ISSUE 40

BIOHACKERS

LIFESPANNING

MAGAZINE

REBUILD YOUR GUT

YOU ARE WHAT YOU EAT, DRINK, AND THINK

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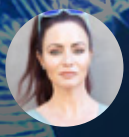
MY SECRET WEAPON FOR GUT HEALING



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DOES YOUR GUT TRUST YOU?

When you can't trust your gut, what can you trust? So much of our health is built on the foundation of our gut's microbiome. Our health essentially rises or falls with the strength and fortitude of our immune system; a system which depends so much on its primary environment to ensure it can fully achieve its mission of pathogen defense and inoculation. Can we trust our gut to be ready when the next virus approaches our outer body's defenses? Do we trust our gut enough to put ourselves in places where we know there's some moderate (but reasonable) risk of getting sick – trusting that our gut will get us through it?

There's a reason beyond physical acts of bravery that are associated with the English idioms, "Go with Your Gut" and "You got real guts". It emphasizes just how reliant we really are on our microbiome inside our digestive tract or better said as our guts. With a healthy gut, we're well equipped to act on anything that the day throws at us. Conversely, with a weak and basic gut, we're less sure of ourselves and pushing our boundaries, and seeing challenges as opportunities is less likely from our narrowed perspective.

So, let's do ourselves a favor and fuel our gut with the best food, drinks and supplements out there. Let's be more mindful about what we're sending down to our stomachs so we can worry less about what sickness is going around this time. Sure, its okay to be aware of what's going on, but not to the point where its all we think about before we make any decisions. With a mind less focused on the fear of getting sick, we can allow our thoughts to run free on the creative energy that life begs to fill our heads with after each breath of gratitude. Build a strong gut that you can rely on when times get tough. That's the essence of what it means to really trust your gut.

About Dallas McClain

Born in the USA, Dallas is a passionate reader of theological and personal development books. He holds a bachelor's degree in Biological Sciences. Teaching English abroad, Dallas has been immersed in various cultures and backgrounds while making friends all over the world. He is a Catholic Christian and enjoys time outdoors while being a tennis enthusiast. He is the Co-founder and Editor of Biohackers Update Magazine. He is currently living in Orlando, Florida with his wife & children, where he enjoys writing, sports, and nature hikes in his free time.

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DEAR LIFESPANNERS

Our gut is far more than a digestion machine; it's the vibrant core of our well-being, a secret powerhouse influencing our mood, vitality, and even the pace of aging. Recent breakthroughs in microbiome research are challenging the old narratives: they show that a healthy, diverse gut can be a gateway to happiness and a longer, more dynamic life.

Innovative technologies, from next-generation sequencing to real-time biosensors, are revolutionizing how we decode the gut's language. These cutting-edge tests aren't just academic; they're tools that empower us to understand the intricate dialogue between our gut flora and our brain.

The discoveries are clear: our gut doesn't just digest food, it digests life, releasing a cascade of signals that lift our spirits, boost our immunity, and might just slow down the aging clock.

In this special edition, we celebrate this bold frontier. It's a call to arms for anyone daring enough to rethink what health means. Let's ditch the conventional playbook, embrace our inner microbiome, and lead the charge into a future where science, art, and the rebel spirit of Lifespanning redefine what it means to age gracefully and joyfully.

Here's to breaking the mold, listening to our guts, and living life on our own radical terms.

Onward and upward!

About Jean Fallacara

Jean, a visionary entrepreneur and neuroscientist, is a pioneering biohacker and founder passionate about merging science, art, and technology. With a remarkable IQ of 167 and an MIT background in AI, VR, XR, Biochemistry, Genetics, and Biotechnology, he's earned numerous awards and distinctions. Having founded ventures like Z-Sciences, he strategically led its acquisition by inTEST Corp in 2021. As the Founder of Lifespanning Media, Jean aims to mainstream human longevity, emphasizing well-being and longevity exploration. His mission involves social connection, life-science education, and multimedia content to redefine lifespan boundaries. Beyond technology, Jean embraces a holistic lifestyle in Miami Beach, prioritizing family, self-optimization, and gratitude.

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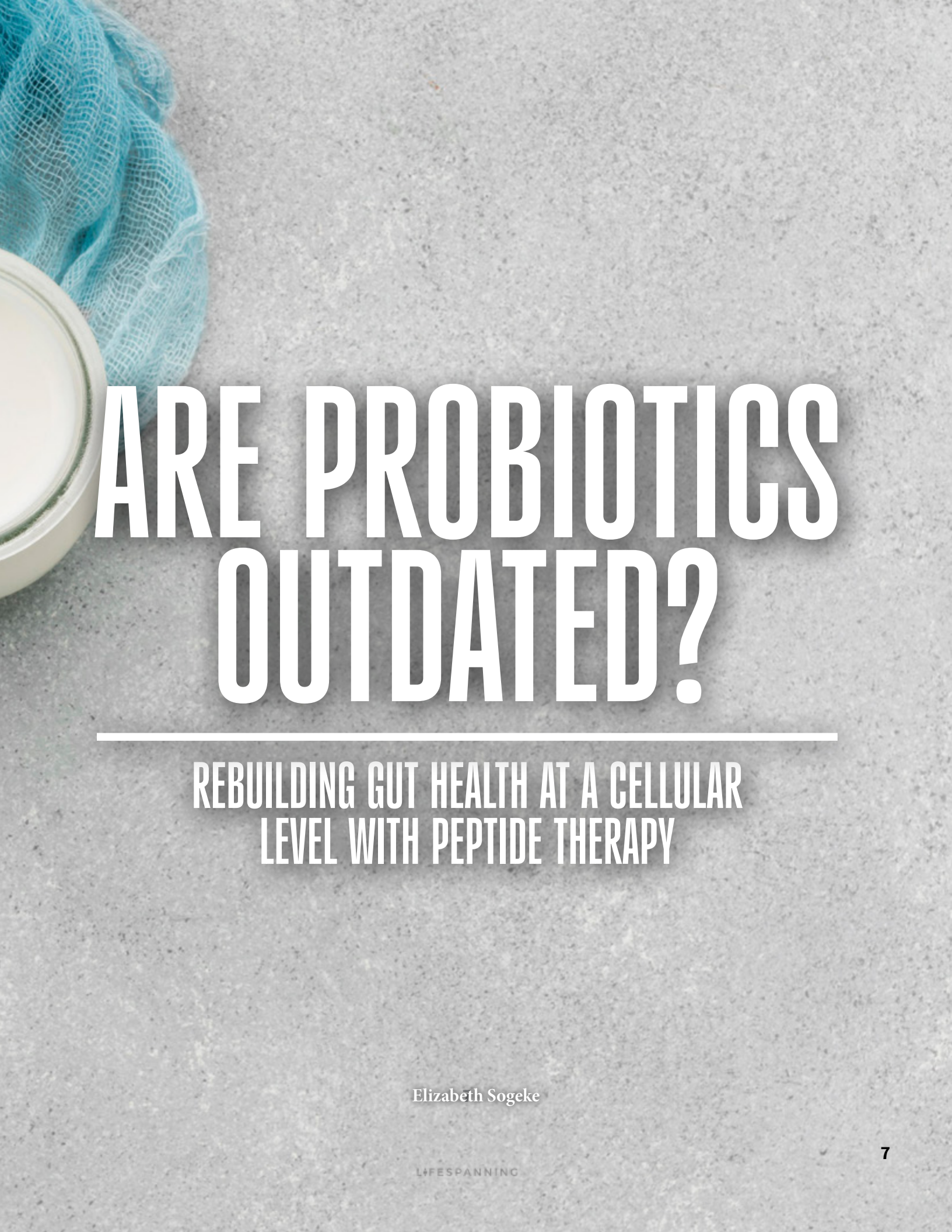


ARE PROBIOTICS OUTDATED?

REBUILDING GUT HEALTH AT A CELLULAR LEVEL WITH PEPTIDE THERAPY

Elizabeth Sogeke

For years, probiotics have been marketed as the holy grail of gut health, promising better digestion, a balanced microbiome, and improved immunity. While probiotics play a crucial role, they may not be the whole story when dealing with your gut issues at the root cause. Despite the probiotic boom, countless people still struggle with bloating, food sensitivities, and gut dysfunction.

While probiotics aim to support the microbiome by introducing beneficial bacteria, peptides work at a cellular level, repairing the gut lining, regulating inflammation, and modulating immune responses. Their impact is precise, targeted, and, for many, far more effective.

Current research, such as "therapeutic peptides in the treatment of digestive inflammation" by He et al., shows just how effective peptides are in helping to produce even more tailored strategies for optimal gut health.

Naturally, this sparks the question of whether peptide therapy can be a transformative method for optimising gut health and supporting microbiome resilience.

What it Means to Have Good Gut Health

When we're talking about a resilient gut, we're talking about the ability of your gut to recover from any disruptions or return to a healthy state. A resilient gut isn't just about avoiding bloating or discomfort after meals; it's almost a finely tuned ecosystem, working seamlessly to digest food, absorb nutrients and defend against pathogens. A simple measure of gut resilience includes these four pillars: microbial diversity, intestinal barrier integrity, markers of low-grade systemic inflammation, and digestive efficiency, including nutrient absorption and elimination patterns. When these elements are in balance, the body thrives.

However, modern diets, chronic stress and environmental toxins can disrupt this system, leading to gut dysfunction. Common gut issues like dysbiosis (when the microbial environment is disrupted), increased intestinal permeability (often referred to as "leaky gut", where the gut lining becomes permeable, allowing toxins into the bloodstream), and IBS (Irritable Bowel Syndrome) are becoming even more common amongst the population. A 2018 study found that 61% of over 71,000 Americans sampled experienced at least one gastrointestinal symptom in any given week, meaning symptoms like regular bloating, food sensitivities, and inflammation are even more prevalent.

Probiotics are a great tool for supporting gut health, helping to restore microbial balance and improve digestion. They work by promoting conditions that enhance the production of short-chain fatty acids (SCFAs) by beneficial microbes, compounds which help to reduce gut inflammation and support the gut barrier, help regulate immune responses via interactions with gut-associated lymphoid tissue (GALT) and inhibit harmful bacteria by producing antimicrobial substances. By default, they have become very commercialised, but, of course, for good reason. However, gut resilience is more than introducing beneficial bacteria; it's also about creating an environment where they can thrive. By strengthening the gut lining, reducing inflammation, and supporting immune function, peptides work at a foundational level to enhance overall gut health. Rather than replacing probiotics, they may offer a complementary approach, addressing deeper issues that probiotics alone might not fully resolve.

The Peptide Advantage

Peptide Therapy is growing in popularity within the biohacking industry daily and is also being studied in mainstream medical research, but you may still wonder what exactly it is? It's simple. Peptides are short chains of amino acids, around 2-50 in chain length, held together by peptide bonds. That's it. The human body naturally contains thousands of peptides, each crucial in biological processes such as metabolism, immune defence and cell communication. Peptide therapy is an emerging medical approach that involves involves using specific peptides to regulate and enhance biological functions within the body. These peptides are either naturally occurring or synthetically designed to mimic the effects of endogenous peptides, targeting processes such as hormone regulation, tissue repair and more. .

When it comes to gut health, several peptides have gained attention for their ability to repair and optimise digestive function, such as BPC-157, Thymosin Alpha-1 (Tα1), LL-37 and KPV. Here's a quick breakdown of how they contribute to gut health:

BPC-157 is often called the "healing peptide". It's known for its role in gut lining repair and has been shown to accelerate healing in cases of leaky gut, ulcers, and inflammatory bowel conditions by promoting cellular regeneration and reducing oxidative stress. Preclinical research also indicates that BPC-157 may interact with the vagus nerve to calm down the gut-brain axis, potentially influencing gut-brain communication and ultimately helping to improve mood. It can also push the microbiome towards better diversity.

Thymosin Alpha-1 (Tα1) is an immune-modulating peptide that enhances immune surveillance and reduces chronic inflammation. A well-regulated immune system is essential for microbial balance, helping to prevent dysbiosis and excessive gut-related immune responses.

LL-37 is an antimicrobial peptide with broad-spectrum activity against harmful bacteria, fungi, and viruses while preserving beneficial microbes. LL-37 is particularly useful in managing conditions like SIBO (Small Intestinal Bacterial Overgrowth) and gut infections by controlling pathogen overgrowth without disrupting microbiome diversity.

KPV stands as a potent anti-inflammatory peptide that helps calm gut inflammation, making it especially beneficial for conditions like IBD (Inflammatory Bowel Disease) and food sensitivities. By promoting immune tolerance, KPV may support a healthier, more resilient gut environment.

Peptides vs Probiotics

The effectiveness of peptide therapy lies in its targeted precision. Peptides work by directly supporting the body's natural ability to heal. They offer a solution beyond symptom management, making them particularly valuable for individuals with chronic gut issues that haven't been fully resolved with probiotics alone.

Peptides offer a complementary approach that addresses the gut's structural and functional integrity. By working at the intersection of immune modulation, tissue repair, and microbial balance, peptide therapy may be the missing link in the pursuit of true gut resilience.

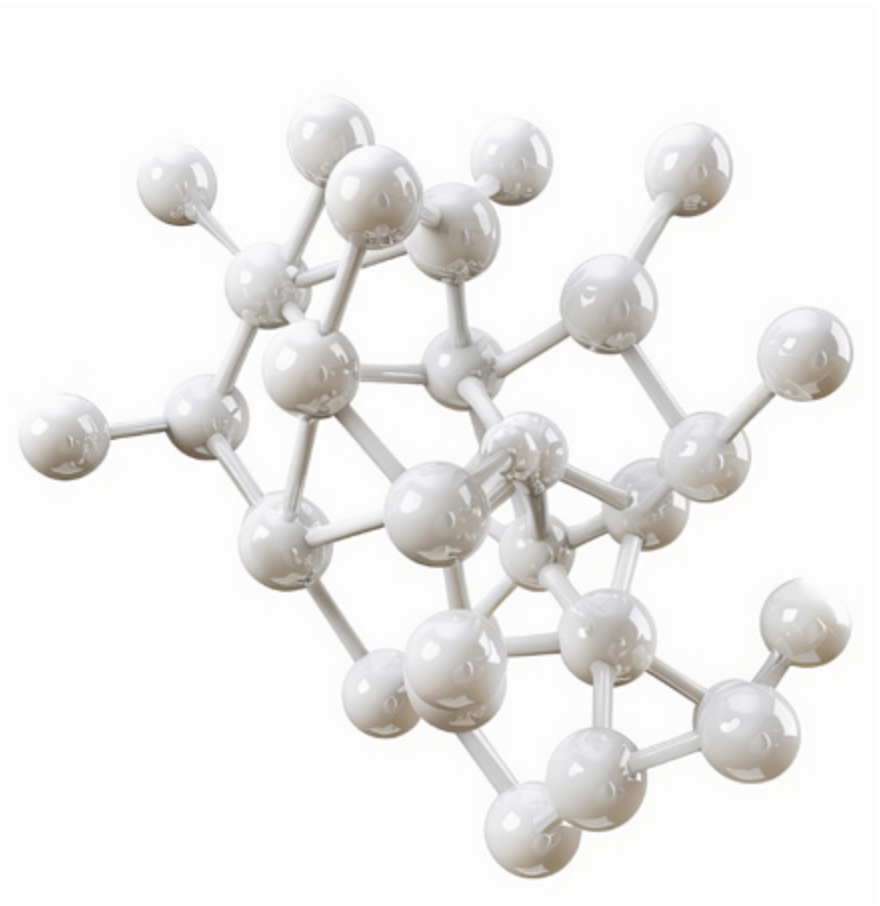
Traditional gut health solutions have focused mainly on microbiome composition. However, emerging research suggests that gut structure and immune modulation play equally critical roles in long-term digestive health. A 2019 review published in Frontiers in Immunology highlighted the gut barrier's role in preventing chronic inflammation and autoimmune conditions, emphasising that microbiome diversity alone isn't enough to maintain resilience. Similarly, a recently published review in Pharmaceuticals highlights the multifunctionality of BPC-157, emphasising its potential to aid gut healing, particularly in conditions like inflammatory bowel disease.

