increasing the risk of ulcer formation. (Thakur and Sengupta 2020; OpenStax 2024) Dehydration contributes to stomach acid that is both insufficient in volume and improperly acidic, a pattern associated with many common digestive complaints. (Dimidi 2025; Merck Manual Professional Edition 2024)



Following the Chain of Cause and Effect

Thinking through the digestive sequence helps clarify how hydration influences elimination:

- dehydration develops, often compounded by diuretics such as coffee or soda,
- stomach acid production decreases,
- food enters the digestive tract without adequate chemical breakdown,
- partially digested food moves into the small intestine.

Under normal conditions, beneficial bacteria in the small intestine contribute additional acidification as food progresses. (Camilleri 2024) While the colon is not nearly as acidic as the stomach, it remains slightly more acidic than the small intestine and plays an important role in final-stage processing. (Duncan et al. 2023)

A brief pH review helps anchor this progression:

- mouth and esophagus, weakly acidic, approximately pH 6.8,
- stomach, ideally no higher than pH 3,
- small intestine, alkalized by liver and pancreatic secretions, with pH reaching up to 8.5,
- colon, more neutral, approximately pH 5.5 to 7.

When stomach acid is insufficient, bacteria in the small intestine cannot complete digestion effectively. (Merck Manual Professional Edition 2024) When dehydration is present at the same time, the body attempts to conserve water by pulling it out of partially digested food. (Dimidi 2025)

The result is:

- hard, dry, incompletely digested stool entering the large intestine,
- inappropriate pH in the colon,
- slowed transit and constipation.

Inadequate hydration can contribute to hard, dry stool, though constipation often reflects multiple interacting factors. (Dimidi 2025; Bharucha and Lacy 2020) Understanding this sequence provides a clear and practical picture of “what’s going on in there.”



Why Water Matters So Much

Insufficient water within the digestive system can contribute to a wide range of patterns, including:

- ulcers,
- indigestion and heartburn,
- fatigue,
- brain fog and memory challenges,
- compromised organ function,
- incomplete digestion,
- constipation.

Water is one of digestion's most powerful and often overlooked supports. It quietly influences stomach acid, mucosal protection, microbial balance, and elimination, making it one of the digestive system's true "secret weapons." (Guyton and Hall 2021; Dimidi 2025)

Apple Cider Vinegar and Gastric Acidity

Alongside adequate hydration, a simple and often well-tolerated tool for supporting stomach acidity is apple cider vinegar, commonly abbreviated as ACV. When used appropriately, ACV can offer gentle support to digestive physiology rather than acting as a stimulant or harsh intervention. (Mareček et al. 2023)

Apple cider vinegar contains organic acids, including malic acid and tartaric acid, which may help:

- support restoration of appropriate gastric acidity,
- create an environment less favorable to unfriendly or opportunistic bacteria in the digestive tract.

This does not mean ACV "adds acid" directly in a simplistic way. Instead, it can act as a signal to support the body's own acid-producing mechanisms, particularly in individuals with low stomach acid related to stress, aging, or chronic dehydration. (Merck Manual Professional Edition 2024)



The relationship between stomach acidity, mucous lining integrity, and mineral absorption provides a helpful example of why this support matters. Adequate gastric acidity is required for minerals, especially iron, to be properly released from food and prepared for absorption further down the digestive tract. (Guyton and Hall 2021; Merck Manual Professional Edition 2024)

A traditional preparation that reflects this understanding is the “switchel” tonic, historically used to support mineral status during periods of increased demand, such as early pregnancy. This simple tonic combines:

- apple cider vinegar,
- blackstrap molasses, a natural source of iron and trace minerals,
- water.

Together, these ingredients support both digestive function and mineral availability, illustrating the core principle that nourishment depends not only on what is consumed, but on how well the body can prepare and utilize it. (Guyton and Hall 2021)

As with all digestive supports, ACV is not appropriate for every individual. Tolerance, timing, overall digestive context and overall health context should always guide its use. (Yadlapati and Pandolfino 2022)

Probiotics: Reinoculating the Digestive Terrain

Another essential component of healthy digestion is probiotics. Beneficial bacteria function as internal allies, and restoring or reinoculating these populations helps strengthen the digestive ecosystem as a whole. (Wasilewski et al. 2021; Ahmed and Umar 2025)

The word probiotics breaks down simply:

Pro, meaning good,

Biotics, meaning life.



