

# The Microbiome Solution – Healing Your Body From the Inside Out

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December 24, 2023

## STORY AT-A-GLANCE

- › One of the worst things you can do during pregnancy is to take an antibiotic. Young children also need to be shielded from antibiotics, as they devastate the microbiome
- › Other medications best avoided, due to their devastating impact on your microbiome include hormone treatments, including birth control pills, antibacterial products containing triclosan and proton pump inhibitors
- › Fiber-rich vegetables are massively important. Not only do they provide valuable nutrients your body needs, they also provide nutrition to the microbes in your gut, which feed on fiber

***Editor's Note: This article is a reprint. It was originally published January 29, 2017.***

By now, you're probably aware of how important a balanced gut microbiome is to your overall health, but how do you go about optimizing your gut flora? And what steps can you take to protect and nourish your baby's microbiome, even before and during birth?

In this interview, Dr. Robynne Chutkan, a gastroenterologist (a doctor who specializes in the gut) and author of the book, "[The Microbiome Solution: A Radical New Way to Heal Your Body From the Inside Out](#)," will guide you through the details.

Chutkan finished medical school in 1991. Like most conventionally trained doctors, she whole-heartedly endorsed pharmaceutical intervention "whenever possible, as

frequently as possible." Over the course of several years, however, she began to investigate alternative routes to health.

*"My area of expertise is inflammatory bowel disease," she says. "I trained in New York, at Columbia for medical school and residency, and then at Mount Sinai Hospital ... Never once during my training did the idea that you could treat this set of diseases with food as opposed to pharmaceutical intervention, ever come up ...*

*But when I arrived at Georgetown to join the faculty in 1997 ... I started seeing a lot of patients, a lot of them women. Many wanted to know, 'What can I do? What can I eat? How can I change what I'm doing to feel better?' Of course, I had no answers at all for these questions.*

*I just had a lot of fancy drugs that I knew a lot about. Over the course of time, I started to experiment a little bit, mostly on myself, playing around with different ways of eating ..."*

## **Approaching Food as Medicine**

She also conducted a study, in which she asked patients about their use of alternative and complementary practices to treat their Crohn's and ulcerative colitis. She was surprised to discover that 70% of them were using some kind of complementary or alternative technique, sometimes in addition to conventional medicine.

*"It was a sort of don't-ask-don't-tell policy," she says. "I started to get interested and I wanted to know what people were doing and if it was helping ...*

*This was the time when the specific-carbohydrate diet, which is very similar to the Paleo diet, had been popularized ... I clearly remember the first patient I sat down with who ... had had severe Crohn's disease. She came back and was feeling great ...*

*She was eating lean protein, lots of vegetables and some nuts and seeds ... I remember doing her colonoscopy and seeing her very severe Crohn's healed. I could not believe it. I said 'I've got to find out more about this.'*

*I think it really was the patients who caused me to question what we were doing. I started looking at the drugs we were using and the side effects. Don't get me wrong, I'm all for judicious use of conventional drugs when you don't have lots of other options.*

*But to be strongly recommending drugs that we know can cause cancer and severe infection and other problems, and not having any conversation about this concept of foodist medicine, which is so well-proven, particularly in the gastroenterology world, I think that's medical negligence."*

## **How C-Section Can Set a Child on the Path Toward Autoimmune Disease**

Another incentive driving Chutkan's growing interest in alternative treatments was her daughter. She was delivered via C-section, and because Chutkan had contracted influenza right before the delivery, her newborn daughter was given antibiotics as a precaution.

This was the beginning of a long series of illnesses, where she'd get sick, receive another round of antibiotics, only to get sick again and receive more medication. By the age of 2, her daughter had received 16 rounds of antibiotics.

According to Chutkan, this pattern is very common among patients who are subsequently diagnosed with Crohn's disease and ulcerative colitis. Many are C-section babies who were then bottle-fed and received multiple rounds of antibiotics.

*"I saw her heading down that road and I said 'I really have to do something. If we don't stop this cycle, this is what's going to happen.' I'm proud to be a doctor, but*

*it's sometimes hard to hold your head up these days because in my office, most of what I spend my time doing is trying to undo medical mischief.*

*Well-meaning physicians who either are not well-informed or just have tunnel vision; dermatologists putting young people on years of potent antibiotics, when you consider the fact that five days of a broad-spectrum antibiotic ... can remove a third of your gut bacteria ... We are creating disease."*

## **Avoid Antibiotics Unless Your Life Hangs in the Balance**

Indeed, one of the worst things you can do during pregnancy is to take an antibiotic. Young children also need to be shielded from antibiotics, as they devastate the microbiome. Perhaps the single most important take-home point is to avoid antibiotics unless your life hangs in the balance.

Don't take them frivolously, and certainly not as a precautionary measure. Other medications best avoided, due to their devastating impact on your microbiome include:

- Hormone treatments, including birth control pills
- Antibacterial products containing triclosan
- Proton pump inhibitors (PPIs). According to Chutkan, research shows 20% of the bacteria in the microbiome are changed from long-term use of acid suppressing drugs.