Peptides represent a new dimension to gut health, working at a cellular level to repair and regulate rather than just supplement. Probiotics remain useful, but they are only one piece of the puzzle.

The gut is more than just a collection of bacteria; it's a dynamic system that relies on structural integrity, immune regulation, and inflammation control to function at its best. As our understanding of gut health evolves and strengthens, so does our targeted approach to gut resilience, especially as no two guts are the same. Peptides are already establishing their position in longevity, cognitive performance and immune function, showing us

that gut health is only one piece of a much bigger picture.

The future of biohacking lies not in choosing between old and new solutions but in broadening our approach. We should leverage both microbiome-focused interventions (like probiotics) and regenerative approaches (like peptides) for a more personalised approach to health, creating a comprehensive, lasting solution for digestive health. The future isn't about replacing probiotics; it's about expanding the toolkit for gut resilience beyond what's traditionally been available.



ELIZABETH SOGEKE

Elizabeth holds a bachelor's degree in Genetics and a Master's in Public Health, which she applies through TimeLabs Media as a health writer, researcher, and content strategist specialising in wellness, longevity, and biohacking. Her passion for functional medicine began after losing her grandmother due to failures in conventional medical practices, leading her to explore science-backed solutions beyond mainstream advice. Elizabeth is also the founder of Elizabeth's Lab, a platform dedicated to gut health and holistic wellness, focusing on how microbiome health varies across different ethnic backgrounds. As an avid traveller, she immerses herself in diverse cultures, enriching her understanding of global health perspectives. She is currently based in London with frequent international travel.

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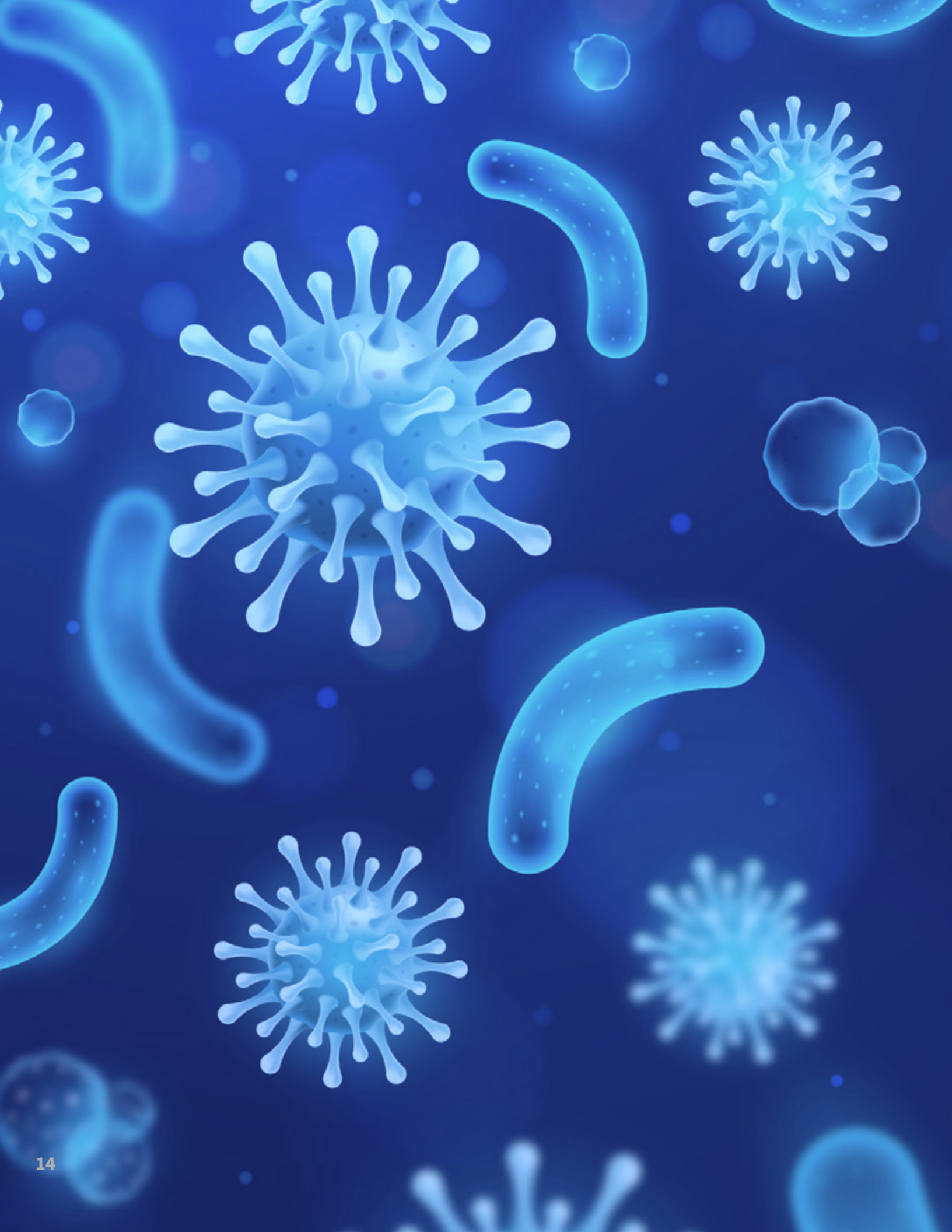


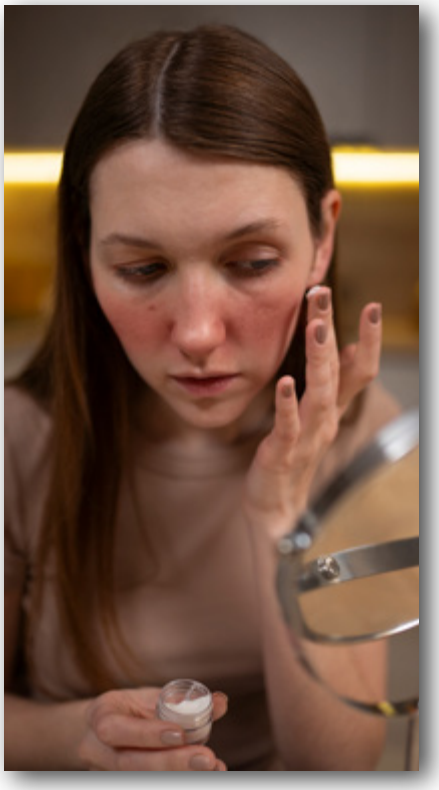
THE HUMAN MICROBIOME AND AGING

THE SCIENCE BEHIND A LONGER, HEALTHIER LIFE

K. Kay Durairaj, M.D., FACS, Julie A. Kazaryan, Reda Mahmood

The human microbiome consists of all of the microorganisms that are naturally found on and within the human body. This includes bacteria, archaea, fungi, viruses, and their genes. Each body site has a diverse composition and community of microbes that support the specific function and health of that area, such as the digestion in the gut and protection of the skin and skin barrier. As this key barrier between the environment and the body, the microbiome plays a large role in human interactions with environmental stressors, immune responses, and even energy production.[1] When the microbial environment is disrupted, known as dysbiosis, these essential functions can be impaired, leading to inflammation, infections, and disease.

Dysbiosis has been identified as one of the hallmarks of aging, supporting the Microbiome Theory of Aging (MTA). This theory specifically proposes that the disruption of the gut microbiome is a primary cause of disease and accelerated aging. The gut microbiome has three key components which are the trillions of microorganisms, the epithelial cells of the GI tract, and the mucus layer that forms a protective barrier between the cells and microbiota. Postbiotics, which are the byproducts/metabolites that result from probiotics (live bacteria) fermenting prebiotics (non-digestible fibers that feed probiotics), have become a new focus in microbiome science, especially in the MTA. [2] One type of postbiotic metabolite, short-chain fatty acids (SCFAs), are proposed to have many health benefits such as lim-



iting glycemic response, and satiety, promoting weight loss, and improving intestinal health, and energy production.[3] In a 2023 study, SCFAs (50 mM acetate, butyrate, and propionate) were found to reduce inflamm-aging, oxidative stress, and metabolic alteration in old mice.[4] Inflammageing (or inflamm-aging) is the idea that older organisms tend to have high levels of pro-inflammatory markers, such as IL-1, IL-1 receptor antagonist protein, IL-6, IL-8, IL-13, IL-18, C-reactive protein, IFNα and IFNβ, transforming growth factor-β , tumour necrosis factor, and serum amyloid.[5] While inflammation is an essential response to infection, prolonged and chronic inflammation can be detrimental to health and is considered one of the 12 hallmarks of aging.[6] This chronic, age-related inflammatory state is also further fueled by the accumulation of senescent cells which, rather than being cleared by the immune system, secrete pro- inflammatory and pro-fibrotic factors due to age-related immune dysfunction.[6] These findings highlight the role of the gut microbiome in modulating systemic inflammation and healthy aging. Dysbiosis can exacerbate inflammaging by promoting gut permeability and triggering immune activation. Therefore, it is crucial to maintain a healthy and balanced microbiome to mitigate chronic inflammation and support healthy aging.

The gut microbiome plays a crucial role in maintaining skin health through the proposed gut-skin axis, especially skin concerns like atopic dermatitis, rosacea, acne vulgaris, and allergies.[7] Starting from the exit through the birth canal, humans acquire their initial microbial ecology from their mothers' microbiome. Following their birth, infants are exposed to environmental microbes, breastfeeding, and dietary changes that shape and diversify their microbiome. This is crucial for the development and maturation of the immune system. The gut-skin communication is facilitated through immune reactions between the microbiota and immune cells, especially

in the diverse gut. Therefore, proper immune system development sets the stage for future skin health. Commensal (non-harmful microorganisms) microbes influence the immune system by enhancing barrier immunity for the gut epithelial cells and the microorganism, preventing inflammation and dysbiosis. A mucosal layer serves as this barrier, and if the integrity of this mucosal barrier is disrupted, systemic and local inflammation can occur, which disrupts the skin barrier. To maintain integrity, the microbes of the gut need indigestible polysaccharides (prebiotics), which are converted to vitamins and SCFAs, which have anti-inflammatory effects, can limit the permeability of the barrier, and can strengthen the barrier. SCFAs also inflence the expression of Foxp3, which regulates the function of Tregs, in turn, improving T cell function. Tregs are a population of T-cells that inhibit inflammation and reduce auto-immune disease. Certain SCFAs can also influence specific skin microbial communities and can prevent the harmful growth of bacteria on the skin.[7]

Diet is one of the most important modulators of the microbiome, with specific dietary components having the ability to foster microbial diversity and support the growth of beneficial microorganisms.[8] High-fiber diets, particularly those rich in prebiotics such as fruits, vegetables, legumes, and whole grains, are well-documented for their ability to promote the growth of beneficial gut bacteria, including Bifidobacteria and Lactobacilli. These microbes, in turn, enhance gut health by producing SCFAs like butyrate, which exert anti-inflammatory effects, regulate immune function, and protect against gastrointestinal disorders.[9] Furthermore, fermented foods such as yogurt, kimchi, and kefir, which are rich in probiotics, help restore microbial balance.[10] Diets heavy in plant-based foods and low on highly processed foods with excessive sugar and fat are associated with a more diverse and stable microbi-

ome, which has been shown to reduce the risk of obesity, cardiovascular disease, and certain cancers,[11] all of which are linked to aging and reduced lifespan.

The bidirectional communication between the brain and the gut, known as the brain-gut axis, is evident in how psychological stress can alter the composition and function of the microbiome.[12] Chronic stress has been shown to disrupt gut microbiota composition, promoting the proliferation of pathogenic microorganisms and diminishing the abundance of beneficial species. Such microbial imbalances can trigger systemic inflammation, dysregulated immune responses, and alterations in metabolic processes, all of which contribute to the pathogenesis of various age-related diseases, including neurodegenerative conditions, metabolic disorders, and cardiovascular diseases.[13]

Furthermore, the gut microbiota itself has been implicated in modulating the brain's neurochemical pathways, suggesting that the state of the microbiome may influence mental health and cognitive aging. Strategies aimed at reducing stress, such as mindfulness meditation, cognitive behavioral therapy, and physical exercise, have been shown to not only reduce the impact of stress on the microbiome but also enhance microbial diversity and improve gut health.[14,15] By mitigating the harmful effects of chronic stress, these interventions can foster a more balanced microbiome and, in turn, promote both mental and physical health, ultimately enhancing longevity.[16]

The use of antibiotics and certain medications is another important factor in shaping the microbiome. While antibiotics are indispensable in treating bacterial infections, their overuse or misuse can lead to dysb iosis, characterized by an imbalance in the microbial community, and as previously mentioned, lead to aging. Broad-spectrum antibiotics, in particular, eradicate both pathogenic and commensal bacteria, disrupt microbial diversity, and promote the overgrowth of opportunistic pathogens.[17] Dysbiosis has been implicated in a range of chronic conditions, including inflammatory bowel diseases, obesity, and diabetes, all of which are associated with premature aging and reduced life expectancy. Similarly, long-term use of medications such as proton pump inhibitors (PPIs) and nonsteroidal anti-inflammatory drugs (NSAIDs) can also impair microbiome function by altering the gut environment and promoting microbial imbalances.[18] To reduce the negative impact of pharmacological interventions on the microbiome, it is essential to use antibiotics responsibly and explore alternative therapeutic options when possible.[19] The careful management of medication use, alongside probiotic supplementation in certain cases, can help preserve microbial diversity and reduce the risk of adverse health outcomes that could shorten lifespan.

Lifestyle Recommendations

There are various lifestyle changes that can be made to support a healthy microbiome for optimal longevity. Studies have clearly shown that diverse and balanced gut microbiotas are seen in healthy people with long lives whereas dysbiotic microbiotas are seen in elderly with other comorbidities.[20] One key aspect of achieving this is the consumption of dietary fiber in

sufficient amounts, to maintain the integrity of the mucus barrier and eliminate risks of infection. The level of processing is also something to consider, as processing can affect how the bacteria utilize the dietary fiber.[21] A high-fat diet has also been shown to impact microbiota, by reducing the diversity in rodents compared to a low-fat diet.[22]

Aside from diet, low vitamin D status in mice led to reduced diversity of microbiota. 10-20% of diet comes from vitamin D whereas 90% is made in the skin through ultraviolet B rays.[21] This is a lifestyle factor that can be modified to optimize longevity too, as low vitamin D aggravates the aging process in older people.[23]

Physical activity, environmental exposures, chronic stress, lack of sleep, and medication play a huge role, as discussed. To support a healthy microbiome and promote longevity, research-backed lifestyle strategies suggest including a fiber-rich, minimally processed diet, adequate vitamin D from sunlight and food, and regular physical activity. Managing stress, maintaining good sleep hygiene, and minimizing unnecessary medication use—especially antibiotics—also play key roles in preserving microbial diversity. Together, these habits create an internal environment that supports a healthy and diverse microbiome, immune balance, metabolic health, and healthy aging.