Probiotics support balance by countering the influence of less desirable organisms and helping stabilize the internal terrain. Their actions include: (Wasilewski et al. 2021; Guo et al. 2024)

- supporting immune system function,
- reducing chronic inflammatory signaling,
- assisting in the restoration of gut hyperpermeability, often referred to as “leaky gut,”
- contributing to broader metabolic, neurological, and immune regulation.

A diverse and balanced microbial ecosystem supports resilience, though no single ideal ratio has been established. (Guo et al. 2024) Microorganisms move throughout the body continuously, and when beneficial species are supported in adequate numbers, they are more likely to adhere to the intestinal lining. (Guo et al. 2024) This reduces available space and resources for opportunistic organisms to take hold. (Guo et al. 2024)

Probiotics are introduced primarily through two sources:

- cultured or fermented foods,
- probiotic supplements.

Both approaches can be useful and are often complementary.

Probiotic-Rich Foods

Probiotic-rich foods include:

- sauerkraut,
- kimchi,
- traditionally fermented pickles and vegetables,
- miso,
- tempeh,
- kefir,
- yogurt,
- kombucha.

Tolerance, timing, and individual digestive capacity always matter, particularly for those with sensitive digestion or active dysbiosis. Introducing fermented foods slowly and observing responses helps ensure they remain supportive rather than overwhelming. (Crohn’s & Colitis Foundation 2024)



Digestive Enzymes: Supporting Efficient Breakdown

The final foundational support for digestion explored in this lesson is digestive enzymes. Enzymes function as biological catalysts, meaning they speed up chemical reactions without being used up themselves. In digestion, their role is to accelerate the breakdown of food into components small enough for absorption and use by the body. (Guyton and Hall 2021)

Digestive enzymes are responsible for breaking food into its elemental parts:

- fats,
- carbohydrates,
- proteins.

The body produces three primary categories of digestive enzymes:

Lipases	Amylases	Proteases
lipases, which break down fats,	amylases, which break down carbohydrates,	proteases, which break down proteins.

Under ideal conditions, these enzymes are produced in sufficient quantities and released at the appropriate stages of digestion. (Guyton and Hall 2021) Raw or "live" foods naturally contain enzymes and can contribute modestly to overall enzymatic support. (Guyton and Hall 2021) However, modern dietary patterns, chronic stress, aging, and digestive compromise can all reduce endogenous enzyme production, making additional support useful in some cases. (Johns Hopkins Medicine 2024)

When supplementation is considered, a helpful guiding concept is "deficiency to sufficiency," which aligns with Tier 2 of the Three Tiers to Nutrition Mastery framework. The goal is not lifelong reliance, but temporary support to help restore digestive capacity while upstream factors are addressed. (Johns Hopkins Medicine 2024; Gatta et al. 2023)



Stress plays a particularly important role in enzyme production, especially salivary enzymes that initiate carbohydrate digestion in the mouth. (Guyton and Hall 2021) Individuals experiencing chronic stress who report symptoms such as gas, bloating, or indigestion may benefit from a short-term trial of digestive enzyme support, alongside practices that calm and regulate the nervous system. (Gatta et al. 2023)

Enzymes are one part of a broader digestive picture. They work best when hydration, stomach acid, microbial balance, and nervous system regulation are also supported. (Guyton and Hall 2021; Merck Manual Professional Edition 2024)

Digestive dysfunction is one of the most common patterns professionals encounter, and while it is addressed in conventional training, it is often not explored at the level of root-cause function, leaving many chronic issues only partially resolved.

This intensive is just one part of a broader curriculum designed to teach you how to look at the whole body, recognize patterns, and address the root of health imbalances.

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