

Steps to Stop Disease

Restoring Health through the Gut Microbiome

BY RAPHAEL KELLMAN, MD

ne of the most empowering things any person can do is change the course of their health trajectory. Far too many people are suffering from nameless malaise and illnesses that mature over time into full-blown disease. By addressing the health of the gut microbiota you are taking crucial steps to stop and even reverse illness, altering your life path for the better.

Research has shown that all roads lead to the health of the gut microbiome, and our well-being depends on theirs. This is the inner realm of thousands of microbes residing in the intestines. They are intimately connected to all aspects of health, and greatly impact mood, metabolism, immune function, digestion, hormones, inflammation, and even gene expression. A balanced bacterial population can mean enjoying vibrant health, while dysbiosis or microbial imbalance triggers disease and chronic illness. By making dietary and lifestyle changes with the bacteria in mind, you can see improvements in every area of the body and in systems that may seem far removed from intestinal health.

REPLACE YOUR STANDARD AMERICAN DIET WITH THE MICROBIOME DIET

20 years ago, people would have laughed at the notion that the type of bacteria residing in the intestine could influence your brain enough to cause depression and anxiety. We now know this is not only possible, it's common—and is just one of the many effects of dysbiosis or bacterial imbalance. The standard American way of eating promotes this imbalance, and sets off a chain reaction throughout the body.

The standard American diet, aptly nicknamed SAD, is chock full of processed foods with poor-quality fats, chemicals, coloring, preservatives, high-fructose corn syrup, and sugar. This is the exact menu that leads to overgrowth of strains like Firmicutes and proteobacteria such as Escherichia coli, Salmonella, and Klebsiella—all while suppressing healing microflora. To make matters worse, these germs will do everything they can to keep the party going, including signaling to bring in more junk food. If they are craving sweets, so will you.

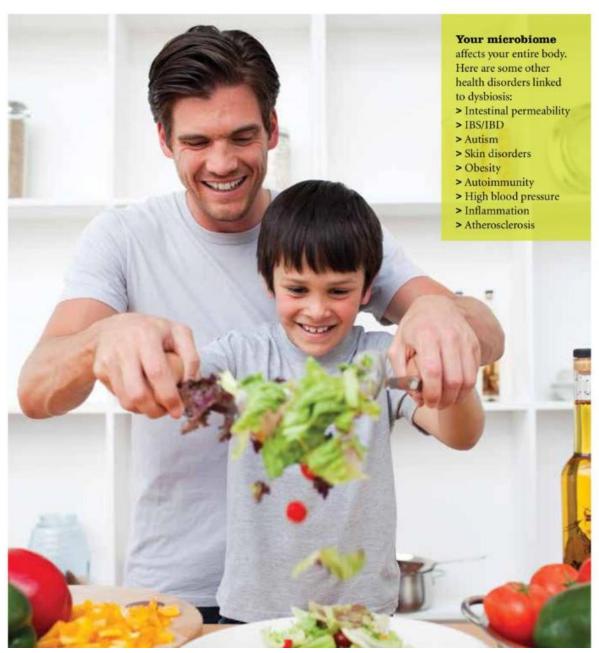
The most effective way to make-over your intestinal bacteria is by changing what you feed them. Research clearly

shows that the types and levels of bacteria are very connected to the assortment of foods we ingest. Those who regularly consume plants and high fiber/low fat diets were found to have increased levels of "friendly" bacteria like Lactobacillus and Bacteroidetes. Following a microbiome diet can lower systemic inflammation, strengthen the intestinal barrier, improve the immune response, and improve digestion and intestine function. Healthy bacteria strains, in turn, feed us by producing nutrients like certain B and K vitamins and butyrate, which is an important fuel source for intestinal cells and improves mood and cognition.

The switch is easier than you think. By gradually adding in plant and high-fiber foods, cravings will decrease. You will be walking past those chips in no time, without so much as a double-take.

2 GOOD FOOD FOR HEALTHY MICROBES

Prebiotic foods contain types of fiber that are indigestible to humans, yet fermentable by bacteria in the intestine, helping them to thrive. There are some that I call prebiotic superfoods because of the profound effect they have on



microbial balance. Asparagus, carrots, garlic, Jerusalem artichoke, jicama, leeks, onions, radishes, and tomatoes are some of the best examples. While all prebiotics are fiber, not all fiber is prebiotic. Prebiotic fibers selectively stimulate the growth, composition, and activity of helpful microbes.