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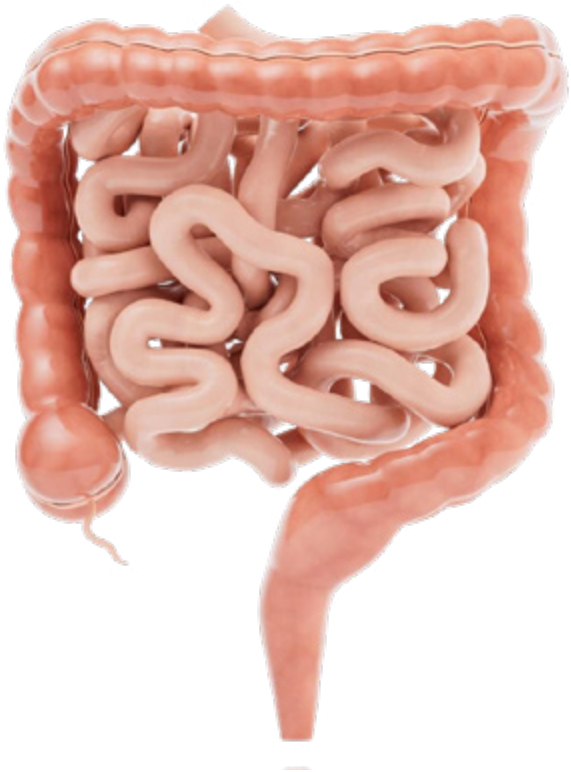
Dr. Kay Durairaj is an internationally renowned expert in facial plastic surgery and bioregenerative aesthetics. She specializes in nonsurgical rhinoplasty, collagen biostimulators, facial contouring, and advanced longevity therapies. Dr. Kay is the Vice Chair of Huntington Hospital Department of Head & Neck Surgery and the Chair of the Minimally Invasive Section of the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS) and serves on multiple scientific advisory boards. Dr. Kay holds extensive leadership roles, including Scientific Director for various global aesthetic conferences such as AMWC Monaco, Vegas Cosmetic Surgery, and The Aesthetics Show. Dr. Kay's contributions to aesthetic medicine include over 50 national and international presentations and lectures, as well as numerous published studies on biostimulators and non-invasive facial treatments. With a popular podcast, Beauty Bytes with Dr. Kay; Secrets of a Plastic Surgeon, and an extensive social media following, @beautybydrkay, Dr. Kay is not only a key opinion leader but also a mentor to the next generation of aesthetic experts. Her practice in Los Angeles, California, is known for its cutting-edge treatments such as her signature Tinkerbell Tip Lift Technique, PLLA facial and buttock augmentation, artificial intelligence for aesthetics and innovation in longevity.

Co-Authors: Reda Mahmood and Julie Kazaryan

BUILDING A RESILIENT GUT IN THE MODERN WORLD

Klaudia Balogh

Our ancestors would be shocked by our gut health today. Most of us don't only eat less variety of foods than our hunter-gatherer relatives ever did, but our environment has become a mismatch for healthy bacteria in our gut to thrive. It's not just what we eat, but what's been done to the food we eat that matters.



HOW MICROBIOME IMBALANCE IMPACTS HEALTH

When diversity is lost, Dr. Alessio Fasano, professor at Harvard Medical School and a leading expert in mucosal immunology, emphasizes that the 'bad' bacteria gain an advantage. "That's when we start to see chronic inflammation, metabolic issues, and even neurological diseases."

Dr. Fasano highlights that every bite of ultra-processed food sends signals to your gut that shift the balance in favor of harmful bacteria. Artificial preservatives, emulsifiers, and chemical additives disrupt the gut's protective mucus layer, increasing permeability and potentially leading to leaky gut.

The microbiome and leaky gut has a bi-directional relationship, Dr Fasano explains. "If you have a leaky gut, your microbiome goes off balance. If you have dysbiosis, this is the strongest stimulus to eventually have a loss of barrier function. We start to age and we start to die because our gut would not be able to maintain that barrier efficiently."

Accelerated aging yet becomes an unfortunate side effect. Researchers have established that dysbiosis, an imbalance in the gut microbiome when harmful bacteria outnumber the beneficial ones, is one of the 12 Hallmarks of Aging — key biological processes that drive aging and age-related diseases.

Every one of us has a unique ecosystem within us, so Dr. Fasano points out that while there's no such thing as a "normal" microbiome, the more diversity you have, the more resilient your health may

be. The reason lies in the intricate interaction between the 38 trillions of microorganisms and our 28,000 genes.

"There are infinite ways how these genes can be turned on and off and lead to a clinical outcome," Dr. Fasano says, adding "and who decides if, when, how, and why these genes are turned on and off seems to be the microbiome."

WHY DIVERSITY MATTERS

Much like any ecosystem, our microbiome's vitality depends on diversity to function optimally, Dr. Fasano explains. When that diversity is lost, the gut's ability to regulate inflammation, digest food properly, and support the immune system weakens.

"The more microbial species you have, the more checks and balances exist within your gut," he says, adding that "that's why a single strain of probiotic doesn't do as well as a consortium of many."

A diverse microbiome acts as a powerful defense system against harmful pathogens, offering protection that a single bacterial strain alone cannot provide. Research published in Science reveals that colonization resistance—the ability of the microbiome to block invading pathogens—is a collective function of microbial communities rather than the work of individual strains.

This is because diverse microbes compete for nutrients, creating an environment where harmful bacteria struggle to establish themselves. The more varied the microbiome, the greater the likelihood that beneficial strains will overlap in nutrient use with potential invaders, effectively outcompeting them.

Rather than relying on a single strain, optimizing microbiome diversity appears to be the most effective strategy for fortifying gut defenses and enhancing resilience against infections, inflammation or "inflamm-aging".

HOW TO BOOST DIVERSITY

Building a resilient gut in the modern world might seem harder than it's ever been, but it's not impossible. Even small dietary changes can have a profound impact, according to Dr Fasano.

When he moved from Italy to the U.S., he immediately felt the effects of compromised gut health. "I had to rebuild my gut health by establishing a similar lifestyle that I had in Italy," Dr. Fasano shares. The "effects" he's talking about are rooted in fundamental differences between the US and Europe. From agricultural practices to the abundance of ultra-processed foods, the US presents a unique challenge to gut health. Industrialized farming methods, widespread use of antibiotics in livestock, and the prevalence of highly processed foods have dramatically altered the American diet, often at the expense of microbial diversity.

Should we return to eating in a way our ancestors did? "Eat like your grandma" is a common saying thrown around in the biohacking world, and it does have some truth. However, we don't need to completely return to the past. But we do need to be mindful of how far we've strayed from what our microbiome was designed to thrive on.

A new study shed light on even more insights on what that looked like. Researchers uncovered starch granules on ancient stone tools, proving that humans 780,000 years ago actively processed plant-based foods like oak acorns, wheat, barley, legumes, and water plants.

This discovery challenges the idea that our ancestors thrived on animal protein alone. Instead, they relied on a diverse, plant-rich diet that likely played a big role in their survival and cognitive evolution.

Dr. Fasano agrees that diversity, not restriction, is the key to gut health. "Our ancestors didn't eat the same thing every day," he explains. "They consumed a variety of plant fibers, nuts, and tubers, which supported a highly diverse microbiome."

So, fast forward to today- how do you restore gut diversity and build resilience in the modern world?

Dr. Fasano says, "there is no single recipe to fit all lifestyles, but looking at how the ultra-centenarians thrive, there are four pillars that seem to be important to increase the resiliency of the ecosystem of the gut, and therefore helping us play our genetic cards the best way possible."

FOUR + ONE PILLARS OF GUT RESILIENCE

1. Eat a high variety of foods in the right proportions: Balance meat consumption with increased fiber intake from fruits, vegetables. Limit ultra-processed foods and refined sugars that fuel bad bacteria. Incorporate fermented foods like kimchi, yogurt, and sauerkraut for natural probiotics.

2. Move more: Studies suggest that exercise can enhance the number of beneficial microbial species, boost diversity, and improve the development of commensal bacteria. Even daily walks make a difference.

3. Prioritize sleep: Disrupting circadian rhythms studies have shown may alter gut bacteria, so build a habit of a consistent and healthy sleep routine.

4. Manage stress: Under conditions of psychological stress the brain stimulates the production of pro-inflammatory cytokines and the release of cortisol which have been shown to increase intestinal barrier dysfunction and alter gut microbiota in both animal and human models.

The power of community, Dr. Fasano adds as a plus one. Studies show that strong social connections influence not just mental well-being but gut health as well. Shared meals, in-person conversations, a sense of belonging and purpose all contribute to a healthier, more diverse microbiome. People who prioritize community tend to have lower levels of chronic stress, better digestion, and stronger immune function.

Why aren't supplements on that list? It's because everyone's microbiome is different and probiotics (the beneficial bacteria) must be compatible with the existing microbiome in order to be effective. Simply taking any probiotic strain isn't enough; it needs to work in harmony with your unique gut environment. If a probiotic isn't suited to your microbiome's needs, it won't provide the intended benefits, Dr. Fasano explains, adding "to be symbiotic, we have to be compatible."

IS THE FUTURE AI AND PERSONALIZED MICROBIOME MONITORING?

Dr. Fasano envisions a future where microbiome monitoring becomes as routine as blood tests, allowing individuals to track their gut health over time and intervene before disease takes hold. Our microbiome is constantly changing. It follows a circadian rhythm, adapts to diet and lifestyle, and shifts with age. Since there is no "normal" microbiome, the best way to understand gut health is by comparing it to your own past data.

AI-driven microbiome analysis could help pinpoint when and why health issues arise. If someone develops a disease, they could compare their current microbiome with a previous healthy state to identify what changed. For example, if beneficial bacteria like Lactobacillus and Bifidobacterium were once abundant but are now missing, AI models could flag this loss as a potential contributor to illness. With this information, interventions could be tailored to restore lost microbial diversity and increase overall gut resilience.

KLAUDIA BALOGH

Klaudia Balogh is an avid health and longevity writer on a mission to help people understand and optimize their lifespan and healthspan, one story at a time. She's been a biohacker since her teens as supplements, sauna bathing, and PEMF therapy were a staple of her world growing up. Klaudia's philosophy and approach to health is rooted in balance. She believes that you don't have to be a scientist, nutritionist, or personal trainer to know what it takes to lead a healthy lifestyle in the long run. Amidst an abundance of misinformation and confusion in the health industry, she helps you untangle the truth. That's why she advocates for curiosity and awareness, encouraging progress over perfection. Because no one should settle for feeling just "OK" or "fine" when they can feel "Damn Good." She has over 12 years of health journalism experience working in print, digital, and broadcast media in the U.S. and Europe.

www.biohackingboutique.com
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Challenge Yourself

Put Your Lifespanning Knowledge to the Test

How do bioelectrical signals contribute to the body's ability to heal and stay healthy?

a) Slow down cellular repair to conserve energy
b) Encourage cell communication and tissue repair
c) Reduce nerve activity to prevent muscle strain
d) Block hormone release to lower metabolism

How might excessive exposure to electromagnetic fields (EMFs) impact health and energy levels?

a) Enhance cognitive function by stimulating brain waves
b) Interfere with cellular communication and disrupt sleep
c) Strengthen immune responses to infections
d) Increase mitochondrial activity for faster healing

How does red light therapy, a popular wellness tool, improve cellular energy and potentially extend lifespan?

a) Speeds up the breakdown of ATP
b) Boosts mitochondrial function and reduces inflammation
c) Blocks UV rays to protect the skin
d) Increases stress hormones to promote healing

Why are supplements like NAD+ precursors important for energy and longevity?

a) Help mitochondria produce more ATP and repair DNA
b) Lower blood sugar levels by blocking insulin
c) Promote fat storage for energy reserves
d) Increase cortisol to manage stress

What is the proposed benefit of grounding (walking barefoot on natural surfaces) for energy regulation?

a) Increases muscle mass by stimulating nerve endings
b) Balances electrical charges in the body, reducing inflammation
c) Speeds up glucose absorption
d) Blocks electromagnetic waves from reaching the body

YOU ARE WHAT YOU EAT, DRINK, AND THINK

A HOLISTIC JOURNEY TO GUT HEALTH

Lauren Leiva

Gut health is often spoken of in the context of diets, probiotics, and fiber. However, my journey has shown me that it goes far beyond what we consume on our plates. It encompasses everything we ingest—what we drink, the environment we live in, and even the thoughts we nurture. As the Queen of Biohacking, I've dedicated my life to exploring these connections, blending ancient wisdom with cutting-edge technology to forge a path toward true healing. In this article, I share my personal journey from a childhood diagnosis of Crohn's disease to becoming a passionate advocate for holistic gut health, outlining the powerful synergy between the mind, body, and environment.

MY JOURNEY:

FROM CROHN'S DISEASE TO HOLISTIC HEALING

At the age of 13, I was diagnosed with Crohn's disease—a condition that would set the stage for a lifelong quest for healing. In the early days, my medical care focused predominantly on the physical manifestations of the disease. No one asked about the emotional toll or the stressors in my life, which I now recognize played a significant role in my overall health. I came to realize that treating gut issues isn't just about addressing inflammation or balancing bacteria—it's about nurturing the whole self.

The turning point came when I began to see that my gut was not just a digestive organ but a reflection of my entire life. It was then that I embraced the mantra: "You are what you eat, but you're also what you drink and what you think." This philosophy has since guided me through countless experiments, failures, and breakthroughs, shaping my journey from a patient to a speaker and biohacking advocate. I learned that our bodies are in constant dialogue with our environment and that healing must begin from the inside out.

THE POWER OF THE MIND:

HEALING STARTS WITH THOUGHT

It might sound cliche to say that "mind over matter," but my experience has shown it to be profoundly true. Our thoughts, emotions, and mindset influence every cell in our body—including those in our gut. Imagine taking a fish out of a fishbowl to heal it, only to return it to the same dirty water; without changing its environment, the fish will inevitably fall ill again. Our bodies are no different. Even when we have the best medical care available, if our mindset and environment remain toxic, true healing remains elusive.

I've seen firsthand how stress, negative thinking, and unresolved emotions can wreak havoc on digestion and overall health. Conversely, practices that nurture the mind—such as meditation, mindfulness, and intentional breathwork—can have transformative effects on gut health. Through years of trial and error, I discovered that a calm, focused mind not only reduces stress but also optimizes the function of our digestive system. It's this realization that led me to explore techniques that harmonize the mental and physical aspects of healing.

BREATHWORK:

AWAKENING THE DIAPHRAGM AND BEYOND

One of the first and most effective practices I embraced was breathwork. Many people are unaware that the diaphragm is the main muscle of breathing—a powerful force that does much more than merely pull air into our lungs. When we engage in deep, intentional breathing, the diaphragm moves fully and massages our intestines and other vital organs. This natural "internal massage" helps stimulate digestion, reduce stress, and promote the flow of energy throughout the body.

Deep breathing and breathwork can be transformative. With every conscious inhale and exhale, we activate our parasympathetic nervous system, calming our bodies and reducing the harmful effects of stress. Over time, this practice has not only supported my gut health but also enhanced my overall well-being. By coupling breathwork with yoga, I've learned to withdraw from the external chaos and bring awareness inward, setting the stage for a more balanced and resilient body.

YOGA AND MEDITATION:

THE MIND-BODY CONNECTION

Complementing breathwork, yoga and meditation have been essential pillars in my journey toward gut health. Yoga helps bridge the gap between the physical and mental realms. As I moved through various poses, I became increasingly aware of how my body stored tension—especially in the abdomen and lower back, areas crucial to digestion. Yoga isn't just exercise; it's a meditative practice that brings attention to every part of the body, encouraging release and renewal.

Meditation, on the other hand, offers a quiet space for reflection and mindfulness. In moments of stillness, I learned to observe my thoughts and emotions without judgment. This practice not only calms the mind but also sends positive signals to the body. The mind and gut are intricately linked through the gut-brain axis, and by nurturing mental clarity, I found that I could positively influence my digestive system.

Together, these practices helped me understand that healing is a continuous process. It is not a destination but a journey—a delicate balance of care for the mind, body, and spirit.

1. Breathwork Techniques

• Diaphragmatic Breathing: This technique involves breathing deeply into your diaphragm rather than your chest. Sit or lie down comfortably, place one hand on your chest and the other on your belly. Inhale deeply through your nose, allowing your belly to rise while keeping your chest relatively still. Exhale slowly through your mouth. Repeat for 5-10 minutes daily to reduce stress and promote relaxation.

• 4-7-8 Breathing: This technique helps to reset your nervous system. Inhale quietly through your nose for a count of 4, hold your breath for a count of 7, and exhale completely through your mouth for a count of 8. Repeat this cycle four times. This method calms the mind and aids digestion by reducing stress.

2. Mindfulness Practices

• Incorporating mindfulness into your daily routine can significantly improve your gut health. Practicing mindfulness involves being fully present in the moment, which can affect how your body processes food. Start with 5-10 minutes of meditation, focusing on your breath or a mantra. Gradually increase the duration as you become more comfortable.

3. Yoga Poses for Mental Clarity

• Sukhasana (Easy Pose): Sit cross-legged with a straight spine. Close your eyes and focus on your breath. This pose encourages a meditative state, helping to calm the mind.

• Balasana (Child's Pose): Kneel on the floor, sit back on your heels, and stretch your arms forward while resting your forehead on the ground. This pose promotes relaxation and introspection.

4. Yoga Poses for Physical Health

• Adho Mukha Svanasana (Downward-Facing Dog): This pose stretches the entire body and can help relieve tension in the digestive tract. Start on all fours, then lift your hips and straighten your legs, forming an inverted V shape. Hold for several breaths.

• Setu Bandhasana (Bridge Pose): Lie on your back with your knees bent and feet flat on the ground. Raise your hips while keeping your shoulders and head on the floor. This pose stimulates the abdominal organs and improves circulation.

5. Importance of Movement

• Regular physical activity can significantly impact gut health. Aim for at least 30 minutes of moderate exercise daily, such as walking, cycling, or swimming. Movement encourages digestion and helps prevent constipation.

EMBRACING CUTTING-EDGE TECHNOLOGY

My journey into biohacking didn't stop at traditional practices. I was introduced to cutting-edge technology that further revolutionized my healing process. Before discovering tools like the NuBe machine from NuFit and BrainTap, I relied solely on breathwork, yoga, and natural therapies. However, my search for deeper healing led me to explore innovative solutions that could complement and enhance my body's innate ability to recover.

The Neubie machine, for example, uses electrical stimulation to activate muscles that had become dormant due to chronic illness. This technology helped me reconnect with parts of my body that I thought were lost. It was like jump-starting a car that had been sitting idle for too long. Similarly, BrainTap provided a way to reset and reprogram my mind. This technology played a significant role in healing my brain, reinforcing the idea that mental clarity is a cornerstone of overall health.

Integrating these advanced technologies into my routine did not replace traditional methods but rather enriched my approach. They provided additional layers of support that, when combined with breathwork, yoga, and meditation, resulted in a more comprehensive, multi-dimensional healing strategy.

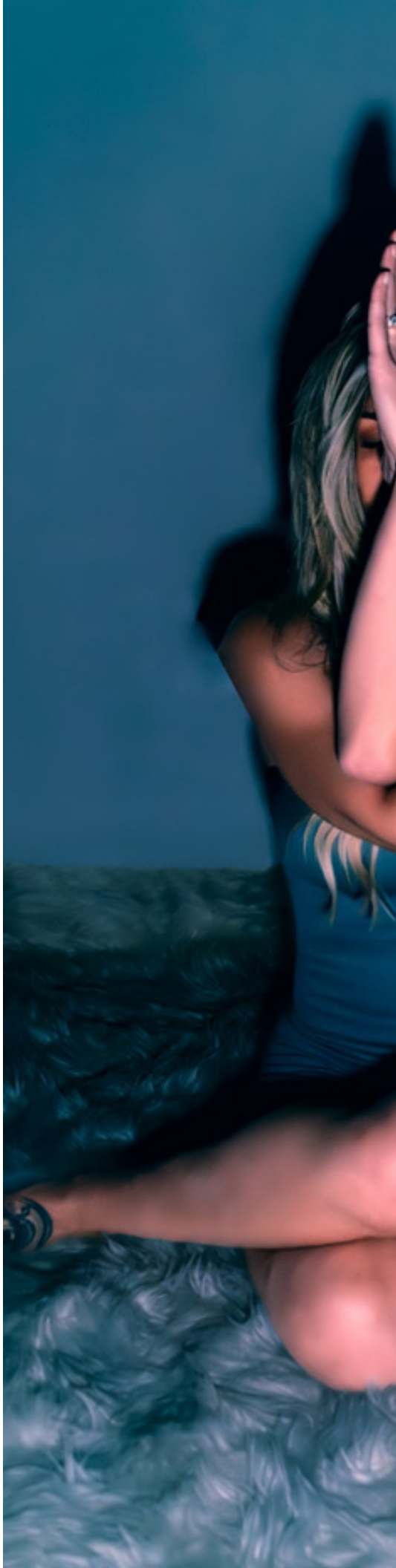
EXPLORING OTHER BIOHACKS

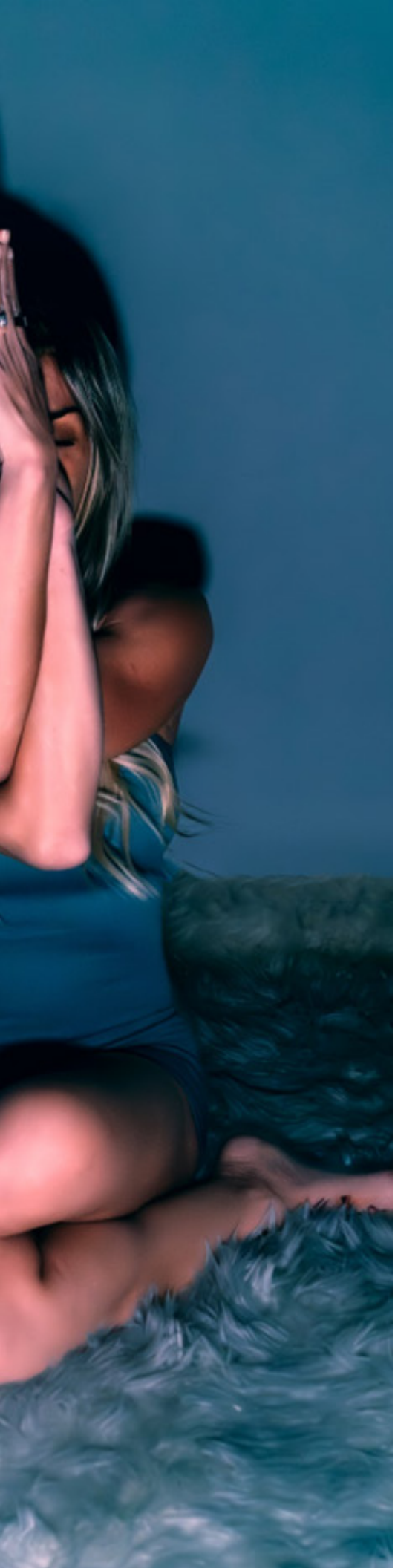
A MULTIFACETED APPROACH

In addition to breathwork and cutting-edge technology, I've explored a range of biohacking strategies that have had a profound impact on my gut health. Over the years, I've incorporated IV therapy, supplementation, hyperbaric oxygen therapy, and even oxygen and ozone therapy into my routine. Each of these modalities has contributed to my healing in unique ways.

- IV Therapy and Supplementation: IV therapy offers a direct and efficient way to replenish essential nutrients and hydration. Coupled with targeted supplementation, it supports the body's natural detoxification processes and helps rebuild a robust immune system.
- Hyperbaric Oxygen Therapy: This therapy involves breathing pure oxygen in a pressurized chamber, which can significantly enhance oxygen delivery to tissues. It's a powerful tool for reducing inflammation and promoting healing at a cellular level.
- Oxygen and Ozone Therapy: While often misunderstood, these therapies work by optimizing the body's oxygen utilization and providing an antimicrobial effect that can help balance the gut microbiome.

Each of these interventions, when integrated into a holistic health regimen, contributes to a healthier gut environment. They work synergistically with traditional practices like diet, breathwork, and bodywork to create an all-encompassing approach to wellness.





THE ESSENTIAL ROLE OF RED LIGHT, HEAT, AND BODYWORK

One of the most overlooked aspects of gut health is the physical state of our bodies—especially after enduring multiple surgeries and chronic illness. I have undergone several procedures, including the placement of a colostomy bag, surgical resections of my intestines, an appendectomy, a C-section, and numerous other surgeries. These interventions, while necessary, left me with a significant amount of scar tissue and tension in my body.

For me, red light therapy, heat therapy, and dedicated bodywork have been game-changers. Let's break these down:

• Red Light Therapy: This form of therapy uses specific wavelengths of light to penetrate deep into the tissues, promoting cellular regeneration and reducing inflammation. It has been instrumental in healing scar tissue and improving circulation.

• Heat Therapy: Applying heat can relax muscles, improve blood flow, and reduce stiffness. It's a simple yet powerful way to relieve the tension that builds up in our bodies over time.i couldn't do without my sauna!

• Bodywork: Whether it's through fascia release, joint mobilization, dry needling, or targeted massage techniques, bodywork is essential. It not only helps release physical tension but also addresses the emotional and energetic blockages that can accumulate in our tissues. As a master body worker, I've seen firsthand how releasing the physical body can lead to profound healing on multiple levels.

These modalities remind us that while we are spiritual beings, we inhabit a physical body that deserves care and attention. By nurturing our physical form, we support the other aspects of our health—our mind and our spirit.

THE NEVER-ENDING JOURNEY

CONSISTENCY AND DAILY PRACTICE

One question I often hear is, "How long did it take you to get to where you are?" The truth is, my journey is never really over. Healing is a continuous process, and every day presents an opportunity to improve. I've learned that if I were to stop my daily practices—whether it's red light, heat, bodywork, yoga, or meditation—my body would quickly begin to feel the effects. Tension would build, pain would return, and my overall well-being would suffer.

For me, maintaining these practices is non-negotiable. They are not just routines; they are pillars of my existence that support every aspect of my life—my health, my career, my relationships, and my roles as a mother, wife, and business owner. The discipline of daily care ensures that I can be the best version of myself and lead by example for those around me.

LEADING BY EXAMPLE

LEADING BY EXAMPLE

The impact of our lifestyle choices extends beyond our individual health—it affects those we love most. I firmly believe in leading by example rather than imposing my choices on others. In my home, I control what comes in, and that means I choose to limit unhealthy foods and always opt for nutrient-dense, wholesome options. When my family travels, I make sure to pack healthy meals and snacks—protein bars, beef jerky, and fresh fruit—so that even when dining out isn't ideal, we have the tools we need to stay nourished.

For instance, my 17-year-old has joined me in meal prepping, and it's been incredible to see him not only enjoy the process but also to start preferring home-cooked meals over restaurant fare. I've noticed that when both my children, opt for a healthier choices, they feel better—an experience that reinforces the lesson that good choices lead to good outcomes. And when mistakes are made, they become opportunities for learning. I offer them resources—videos, books, and open conversations—to help them understand why each decision matters.

Leading with light and love, I strive to create an environment where healthy living is the norm. I encourage my family to ask questions and make their own choices. Whether it's through a direct conversation, a shared meal, or digital resources on my website,, I'm always there to guide and support them. It's a continuous, evolving process, one that not only improves gut health but also enriches our lives in countless ways.

SHARING THE JOURNEY

A NEVER-ENDING PROCESS

In today's digital world, sharing knowledge and experiences is essential for collective healing. I have embraced digital media as a platform for education and inspiration. My YouTube channel has tips on practical tools and personal insights—from my most viewed video on "How to Poop" (yes, you read that right!) to detailed tutorials on breathwork, yoga, and biohacking techniques. This channel serves as an open invitation to anyone who feels stuck or overwhelmed by their gut health challenges.

EMBRACING THE JOURNEY

A NEVER-ENDING PROCESS

The journey is never over; rather, it is a continuous commitment to self-care and growth. If I were to stop practicing breathwork, yoga, or bodywork—even for a short period—the cumulative effect would be a build-up of tension and stress. The physical body, scarred by past surgeries and stress, needs consistent care to remain flexible and pain-free. Similarly, if I were to let go of mindfulness practices, I know my mental health would suffer, which in turn would affect every aspect of my life, including my roles as a mother, a

es I embrace are not just a means to an end but a way of living—one that balances the physical, mental, and emotional facets of existence. They allow me to lead by example, inspiring others to take charge of their health while understanding that every setback is simply an invitation to grow stronger.

DR. LAUREN LEIVA

@theexersciencecenter

Dr. Lauren Leiva, DPT, seamlessly integrates ancient divine wisdom with the forefront of modern medicine and Biohacking techniques. Her holistic approach transcends conventional boundaries, weaving together the realms of mind, body, spirit, and heart. As a practitioner, Dr. Leiva attunes herself to the unique needs of each patient, addressing both tangible and intangible forces influencing the human anatomy.

Her innovative fusion of physical therapy with an understanding of energetic dynamics has proven instrumental in caring for a diverse range of patients, from local families to elite NFL players in Tampa, FL. Dr. Leiva's nurturing capacity extends beyond her professional roles, as she embraces the titles of mother, wife, daughter, sister, yogi, and Doctor of Physical Therapy.

Her journey from a hospital bed to a successful practitioner is a testament to resilience and determination. At the Exerscience Center in Tampa, Florida, Dr. Leiva provides compassionate care, meeting every patient's needs with understanding and compassion.

Dr. Leiva's life and clinical work serve as an inspiration and beacon of hope for those seeking holistic well-being. She is also a captivating speaker, with multiple engaging topics to share. Recently, she was filmed for the Biohack Yourself Documentary, further showcasing her expertise and passion for Biohacking.

ALCOHOL AND GUT HEALTH

EXPLORING THE IMPACT AND EMBRACING HEALTHIER ALTERNATIVES

Susie Perry

BY SUSIE PERRY (FOOD SCIENTIST AND NUTRITIONIST)

In recent years, American drinking culture has undergone a noticeable shift, with a growing number of people becoming curious about embracing a sober lifestyle. Interestingly, this change is being driven largely by younger generations. Between 2001 and 2023, the percentage of adults under 35 who drink alcohol dropped from 72% to 62%, signaling a significant cultural shift (1).

Financial considerations are also influencing this trend. Over half of Americans have expressed plans to drink less in 2025 to save money, while one in five view alcohol as a habit they can no longer afford (2). But beyond financial factors, health concerns are playing an increasingly pivotal role (3). Recent studies have revealed that even moderate drinking is linked to an increased risk of eight types of cancer (4). These sobering facts have led many to question whether alcohol's golden era has come to an end.

This evolving perspective highlights the importance of understanding alcohol's broader impact on health, particularly its effects on gut health. It also emphasizes the value of exploring healthier, more mindful alternatives that allow for social engagement without compromising wellbeing.

HOW ALCOHOL IMPACTS THE GUT

Alcohol's interaction with the digestive system is complex, influencing various aspects of gut health and potentially leading to both immediate discomfort and long-term health issues.

Delicate Landscape

The lining of the stomach and intestines is an intricate and delicate landscape, composed of specialized mucosal tissue. This surface is fringed with microscopic projections of epithelial cells, intricately folded to maximize surface area—expanding it to roughly the size of a tennis court. This expansive design is crucial for efficient nutrient absorption, supported by a rich network of blood vessels that swiftly transport nutrients into circulation.

To protect this delicate tissue, the gut is coated with a layer of mucus, acting as a vital shield. This barrier defends against the harsh environment of the digestive tract, including corrosive stomach acid, digestive enzymes, bile salts, mechanical friction, and toxic by-products of digestion. When this protective layer is compromised, the gut lining becomes vulnerable to irritation, inflammation, and damage—highlighting the importance of maintaining its integrity for optimal digestive health.