Prebiotics are also available as a supplement and can actually have more of an impact than taking probiotics in some cases. Without adequate food sources, endogenous healthful bacteria cannot thrive and colonize. Some of the best types are inulin, arabinogalactan, and oligofructose. Studies have found prebiotics to promote weight loss, improve insulin tolerance, and reduce inflammatory cytokines and fat deposits in tissue, all while increasing levels of friendly bacteria. Ideally, everyone should be getting large amounts from eating several servings of fruits and vegetables each day. An additional prebiotic supplement can give things a boost.

TRADITIONAL FERMENTED FOODS: ANCIENT WISDOM FOR MODERN TIMES

For thousands of years, traditional and ancient people have included fermented foods in their diets-for good reason. There are literally trillions of bacteria in every serving. This is exponentially more than we could ever get from a supplement alone. Besides increasing the numbers and variety of good bacteria, fermented foods are shown to boost immunity, promote weight loss, correct pH balance, and even help with detoxification of heavy metals and toxins. Plus, they are delicious! Just about any food can be fermented like beets and cabbage, fruit, dairy, and grains. Fermented foods are becoming more widely available at grocery stores as their health benefits gain recognition. With so much to choose from like yogurt, kefir, sauerkraut, natto, and fermented carrots, it should be easy to get 1 to 2 tablespoons into your diet every day. Kimchi is one of my personal favorites.

TARGETED PROBIOTICS

Probiotic supplementation can radically

alter the health and function of the entire body. As the research unfolds, so does our ability to repopulate the intestine with friendly bacteria and drastically reduce symptoms of many health disorders. Certain strains are well studied at this point and linked to overall improvements in health by working on different pathways and systems.

Saccharomyces boulardii, for example, is excellent to control yeast and Candida infections while regulating the immune system-especially in cases of autoimmunity. The bifido strain 35624 has been clinically proven to reduce pro-inflammatory cytokines and help target and heal IBS symptoms, chronic fatigue syndrome, ulcerative colitis, and skin conditions like psoriasis. Clinical trials show L. gasseri is an effective weight loss aid for many people. Other strains are linked to strengthening the joints between cells in the intestine called tight junctions, while others halt inflammatory processes. There are many well-researched and documented probiotics to date. I recommend starting with a quality broad-range probiotic that includes both bifidobacillus and lactobacillus strains. With so many options on the market, it is advisable to consult with a doctor who specializes in probiotic therapies.

HEAL THE INTESTINE

The intestines are home to the immune system, the "second brain" called the enteric nervous system, and the gut microbiome. All three work together to create health and are highly affected by the integrity of the

intestine itself. Leaky gut can trigger a whole litany of illnesses including autoimmune disease, chronic inflammatory conditions, depression, digestive problems, and GI issues. People often suffer from weight gain or loss, food intolerances, skin issues, constipation, and diarrhea. An important step to restoring the health of both you and your microbiome is to repair the intestinal wall with natural compounds like zinc carnosine, DGL, aloe, glutamine, curcumin, butyrate, and vitamin D.

CHANGE YOUR BRAIN, CHANGE YOUR GUT BACTERIA

Stressful situations are shown to impact intestinal health and function, creating an inhospitable environment for friendly bacteria. Stress is one of the prime drivers of leaky gut, slow intestinal motility, suppressed digestion, and absorption issues leading to GERD or acid reflux. Under these circumstances, negative shifts in bacterial balance often result. One study following healthy graduate students found them to have less beneficial bacteria during final exams than they did at the start of the semester. This is a common scenario, as we are all exposed to difficulties in our day-to-day lives.

The bottom line is we live in a stressful world that is often out of our own control. Take steps to lower your exposure to stress and then work on ways to manage it when it does come. Exercise, go for a walk, take breaks, and find time to help others. By focusing on the positives, you will affect the microbiome for the better. Don't forget to slow down and breathe!

Like a ripple effect in a pond, changes in the microbiome will vibrate out to every part of your body and health. Diet is key, and should include lots of fresh, prebiotic foods with healthy doses of fermented, probiotic foods as well. Topping things off with supplements to heal the intestine, populate bacteria, and help them thrive will ensure they are working at their optimal levels. Changing lifestyle patterns to sleep better, reduce stress, and find moments of calm throughout the day will build a happy environment for our friends in the microbiome to call home. 22

RAPHAEL KELLMAN, MD, is the author of three books, including THE MICROBIOME DIET, (Da Capo Lifelong Books, 2014). Dr. Kellman uses the latest technology to treat specific diseases, but his approach to medicine is patient-centered and holistic. He focuses on the complex interaction of systemsnot just the disease but on patients as people who are greater than the sums of their parts. // raphaelkellmanmd.com