Gut Reaction

Alcohol is no ally to your intestinal mucosa. Even in the absence of food, alcohol stimulates the production of stomach acid, creating an overly acidic environment. This excess acidity can erode the protective stomach lining, leading to discomfort and triggering symptoms like bloating, stomach pain, and indigestion. For those already prone to digestive issues—such as acid reflux, ulcers, or a sensitive stomach—alcohol can significantly exacerbate these conditions. Repeated exposure can further compromise the mucosal barrier, increasing vulnerability to irritation, inflammation, and long-term digestive distress.

Leaky Gut

Within the intestines, the mucosal lining is designed to act as a protective barrier, with tight junctions between epithelial cells preventing harmful substances from entering the bloodstream. However, alcohol can compromise these tight junctions, weakening the integrity of this barrier. Over time, what was once a sealed, secure lining can develop microscopic holes and perforations—a condition known as leaky gut or increased intestinal permeability.

As these openings enlarge, undigested food particles, microbes, and toxins—substances that would normally be confined to the digestive tract—can pass into the bloodstream. This breach triggers immune system activation, leading to

systemic inflammation, food intolerances, and a cascade of potential health issues ranging from digestive discomfort to autoimmune reactions.

Healing and restoring the gut barrier is crucial. Supplementing with L-glutamine, an amino acid that serves as fuel for intestinal cells, and zinc carnosine, known for its gut-repairing properties, can help reseal and strengthen the tight junctions. Additionally, soothing botanicals like slippery elm and marshmallow root provide a protective, mucilaginous layer that calms irritation and supports the rebuilding of gut wall integrity. Consistent use of these nutrients, alongside a gut-friendly diet, can be instrumental in repairing and maintaining a healthy intestinal barrier.

Fueling the flames

Keep drinking alcohol and you'll be fanning the flames of inflammation and perpetuating the cycle of leaky gut, systemic inflammation and the influx of more toxins for your liver to handle. Fatigue, headaches, joint pains, brain fog, low mood, apathy, skin redness and generally feeling under par are all signs that your inflammatory responses are on high alert.

Cutting out alcohol, sugar, salt, saturated fat, coffee, chilli (don't worry it's temporary!) helps your body get the inflammatory response in check. Supplementing with liver support (milk thistle) and antioxidants (curcumin, flavonoids and vitamin C), and eventually fish oils, act as a fire blanket to effectively put out the flames.

The gut microbiome is a dynamic ecosystem of trillions of microorganisms residing in the mucus layer that lines the small and large intestines. This diverse community plays a vital role in digestion, immune function, nutrient absorption, and overall health. However, alcohol can significantly disrupt this delicate balance, leading to dysbiosis—an imbalance between beneficial and harmful bacteria. Dysbiosis has been linked to a range of health conditions, including metabolic dysfunction, skin disorders, food allergies, and more.

Common symptoms of gut dysbiosis include bloating, excessive gas, and irregular bowel movements. Fortunately, there are effective strategies to support and restore your gut microbiome. Reducing alcohol and sugar intake, while increasing soluble fiber from foods like oats, flaxseeds, and legumes, provides nourishment for beneficial bacteria. Supplementing with a broad-spectrum antimicrobial can help reduce the overgrowth of harmful bacteria, while aloe vera supports the replenishment of the gut's mucus barrier. Finally, incorporating high-quality probiotics helps to repopulate the gut with friendly bacteria, encouraging a healthier, more balanced microbiome.

ALCOHOL ALTERNATIVES

Cutting back on alcohol isn't always easy, especially when it feels like the key to relaxation and sociability. In moments when socializing feels daunting or outside your comfort zone, reaching for a drink can seem like an easy solution. And when work, lifestyle, or relationships bring added stress, the ritual of unwinding with a sundowner can feel almost essential, so finding a healthy and enjoyable alternative is top of your priority list.

The rise of the sober-curious movement has ushered in an exciting wave of alcohol-free creations—a true delight for biohackers, whether you're navigating gut health concerns or simply seeking smarter, healthier choices.

1. Mocktails

Non-alcoholic cocktails, or mocktails, offer the ritualistic and flavorful aspects of traditional cocktails without the alcohol. However, many mocktails are high in sugar, which can negatively impact gut health by promoting the growth of harmful bacteria and contributing to inflammation. Always opt for mocktails made with natural, low-sugar ingredients.

2. Energy Drinks

While energy drinks provide a boost in alertness, they often contain high levels of caffeine and synthetic additives. Excessive caffeine intake can lead to increased heart rate, anxiety, and digestive disturbances. Moreover, artificial ingredients may not align with biohacking principles that emphasize natural and holistic approaches to health.

3. Sugary Sodas

Regular sodas are typically laden with sugars and artificial additives, which can disrupt gut microbiota and contribute to metabolic issues. Even diet sodas, though low in calories, contain artificial sweeteners that may negatively affect gut bac-

teria. Therefore, sodas are not the most gut-friendly alternative.

4. Functional Beverages

Functional beverages crafted with natural ingredients are designed to support neurotransmitter pathways, promoting relaxation, sociability, and an elevated mood, delivering a similar feel-good effect to alcohol, but without the unwanted side effects. These are a win for gut health and biohaking. When choosing an effective functional beverage several powerful ingredients stand out.

- 5-Hydroxytryptophan (5-HTP) - a naturally occurring amino acid and a direct precursor to serotonin, the neurotransmitter responsible for feelings of happiness, relaxation, and emotional balance. By increasing serotonin levels in the brain, 5-HTP can help alleviate symptoms of depression, anxiety, and mood swings. It's also known for promoting restful sleep and enhancing mood stability, making it an excellent choice for supporting emotional wellbeing, particularly in social situations.

- Gamma-Aminobutyric Acid (GABA) - the brain's primary inhibitory neurotransmitter, playing a crucial role in reducing neuronal excitability and promoting relaxation. Often referred to as the brain's natural "calm-down" signal, GABA helps to ease nervous tension and stress, making it perfect for enhancing relaxation and adding a natural "chill factor" to your evening. GABA can encourage a more tranquil, composed state of mind.

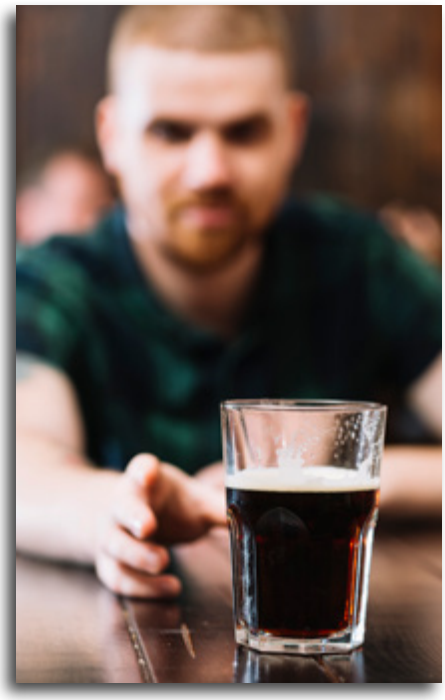
- Mucuna Pruriens - also known as velvet bean, Mucuna Pruriens is a potent natural source of L-DOPA, a direct precursor to dopamine,

the neurotransmitter responsible for motivation, pleasure, and reward. Dopamine plays a critical role in mood regulation, focus, and the experience of joy, making it ideal for promoting positivity in social settings.

- Cognizin™ - a patented form of citicoline, known for its ability to enhance cognitive function, improve focus, and boost mental energy. It supports the production of key neurotransmitters, including acetylcholine, which is essential for memory and learning. Cognizin™ is also a powerful addition for those looking to maintain mental clarity, sharpness, and energy—without the crash often associated with stimulants.

- Magtein™ - a unique form of magnesium L-threonate, scientifically proven to cross the blood-brain barrier and directly influence cognitive function and mental wellbeing. Magtein™ supports memory, enhances learning, and promotes relaxation and is particularly effective for reducing stress and anxiety while encouraging a calm, positive mindset.

- Kava - traditionally used in Pacific Island cultures for its calming and mood-enhancing properties. Kava contains active compounds called



kavalactones, which interact with the brain's GABA receptors to promote relaxation, reduce anxiety, and ease tension, without impairing cognitive function. It's often used as a natural alternative for reducing social anxiety and encouraging feelings of tranquility.

The bottom line

These sophisticated, zero proof elixirs, allow you to enjoy vibrant social experiences, whether out with friends or relaxing at home, without compromising your gut health or biohacking principles. It's a smarter, more conscious way to stay connected, feel good, and support your well-being—one sip at a time.

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SUSIE PERRY

Susie Perry is a Food Scientist and Nutritionist with 30 years of experience formulating dietary supplements for innovative wellness brands. After two years of research and development Susie and Philip Gladman (founder) launched Do'Mo (Don't Miss Out), a healthy alcohol alternative, in New York in 2024.

At the heart of Do'Mo's Zero Proof Elixirs is a proprietary blend of 17 functional science-backed ingredients including nootropics, amino acids, botanical extracts, and cofactor nutrients designed to fuel your feelings by supporting neurotransmitter pathways (GABA, dopamine, and serotonin), uplifting your energy and enhancing your mood.

Available in three delicious flavors - Ginger Miso Mule, Scrumptious Berry Bramble and Spicy Watermelon Margarita - with just 35 calories, no added sugar, no caffeine, and made from natural ingredients. Philip and Susie are on a mission to help Americans cut back on alcohol by offering a new, entirely natural fun way to socialize, with all of the buzz and none of the downsides.

Whatever your reason for stepping back from alcohol, Do'Mo is designed to build a bridge between the different social vibes so you can stay connected to your tribe and join the fun and adventures, while remaining sober. No junk, no jitters, just clean fun!

www.drink-domo.com
@drinkdomo

BPC-157

MY SECRET WEAPON FOR GUT HEALING

Valérie Orsoni

The gut is at the core of health and longevity. From digestion to immunity and even brain function, a healthy gut is essential for optimal well-being.

However, modern diets, chronic stress, environmental toxins, and overuse of medications like NSAIDs and antibiotics have led to a surge in gut-related disorders. I had been suffering from IBS (an umbrella term used by so many doctors around the world when they don't know how to diagnose a gut issue) since I was a kid. Tried everything under the sun. To no avail.

Enter BPC-157, a peptide that has captured the attention of biohackers, of myself and of researchers for its powerful regenerative properties—especially for healing the gut.

WHAT IS BPC-157?

BPC-157 (Body Protection Compound-157) is a synthetic peptide derived from a protein found in human gastric juice. It consists of 15 amino acids and has been extensively studied for its gut-healing, anti-inflammatory, and tissue-regenerating properties.

Unlike many pharmaceutical interventions, BPC-157 does not just mask symptoms—it actively supports the body's natural repair mechanisms at the cellular level.

HOW DOES BPC-157 WORK?

BPC-157 exerts its healing effects by:

- **Promoting Angiogenesis:** It stimulates new blood vessel formation, which accelerates healing and tissue regeneration.
- **Enhancing Cell Survival & Migration:** It boosts the movement and survival of cells crucial for tissue repair.
- **Regulating Nitric Oxide (NO) Production:** This improves blood flow and reduces inflammation in damaged tissues.
- **Protecting Against NSAID-Induced Damage:** It has been shown to counteract gut lining damage caused by non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen.
- **Increasing Growth Factor Activity:** It upregulates VEGF (vascular endothelial growth factor) and other regenerative factors that accelerate healing.
- **Modulating the Gut-Brain Axis:** It supports gut health while also reducing neuroinflammation, impacting mood and cognition.

BPC-157 AND GUT HEALING

The most impressive aspect of BPC-157 is its potent ability to repair the digestive system. Clinical and animal studies show remarkable results for various gut conditions.

1. Healing Intestinal Ulcers & Leaky Gut

Gastric ulcers: BPC-157 has been shown to heal gastric ulcers faster than conventional treatments. A study published in Current Pharmaceutical Design (2018) demonstrated that BPC-157 accelerated the healing of gastric lesions caused by NSAIDs.

Leaky Gut Syndrome: BPC-157 strengthens the intestinal barrier, preventing toxins and undigested food particles from leaking into the bloodstream. This reduces inflammation, food sensitivities, and autoimmune reactions.

H. pylori Infections: Research suggests that BPC-157 can reduce damage from Helicobacter pylori, a bacteria linked to ulcers and stomach cancer.

How it works: BPC-157 boosts the production of protective mucus, enhances epithelial regeneration, and improves gut microbiota balance.

2. Inflammatory Bowel Disease (IBD) & IBS Relief

Crohn's Disease & Ulcerative Colitis: Studies show that BPC-157 significantly reduces inflammation, speeds up intestinal healing, and improves symptoms in experimental models of IBD.

Irritable Bowel Syndrome (IBS): BPC-157 regulates gut motility, alleviating symptoms like bloating, diarrhea, and constipation. As far as I am concerned, my IBS has shrunk to almost nothing since I started injecting 1mg of BPC157 per day.

Key study: World Journal of Gastroenterology (2020) reported that BPC-157 reduced colitis-induced damage and improved intestinal integrity in rodent models.

3. Protecting Against NSAID-Induced Damage

NSAIDs like ibuprofen and aspirin are notorious for damaging the stomach lining and intestines. BPC-157 acts as a natural buffer, preventing and reversing NSAID-induced damage.

A 2016 study in Journal of Physiology and Pharmacology found that BPC-157 completely counteracted gastric and intestinal lesions caused by NSAIDs in animal models.

4. Enhancing Gut-Brain Health

The gut and brain are deeply interconnected. BPC-157 positively influences the gut-brain axis, reducing symptoms of:

Anxiety & Depression (linked to gut inflammation)

Neuroinflammation (protects against brain fog and cognitive decline)

Autonomic Nervous System Dysregulation (stabilizes the vagus nerve)

A Neuroscience Research (2021) study found that BPC-157 had neuroprotective properties, reducing brain inflammation and improving cognitive function.

HOW TO USE BPC-157 FOR GUT HEALING

Dosage: Most studies use 250-500 mcg per day (subcutaneous injection or oral form). I use more, 1 mg per day.

Administration:

• **Oral BPC-157** is effective for gut healing (capsules or liquid). But not for a systemic approach.

• **Subcutaneous injections** (under the skin) may provide systemic benefits.

Biohacker Tips:

- Take BPC-157 on an empty stomach for better absorption.

- Combine with collagen, L-glutamine, and probiotics for gut restoration.

- Cycle usage (e.g., 4-6 weeks on, 2-4 weeks off).

Is BPC-157 Safe? Any Side Effects?

BPC-157 has shown very low toxicity (close to none) in studies, even at high doses.

Possible Side Effects:

• Mild nausea in some users

• Temporary dizziness

• Increased hunger (due to its gut-healing effects)

Important Note: BPC-157 is not yet FDA-approved, and while studies are promising, human clinical trials are still ongoing. Always consult a knowledgeable health professional before use.

Final Thoughts: The Ultimate Gut Healer?

BPC-157 stands out as one of the most powerful biohacks for gut repair. It:

- Accelerates healing of ulcers & leaky gut

- Reduces inflammation in IBD & IBS

- Protects against NSAID damage

- Balances the gut-brain axis

- Boosts overall digestive health

For those struggling with chronic gut issues (like I was), BPC-157 is a promising option—offering regeneration rather than symptom suppression. And that's what biohacking is truly about!

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VALÉRIE ORSONI

@valerieorsoni and @liliwarrioroff

Valérie Orsoni has been a biohacker since 1998, living the talk and walking the walk long before the term existed (peptides, red light therapy, cold plunges and more? She has been doing it for over 25 years).

An avid explorer and mountain climber, she has conquered over 40 peaks above 15,000 ft in the past seven years and skied to the South Pole.

As a successful entrepreneur, she founded LiliWarrior, a 100% inclusive and sustainable athleisure brand, celebrated in Vogue as a favorite green sports brand among celebrities.

Valérie is the prolific author of 55 books, translated into five languages, and a best-seller in the USA, UK, Italy, France, Portugal, and Serbia.

In 2023, she was inducted into the Hall of Fame at her alma mater, the University of Hartford.

You can follow her on instagram

@valerieorsoni and
@liliwarrioroff

HOW MICROBES, MOOD, AND METABOLISM SHAPE MENTAL HEALTH

Daniella Weckering

As someone raised with the importance of positivity, diet, and exercise, I've always viewed health as holistic. It's only as I've gotten older and engaged with those outside my sphere that I've realized how many people still don't grasp the undeniable connection between mental and physical health. In fact many articles educating the public on this matter start with a version of "the surprising connection between mental and physical health." Is it really that surprising? Thankfully, social media is helping to spread this message, with influencers and educators highlighting the importance of lifestyle on overall well-being (though, admittedly, sometimes with a bit of exaggeration).

In a world filled with buzzwords like "Cortisol Face" and the "Carnivore Diet," social media is fueling a crucial realization: the body is a holistic system, not just a collection of disconnected parts. This growing awareness is encouraging a shift towards both systemic and targeted approaches to health optimization - aka biohacking.

This interconnected view of health is gaining widespread acceptance, especially when you consider how far we've come in understanding complex conditions. Alzheimer's disease, once thought to be localized to the brain, is now recognized as a multifactorial disorder, influenced by metabolic dysfunction, inflammation, vascular health, and the gut-brain axis. The link between Alzheimer's and conditions like diabetes, heart disease, and obesity has also led to Alzheimer's being referred to as "Type 3 Diabetes," emphasizing how the body's overall metabolism plays a role in disease development.

This shift in understanding is not just a trend on social media; it's a growing acknowledgment in the medical community of how our body's systems are intricately connected. And the most meaningful outcome of this growing research is the gut-brain axis, which can be defined as the bidirectional communication network between the gastrointestinal (GI) system and the central nervous system (CNS). Though not a new concept –even Charles Darwin recognized the importance of the interaction between diet, digestion, and behavior– this field of research is currently booming.

A key review published in 2012 coined a memorable phrase to emphasize the gut's influence on an often overlooked aspect of health—behavior: Mind-altering microorganisms. At the time it was published, this review shed light on the significant role gut microbes play in shaping brain function and behavior; which indirectly underscores the influence of diet on mood and behavior. With that in mind, let's explore how far the gut-brain axis can reach. Research shows this connection plays a surprising role in the development of mental health conditions, especially depression. The connection between gut health and mental health is a topic that has gained considerable attention in recent years, and understanding it could revolutionize how we approach treating depression and other psychiatric disorders.

WHAT DO WE KNOW?

Despite the prevalence of Depression, affecting approximately 322 million people worldwide, the mechanisms of related mental health issues are elusive and relatively poorly understood, though more research is coming out to illuminate the complex processes that influence these conditions. Similarly, the gut microbiome, despite its current popularity, is relatively fresh, with estimations of 50-70% of the microbiome remaining uncultivated.

Before the review in 2012 highlighted the role of stress response and the gut, most research focused on the gut-brain axis's impact on digestive function and satiety. This pivotal paper revealed the gut microbiota's crucial role in neurotransmitter production, showing that the gut is involved in producing several neurotransmitters essential for mood regulation and behavior, including serotonin, gamma-aminobutyric acid (GABA), and dopamine. The majority of serotonin is actually produced in the gut, a tidbit that's made its rounds on social media. Lower levels of GABA are now known to be linked to depression and mood disorders. And dopamine, recently popularized through Dr. Huberman and the like, plays a key role in motivation and reward processes.

We've all heard about stress and chronic inflammation, and how these factors contribute to dysbiosis, or an imbalance in the gut microbiome. The bidirectional relationship between the gut and brain—where each influences the other—is a crucial piece in understanding how the microbiota may impact mental health conditions such as generalized anxiety disorder and major depressive disorder. "Germ-free" mouse models (raised without gut bacteria) show abnormal stress responses and cognitive deficits, but introducing healthy microbiota can reverse these effects, highlighting the potential for therapeutics like probiotics and synbiotics to alleviate depressive and anxious symptoms.

WHERE IS THE RESEARCH TAKING US?

The first publication evaluating the beneficial role of probiotics in depression appearing in 2005, but it has come quite a long way. The authors of the aforementioned review from 2012 suggested that the gut microbiota may act as Psychobiotics. Current research efforts are focusing on identifying strain-specific probiotics to optimize their therapeutic potential.

There is promising research that certain probiotic strains, such as Lactobacillus rhamnosus, can influence the expression of GABA receptors in the brain, thereby affecting emotional behavior. In animal models, introducing these strains reduced anxiety- and depression-related behavior.

I recently had the privilege of listening to a talk by Dr. Jack Gilbert, a leading researcher in the field of microbiome science at UC San Diego, whose work explores how the gut microbiome can influence brain function and contribute to mental disorders like Major Depression Disorder (MDD). Some relevant focuses of his research include investigating how gut bacteria influence neurological processes and identifying specific microbes responsible for producing GABA. Microbiome-based therapies, such as supplementation with pre- and pro-biotics, Fecal Microbiota Transplantation (FMT), and precision health are accepted as having positive potential.

Pre-clinical as well as clinical studies support the theory that prebiotics and probiotics are key components for potential therapeutic interventions as a stand-alone intervention and adjunct to current modalities.

WHAT CAN WE DO ABOUT IT?

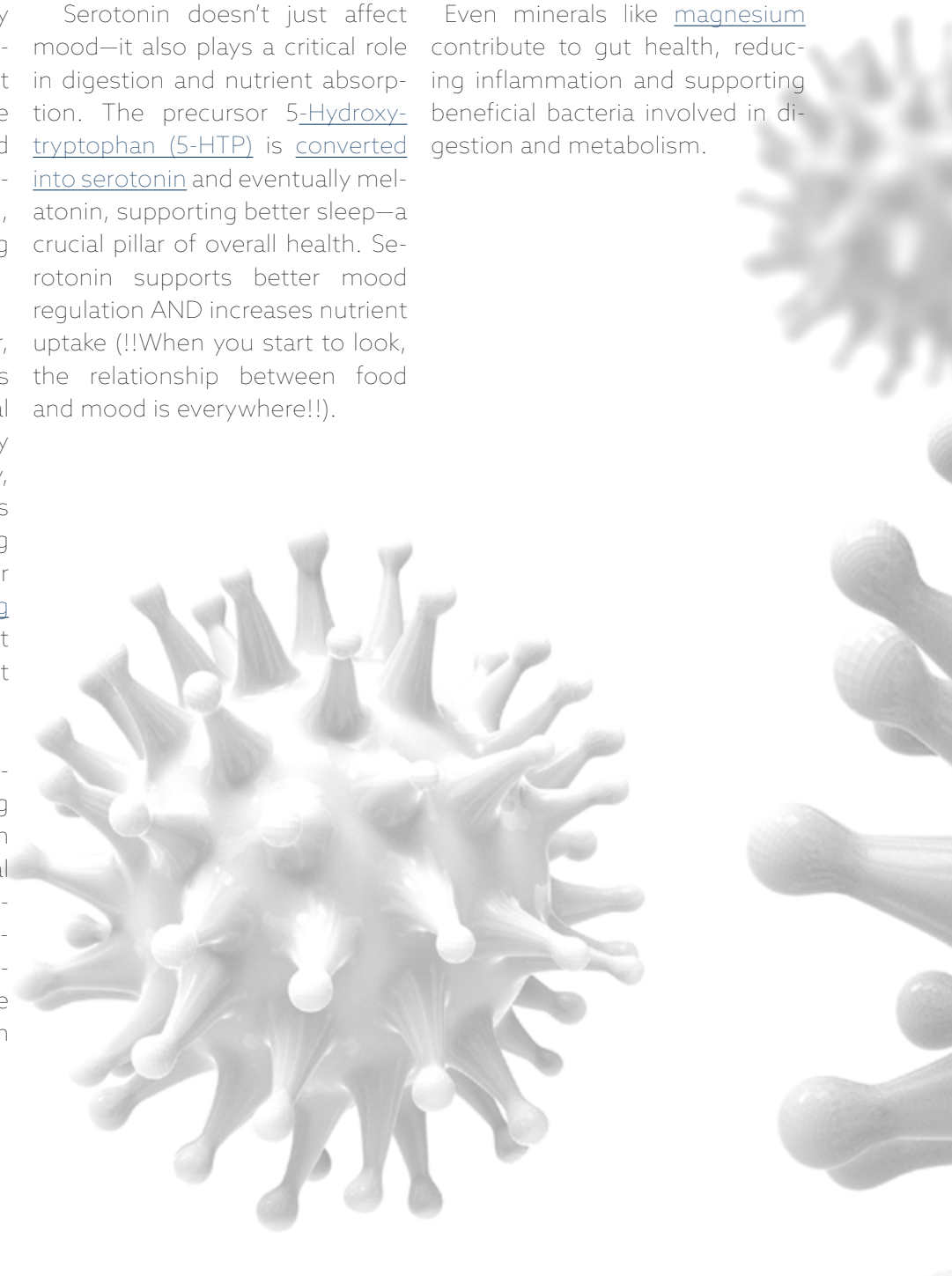
Your microbiome is largely shaped by environmental factors from your childhood, but the good news is that there are countless ways to support and improve your gut. Diet and lifestyle are the two most powerful, actionable tools for modulating your gut microbiota.

Probiotic-rich foods like kefir, yogurt, and fermented foods have been shown in clinical studies to promote a healthy gut microbiome. Additionally, certain dietary supplements act as prebiotics, nourishing beneficial gut bacteria. For example, Berberine is a promising prebiotic for intestinal symbiont Akkermansia - a strain that upholds your gut's lining.

Beyond prebiotics and probiotics, research highlights the strong connection between serotonin signaling and gut health. Animal studies suggest that supplementation with strains such as Lactobacilli, L. plantarum, Streptococcus strains are a promising avenue for the treatment of disorders with altered serotonin signaling.

Serotonin doesn't just affect mood—it also plays a critical role in digestion and nutrient absorption. The precursor 5-Hydroxytryptophan (5-HTP) is converted into serotonin and eventually melatonin, supporting better sleep—a crucial pillar of overall health. Serotonin supports better mood regulation AND increases nutrient uptake (!!When you start to look, the relationship between food and mood is everywhere!!).

Even minerals like magnesium contribute to gut health, reducing inflammation and supporting beneficial bacteria involved in digestion and metabolism.



The ideal way to promote a thriving microbiome is by eating healthy and exercising. If you're interested in learning more about which dietary factors have positive effects on microbiota, this study has a helpful table that outlines specific diets are clinically beneficial. But the most important factors to supporting gut health are living a balanced life with joy, movement, and nutritious (& delicious) meals! Remember that your mind speaks to your gut and your gut speaks to your mind – so be kind to yourself in the process.

DANIELLA WECKERING

@ultisanasupplements

Daniella Weckering is a chemical engineer with a background in genetic engineering biotech and a deep passion for natural health and wellness. As the founder of Ultisana Supplements, Daniella has built a brand that delivers unique, science-backed formulations targeting specific health concerns. Ultisana products have been trusted by doctors across Central America for years and continues to bridge the gap between traditional remedies and modern science.
With expertise in both engineering and holistic health, Daniella is dedicated to creating innovative solutions that empower people to take control of their well-being.

The article has been reviewed by Natalia Andonie, MS, LD, RD.

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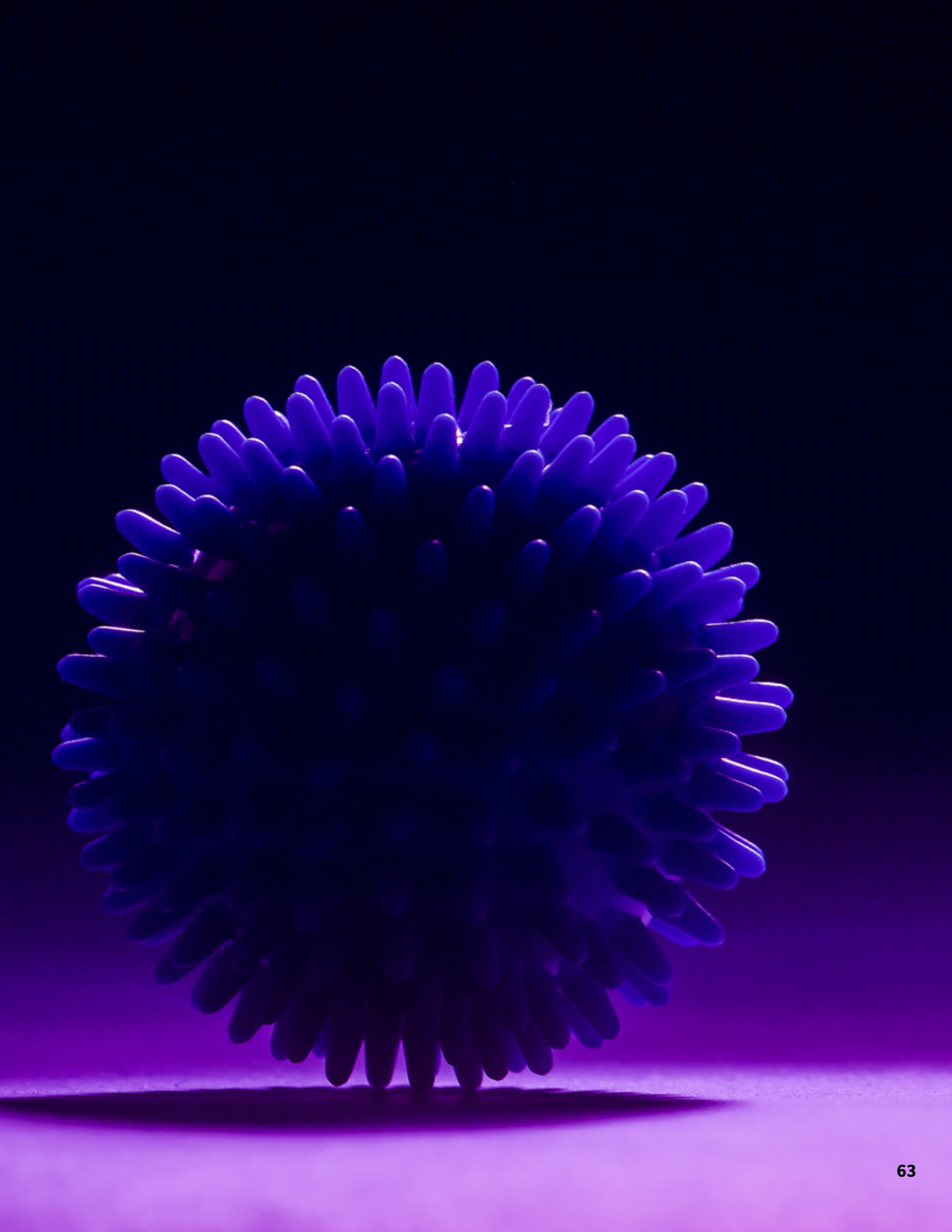
THE GUT MICROBIOME

YOUR BODY'S HIDDEN SUPERPOWER FOR LONGEVITY, ENERGY & VITALITY

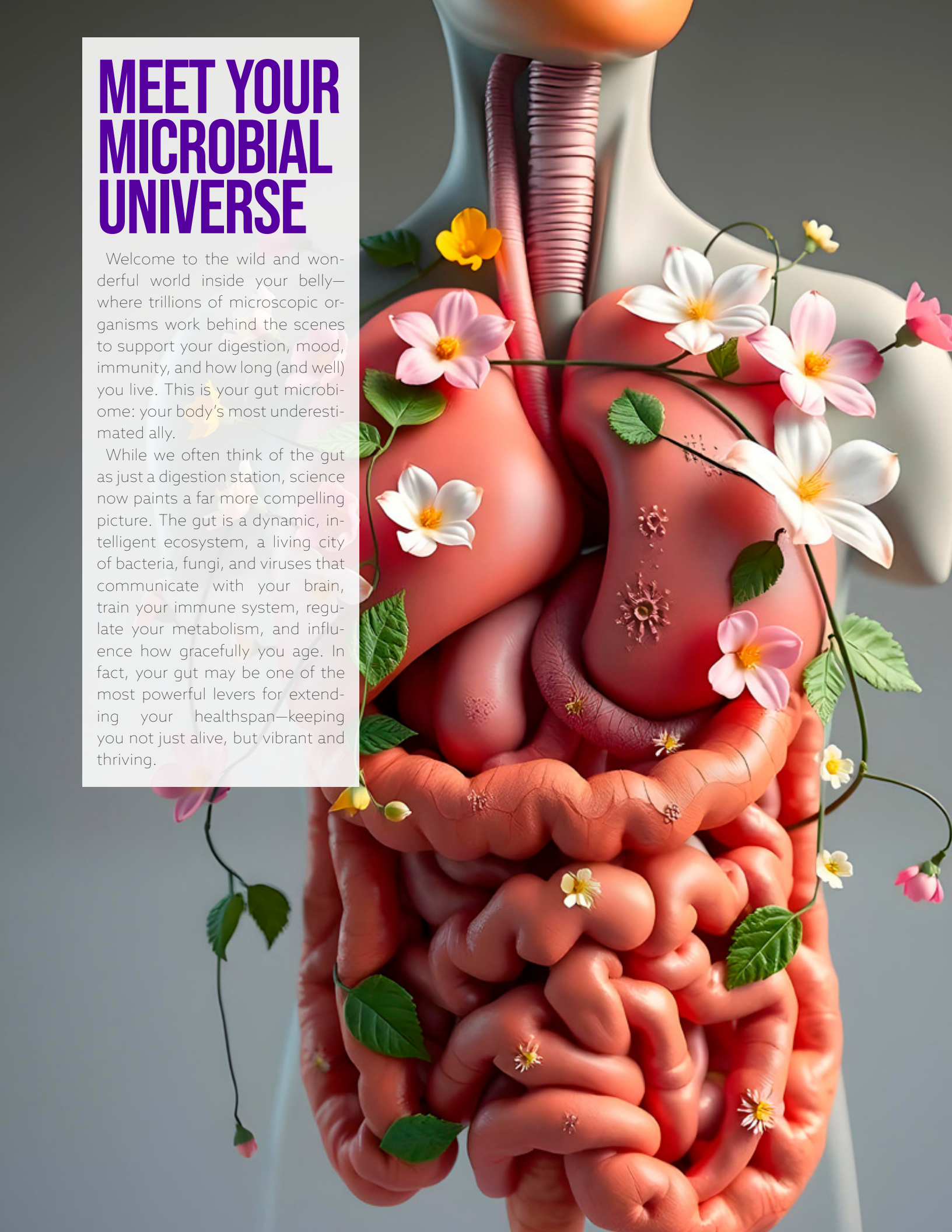
Dr Mike Van Thielen



MEET YOUR MICROBIAL UNIVERSE

Welcome to the wild and wonderful world inside your belly—where trillions of microscopic organisms work behind the scenes to support your digestion, mood, immunity, and how long (and well) you live. This is your gut microbiome: your body's most underestimated ally.

While we often think of the gut as just a digestion station, science now paints a far more compelling picture. The gut is a dynamic, intelligent ecosystem, a living city of bacteria, fungi, and viruses that communicate with your brain, train your immune system, regulate your metabolism, and influence how gracefully you age. In fact, your gut may be one of the most powerful levers for extending your healthspan—keeping you not just alive, but vibrant and thriving.



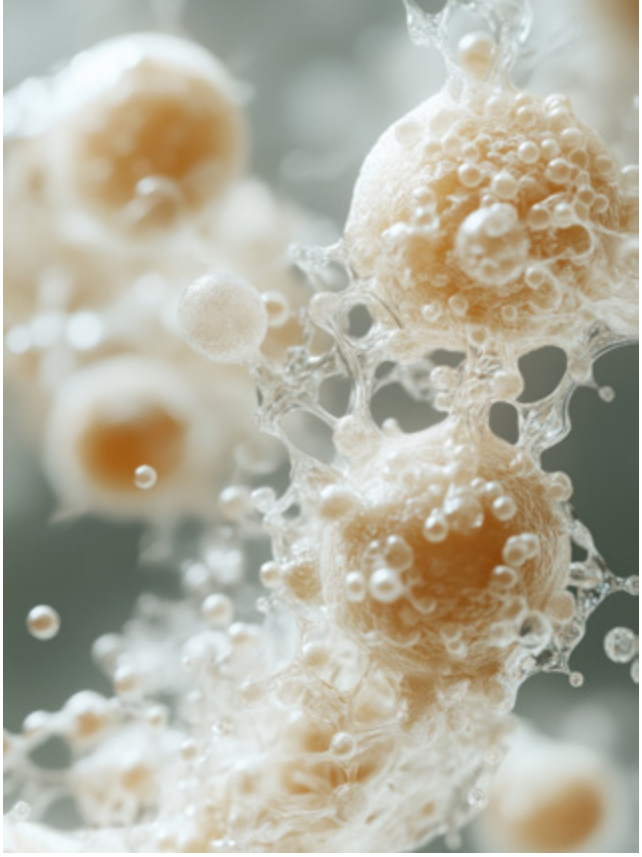
WHAT IS THE GUT MICROBIOME?

At the core of this system is your microbiome, a vast and diverse community of microbes residing primarily in your intestines. With over 100 trillion organisms outnumbering your human cells ten to one—and genetic material that surpasses your own DNA by a factor of 150, your microbial cohabitants aren't just passengers; they're partners in your health. These microbes digest complex carbs, manufacture vitamins, metabolize hormones, and even produce neurotransmitters like serotonin and dopamine. It's no wonder your gut is often referred to as your "second brain."

Microbial MVPs

Beneficial Strains to Know:

- Lactobacillus: Mood, digestion, immune support
- Bifidobacterium: Gut lining, nutrient absorption
- Saccharomyces boulardii: Post-antibiotic recovery
- Akkermansia muciniphila: Gut barrier integrity, metabolism, longevity



THE GUT-BRAIN AXIS: HOW MICROBES SHAPE YOUR MIND

This "second brain" is more than a metaphor. The gut and brain are in constant dialogue via the gut-brain axis—a communication network involving nerves, hormones, immune cells, and the microbiome. One of the most important links in this chain is the vagus nerve, which serves as a direct hotline between your belly and your brain. This bi-directional connection helps explain why gut health can influence mood, memory, focus, and even neurodegenerative conditions. When your gut is inflamed or out of balance (a state called dysbiosis), it can ripple throughout your system, contributing to anxiety, depression, and cognitive decline.

MICROBIAL DIVERSITY AND LONGEVITY

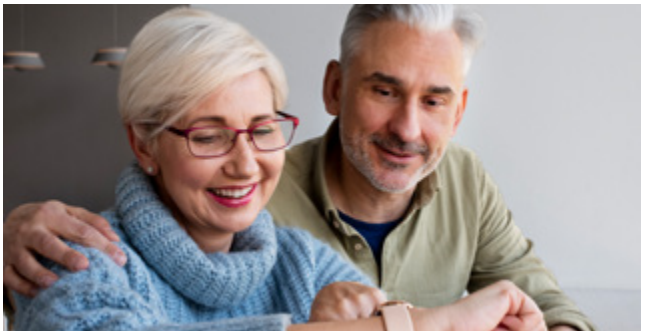
Even more intriguing is the emerging science connecting gut health to longevity. A diverse microbiome rich variety of bacterial species—is now considered a hallmark of healthy aging. Centenarians often have greater microbial diversity than younger individuals. These microbial allies help reduce inflammation, optimize metabolic function, and support resilience against disease. It turns out that the secret to living longer might lie in feeding and nurturing the right bugs.

Microbial Must Haves

Top Foods to Feed Your Gut:

- Fermented foods: yogurt, kefir, kimchi, miso
- Prebiotic fiber: garlic, onions, asparagus, bananas, lentils
- Polyphenols: berries, green tea, dark chocolate
- Resistant starch: cooked & cooled potatoes, rice
- Omega-3s: flaxseed, chia, fatty fish

Goal: 30+ different plant foods weekly!



EATING FOR YOUR GUT: PROBIOTICS, PREBIOTICS, AND POLYPHENOLS

Diet is one of the most powerful tools for shaping microbiomes. Fermented foods like yogurt, kefir, sauerkraut, and kimchi introduce beneficial probiotics into the gut, while prebiotic fibers from garlic, onions, asparagus, and bananas serve as fuel for these microbes. Plant diversity is key here aiming for 30 or more different plant foods per week can significantly enhance microbial richness. Polyphenol-rich foods like berries, dark chocolate, and green tea offer further support by acting as antioxidants and feeding certain beneficial strains.

BENEFICIAL BACTERIAL STRAINS YOU SHOULD KNOW

Among the rising stars of the gut world is a bacterial strain called Akkermansia muciniphila. This unique organism resides in the mucus layer of the gut lining, where it plays a critical role in maintaining gut barrier integrity. A strong gut lining is essential for preventing "leaky gut," a condition where toxins and undigested food particles escape into the bloodstream, triggering systemic inflammation. Akkermansia helps reinforce that barrier, supports healthy metabolism, improves insulin sensitivity, and may even reduce the risk of obesity and inflammatory diseases. It thrives on polyphenols and prebiotic fibers, making dietary choices a key factor in encouraging its growth.

Other beneficial strains, such as Lactobacillus, Bifidobacterium, and Saccharomyces boulardii, also support immune function, mood, digestion, and recovery from antibiotic use. Modern microbiome testing can even identify which strains are present or missing, allowing for more personalized gut health strategies.

Hydrogen and the Gut

Molecular Hydrogen Benefits:

- Reduces oxidative stress & inflammation
- Supports good bacteria
- Reinforces gut barrier
- Improves mitochondrial energy
- Restores gut's electrical potential—a key to nutrient absorption and cellular communication

- try hydrogen water, H tablets or hydrogen inhalation

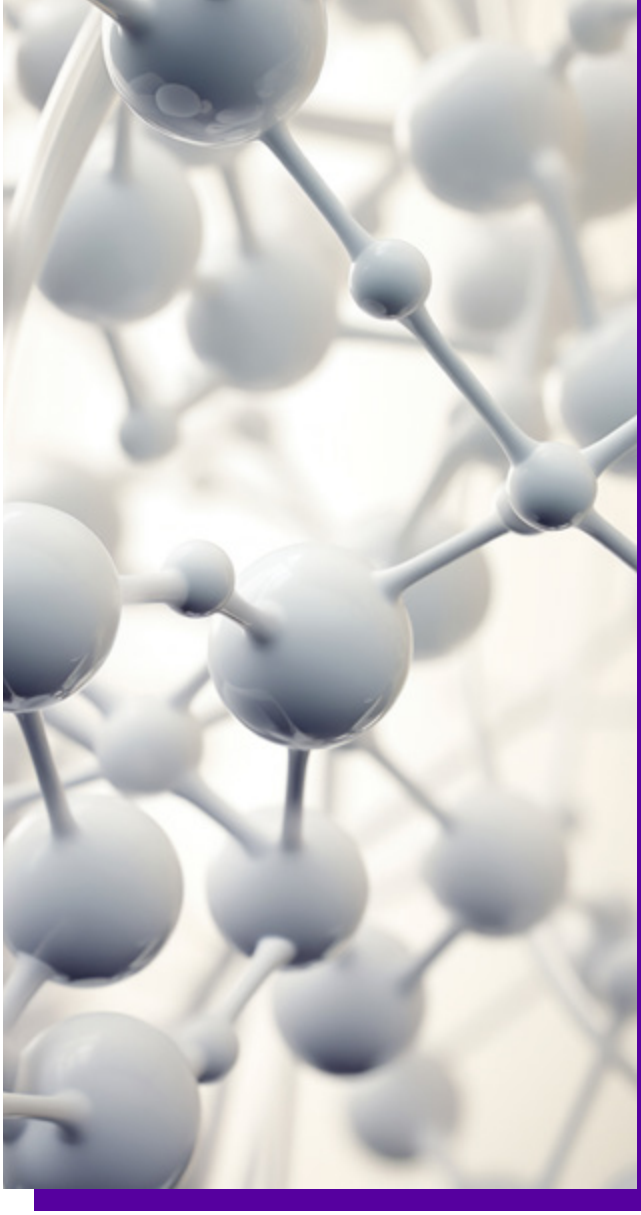
THE MOLECULAR HYDROGEN ADVANTAGE

Yet food and fiber aren't the only tools in your gut-health toolkit. Enter molecular hydrogen—a groundbreaking approach to gut optimization that's gaining serious scientific momentum. Molecular hydrogen (H_2) is a colorless, odorless gas that, when inhaled or consumed via hydrogen-rich water or tablets, acts as a selective antioxidant, targeting only the most harmful free radicals without disrupting beneficial cellular processes.

In the gut, hydrogen has several profound effects. First, it significantly reduces oxidative stress and inflammation—key drivers of aging and disease. This creates a more favorable environment for beneficial bacteria to thrive while discouraging the growth of harmful microbes. Second, molecular hydrogen supports gut barrier integrity by helping to reduce intestinal permeability, thereby protecting against leaky gut and systemic inflammation.

Perhaps one of the most exciting and lesser-known benefits of molecular hydrogen is its ability to restore and enhance the gut's electrical potential. That's right—your gut is not just a chemical organ, but an electrical one. The lining of your intestines maintains an electrochemical gradient, a kind of internal "charge" that facilitates the absorption of nutrients and signals between cells.

This electrical potential is crucial for efficient digestion, nutrient uptake, and communication with other systems in the body, including the nervous and immune systems. When the gut is damaged—due to inflammation, dysbiosis, or environmental toxins—this electrical balance can be disrupted. Molecular hydrogen helps to restore that charge, supporting the integrity and energy output of gut cells. It also enhances the relationship between the microbiome and the mitochondria (the cell's energy powerhouse), improving overall cellular metabolism and vitality.



WHY LEAKY GUT MATTERS

A damaged gut lining, known as "leaky gut," allows toxins and bacteria to escape into the bloodstream, triggering inflammation and chronic health issues ranging from autoimmune diseases to skin conditions and brain fog. Nutrients that support gut lining repair include bone broth (rich in collagen and amino acids), colostrum, L-glutamine (fuel for intestinal cells), and targeted probiotics. When you combine these with tools like hydrogen water and a plant-diverse diet, you create the ideal environment for healing and long-term health.

SLEEP, STRESS, AND MOVEMENT: THE LIFESTYLE FACTOR

Gut health isn't just about what you eat or drink. Lifestyle matters too. Chronic stress increases intestinal permeability, disrupts microbial balance, and weakens immune resilience. Fortunately, there's a powerful tool within your own body that can help regulate stress and support gut-brain harmony: the vagus nerve.

This vital nerve—your body's longest cranial nerve—acts as the primary communication highway between the brain and the gut. When your vagus nerve is "toned" (think of it like a well-conditioned muscle), it helps regulate inflammation, calm the nervous system, and support digestion, mood, and immune function.

Vagus Nerve Exercises to Activate Your Gut-Brain Superhighway:

Practicing vagus nerve stimulation doesn't require high-tech gadgets—it's simple, science-based, and surprisingly soothing. Here are proven techniques to incorporate into your daily life:

Deep Belly Breathing: Inhale for 4 seconds, hold for 4, exhale for 6–8 seconds. This slows your heart rate, activates your parasympathetic nervous system (the "rest and digest" mode), and stimulates vagal tone.

Humming, Chanting, or Singing: The vagus nerve passes through the vocal cords and ear canal—making vocal vibration an effective stimulator. Sing in the car, hum in the shower, chant "Om" in yoga class—it all counts.

Cold Exposure: Splashing your face with cold water or ending your shower with 30 seconds of cold can stimulate vagal activity and reduce stress-related gut symptoms.

Meditation and Mindfulness: These practices shift your body out of fight-or-flight mode and into a

healing state. Even 5–10 minutes daily can improve vagal tone and gut regulation.

Laughter and Social Connection: Genuinely connecting with others, smiling, or even watching a comedy can increase vagal tone and support emotional and digestive well-being.

Gargling Water: Gargling vigorously engages muscles at the back of the throat linked to vagus nerve stimulation—yes, it's strange but effective!

Incorporating these techniques regularly may help reduce gut inflammation, improve digestion, regulate mood, and build greater resilience to daily stressors.

THE GUT LONGEVITY BLUEPRINT: YOUR ACTION PLAN

Ready to optimize your gut and unlock long-term vitality? Here's how to get started:

1. Eat more plants – aim for 30+ plant varieties per week.
2. Incorporate fermented foods daily.
3. Drink plenty of water to aid digestion and detox.
4. Prioritize fiber – at least 25–35 grams per day.
5. Try molecular hydrogen inhalation or water.
6. Manage stress with mindfulness, breathwork, and nature.
7. Sleep 7–9 hours to support microbial balance.
8. Move daily – exercise supports gut diversity.
9. Limit sugar and ultra-processed foods that harm gut flora.

FINAL THOUGHTS: TRUST YOUR GUT—LITERALLY

Your microbiome isn't just a background player, it's the lead actor in your quest for vibrant health, energy, and longevity. When you nourish this internal ecosystem, it pays you back with sharper cognition, better mood, stronger immunity, and increased vitality.

So feed your microbes, hydrate with purpose, rest well, and move often—because when your gut thrives, so do you.

DR. MIKE VAN THIELEN

biohackingunlimited.com

Dr. Mike Van Thielen, PH.D. HOLISTIC NUTRITION, PHYSICIAN, MENTOR and BIOHACKING EXPERT, BEST-SELLING AUTHOR, TEDx SPEAKER, INTERNATIONAL KEYNOTE SPEAKER, AND WORLD RECORD HOLDER in SWIMMING, has been involved in optimal health practices, anti-aging and regenerative medicine, sports performance, nutrition, supplementation, and biohacking for over three decades.

Dr. Mike is a Faculty Member at A4M (American Academy of Anti-Aging Medicine) and is featured on the cover of Biohackers Magazine, issue 22. He is an Executive Contributor for Brainz Magazine. He was presented with the CREA GLOBAL AWARDS 2023 honoree in recognition of his creative and innovative ideas, adaptability in business, and for his contributions to sustainability and mental health projects. Dr. Mike's IZOD Method™ has been featured on Fox, ABC, NBC, google news, and over 300 other channels.

For his credentials, mentorship programs, virtual online training, books, and speaking page, visit MVTonline.com

Check out Dr. Mike's Limitless Lab Online Course and Mastermind Community.

PRODUCT *Reviews*

by @Cyborggainz

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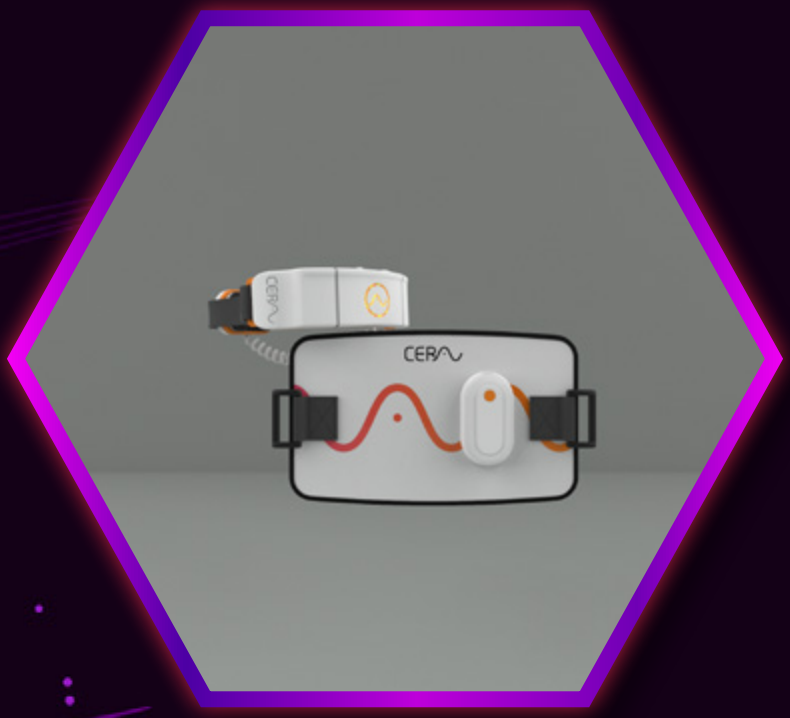

CERA


GutID

CERA System by CeraThrive

The CERA System by CeraThrive is a cutting-edge red light therapy device designed to enhance the gut-brain axis, a crucial connection influencing overall health and well-being. Utilizing specific wavelengths of red and near-infrared light, this system aims to improve cognitive function, boost energy levels, and support digestive health.

Personal Experience

Incorporating the CERA System into my daily routine has been a transformative experience. The device is user-friendly, with sessions requiring just 10 minutes a day. After several weeks of consistent use, I noticed a significant improvement in mental clarity and focus. Tasks that previously felt overwhelming became more manageable, and my productivity increased.

Additionally, I experienced positive changes in my digestive health. Issues such as bloating and discomfort diminished, leading to an overall sense of well-being. These benefits align with the device's design to support the gut-brain connection.

Technology and Design

The CERA System employs multiple wavelengths, including 630nm, 850nm, 950nm, and 1070nm, to penetrate various tissue depths effectively. This targeted approach enhances cellular energy production (ATP), improves blood flow, and reduces inflammation. The device is well-constructed, durable, and comfortable to use, making it a seamless addition to any wellness regimen.

Scientific Backing

CeraThrive's commitment to scientific validation is evident. The CERA System is the first and only U.S. FDA-cleared red-light device that targets the gut-brain axis to improve focus and energy levels. Furthermore, studies have shown that red and near-infrared light therapy can enhance mitochondrial function, leading to increased ATP production and reduced inflammation.

Conclusion

The CERA System by CeraThrive stands out as an innovative solution for those seeking to optimize their cognitive and digestive health through non-invasive means. Its ease

of use, coupled with noticeable benefits, makes it a valuable investment for individuals committed to enhancing their overall well-being.

Pros and Cons

Pros:

1. Enhances Cognitive Function: Regular use leads to improved mental clarity and focus.
2. Supports Digestive Health: Positively impacts gut health, reducing issues like bloating.
3. Non-Invasive and Easy to Use: Simple 10-minute daily sessions fit seamlessly into daily routines.
4. Scientifically Validated: Utilizes FDA-cleared technology with proven efficacy.
5. High-Quality Construction: Durable and comfortable design ensures longevity and ease of use.

Cons:

1. Investment Cost: The initial purchase price may be a consideration for some budgets.
2. Requires Consistency: Optimal results necessitate regular, committed use.
3. Individual Results May Vary: As with any wellness device, personal experiences may differ.

In summary, the CERA System by CeraThrive offers a promising approach to enhancing the gut-brain connection through advanced red light therapy. Its user-friendly design and scientifically backed benefits make it a noteworthy consideration for those aiming to improve their cognitive and digestive health.

@cerathrive

GUT ID – Complete Microbiome Assessment (CMA)

Let's be real, taking a deep dive into your gut health doesn't exactly scream 'fun weekend activity' but GUT ID flips that script. I gave their Complete Microbiome Assessment (CMA) a shot, and wow—this is next-level biohacking for anyone serious about understanding the invisible ecosystem that drives everything from mood to metabolism.

First Impressions: Simple, Slick, and Stress-Free

The kit showed up quickly, everything was well-labeled, and the instructions were straightforward. No awkward confusion, just a clean, well-thought-out at-home experience. And yeah; it's a stool test, but they've made it as painless (and mess-free) as humanly possible.

The Deep Dive: Strain-Level Intel

What blew me away is how detailed the data is. We're not just talking broad bacterial families here; you get strain-level analysis thanks to their Titan-1 sequencing tech. That means real precision, not just fluff. I got a full read on the diversity and resilience of my gut microbiome, flagged areas where I might be more prone to inflammation, and got clear indicators tied to things like SIBO, IBS, and even mood disorders through the Gut-Brain Axis.

This test didn't just tell me what's in my gut; it mapped it to how my body is actually performing, what systems are at risk, and where I need to optimize.

Game-Changing Axes Insights

The Gut-Brain, Gut-Metabolism, Gut-Heart, and Gut-Immune axis reports are gold.

These insights connect the dots between your microbiome and bigger-picture stuff like:

- Mood imbalances and neurodegenerative risk (think Parkinson's, Alzheimer's)
- Metabolic dysfunctions like insulin resistance or non-alcoholic fatty liver

- Cardiovascular risk factors like hypertension
- Inflammation-driven immune conditions like eczema

It's a full systems-check, starting from the gut.

The Magic: Personalized Recommendations

This is where GUT ID steps into the future. I got custom food and supplement guidance, including which prebiotics/probiotics would work best for my actual microbiome. No guessing, no "one-size-fits-none" recs—just science-backed, strain-specific advice I could act on.

I started incorporating a few of their diet suggestions immediately and felt the difference in digestion and mental clarity within a couple of weeks. That's the kind of instant feedback loop I love.

Conclusion

If you're looking for real answers—not just symptom management—and you're into optimizing health from the inside out, GUT ID's CMA Test is one of the most comprehensive and actionable tools out there. It's precision wellness with an edge.

Pros & Cons

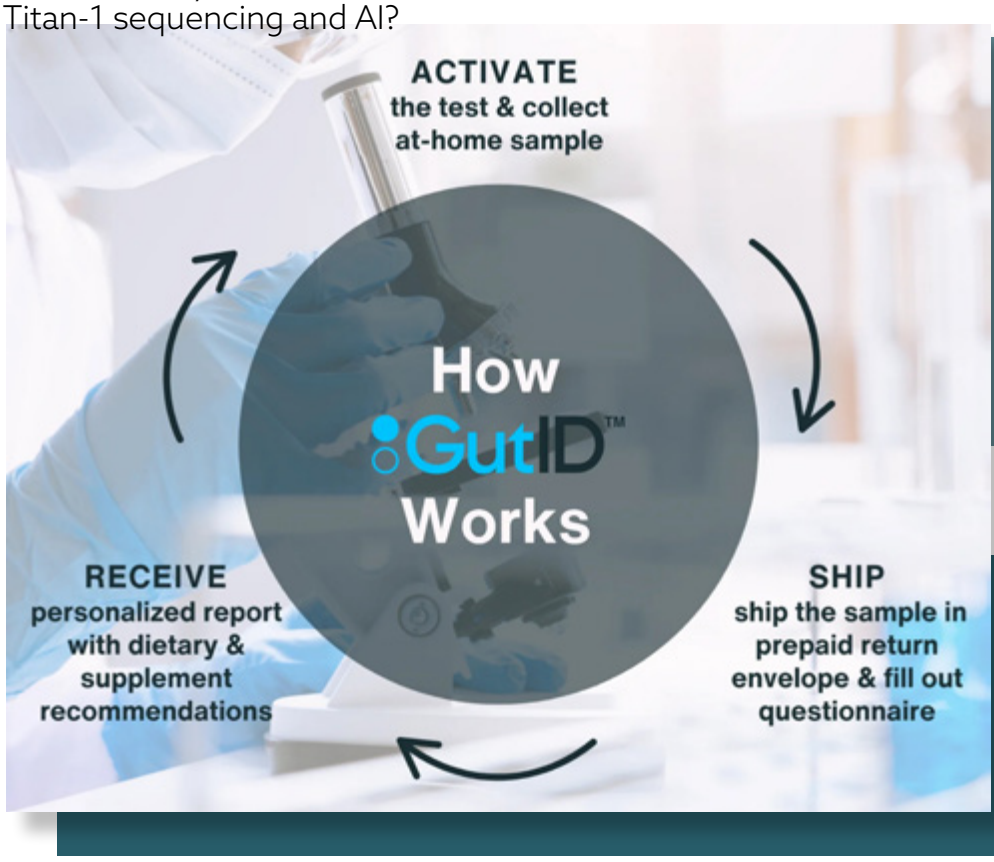
What I Love:

- Strain-level microbiome data – This isn't surface-level fluff; it's real, actionable intel.
- Links gut health to the whole body – Mood, metabolism, heart, immune system—everything's connected here.
- Super personalized – You don't just get "more fiber" advice. You get food, prebiotic, and supplement recs custom to your biology.
- Slick experience – Clean design, clear directions, fast turnaround, HSA/FSA eligible.
- Powered by serious tech – Titan-1 sequencing and AI? Yes, please.

What Could Be Better:

- Not cheap – It's an investment. But if you're serious about healthspan, it's absolutely worth it.
- Data-rich means time investment – The report is deep. You've gotta take time to digest (pun intended) the insights, or work with a coach or provider to translate it into action.

Bottom line: GUT ID is the kind of test you take when you're done guessing and ready to level up. It's perfect for biohackers, longevity junkies, and anyone who knows the gut is ground zero for living well.



@gutidhealth

THE ALLIANCE FOR
LONGEVITY INITIATIVES

Request to Support Geroscience Research and Join the Longevity Science Caucus

In our journey to advance the longevity industry, grassroots efforts like ours hold immense potential to create change. To truly impact the future longevity science and human health, we need a committed community advocating constantly for the industry. To that end, we must ensure that our voices are heard by the people who can most effect change – our policymakers.

Policymakers are the key to this longevity science effort. They set the rules, drive the legislation, and provide the regulatory environment in which the longevity industry operates. If we can engage them, inspire them, and show them the extraordinary potential of geroscience and the study of longevity, we can cultivate allies in the highest offices of our nation. And it's not just about the longevity industry – it's about our mission of enhancing health and extending lives.

The Alliance for Longevity Initiatives (A4LI) urges you to reach out to your local representative in Congress and make a case for them to join the Longevity Science Caucus. Our elected representatives are there to serve us, to protect our interests, and to help us live healthier, longer lives. Let's remind them of that!

To make this task as straightforward as possible, we've prepared a letter template below. Feel free to customize it, add your personal touches, and make it your own. Your words can be a powerful tool for change. When you're ready to send your message, reach out to us at info@a4li.org. We're here to support you, provide the contact information for your congressional office, and help you make a difference.

Together, we can transform the future of health and longevity. Let's make our voices heard, let's advocate for change, and let's inform our policymakers about the incredible promise of the longevity industry.

SEE AND BE SEEN

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ACKNOWLEDGMENTS

Everyone involved in the production of this magazine is humbled by the opportunity to have a publication that makes a real difference. Our magazine is woven into the fabric of our community and we recognize the importance of being culturally relevant, authentic at all times, and genuinely passionate about living well, living fit, and living long. Thank you to our contributors, partners and circle of friends for joining us in *extending the future.*

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