In fact, the authors concluded that PPI use was just as dangerous as antibiotic use in the long term. Despite that, gastroenterologists routinely put patients on long-term acid suppression without giving it a second thought

Should you have an infection, there are a number of alternatives to antibiotics you can try. For example, D-mannose is very effective against urinary tract infections. "We use a topical form of probiotics mixed with coconut oil for bacterial vaginosis for women. It works great," Chutkan says.

## **Beware of Hidden Antibiotics**

Chutkan also addresses the issue of hidden antibiotics. Eighty percent of all the antibiotics sold in the U.S. are actually used in the food industry. Animals raised in **concentrated animal feeding operations** (CAFOs) are routinely given low-dose antibiotics to prevent disease associated with factory farming. So while you may be really judicious about medical antibiotics, you may still ingest antibiotics through factory-farmed food, especially animal products.

*"I think this is an area where it's really important to buy organic and to know not just what you're eating, but what the food you're eating has eaten, tracing it all the way back, because 80%, that's an astounding number; we already have the highest per capita consumption of antibiotics in the world ...*

*From infancy, the average American child will take somewhere around 18 to 20 courses of antibiotics by their 18th birthday. Then you add to that, how many courses of antibiotics they're probably ingesting with food. It's really astounding. It's almost like the myth of Sisyphus.*

*We're on this treadmill. From the minute we're born – one could argue even before birth with the in-utero exposure – we are in this incredible downward spiral to destroy our microbiome. You have to be so vigilant about all of these things."*

## **Fecal Microbiota Transplant – A Potentially Life-Saving Procedure**

Chutkan's book, "The Microbiome Solution," provides an excellent chapter on fecal microbiota transplants (FMTs). It even includes instructions on how to do it yourself, were you to choose that route. While most people are not candidates for a stool transplant, it can be a life-saving measure in extreme cases. That said, it's important to understand that the stool transplant is only as good as a donor's stool.

*"I love my husband very much, but he grew up playing football and eating Burger King every day after practice. I don't want his stool, because it's probably not robust enough, growing up eating a standard American diet and taking the usual arsenal of medications.*

*I've always said, if I ever develop a severe autoimmune disease ... and I am failing the typical options, I'm heading to Tanzania to get some stool from the Hadza tribe, or down to the Amazon. I want some high-octane stool," Chutkan says. "When you contemplate donor stool, it's not just a matter of excluding serious infectious diseases like HIV, syphilis or hepatitis. It's really about evaluating how robust the microbiome of your donor is ..."*

## **Your Microbiome Is Constantly Changing and, With That, Your Health**

While an FMT can be highly beneficial in extreme cases, the vast majority of people simply need to optimize their own microbiome through dietary and lifestyle changes. The good news is our microbiomes are constantly changing, based on diet and environmental exposures, so you have a great deal of personal control.

If you have a long history of antibiotic use, it may be more difficult for you to shift your gut flora and repair the cellular-microbial damage that has already occurred. But you can still improve a great deal.

*"For most people who have eaten poorly [and] taken some drugs, there is incredible opportunity for recovery, but it really has to be meaningful change," Chutkan says.*

*"The idea that you can continue to eat potato chips and soda and not eat vegetables and just take a fancy probiotic and get better, is really magical thinking. I really try to stress in my practice that it's not the microbes that you put in your body; it's what you feed those microbes."*

Fiber-rich vegetables are massively important. Not only do they provide valuable nutrients your body needs, they also provide nutrition to the microbes in your gut, which feed on fiber. Another part of the equation is eating foods grown in healthy soils. Factory-farmed vegetables grown in nutrient-poor soils are not going to give you the same bang for your buck.

As noted by Chutkan and many other health experts, nutrition and human health really starts in the soil. To learn more, check out Dr. Maya Shetreat-Klein's book "The Dirt Cure: Growing Healthy Kids With Food Straight from Soil."

## **How to Optimize Your Baby's Health if a C-Section Is Unavoidable**

Since you're bypassing the birth canal, children born via C-section are not "inoculated" with their mother's bacteria. Sometimes a C-section is necessary. It can be lifesaving for the baby or the mother. But evidence suggests C-sections are vastly overused in the U.S., and most are not medically necessary.

In her book, Chutkan includes a complete birthing plan to optimize your and your baby's microbiome, and it begins with the recommendation to avoid C-section at all cost, unless medically necessary.

*"You really have to push because, again, your physician is very well-meaning, but they have been trained and indoctrinated to think that a C-section is fine. You might find yourself in the unusual position of having to educate your physician about the risks of C-section. There's plenty of good information out there to do that. The first thing is to try and avoid it," she says.*

*"If you have to have a C-section, I love the information Maria Gloria Dominguez-Bello [Ph.D.] provides [on] vaginal seeding ... [M]ake sure your doctor and their team know about this. Because if you start doing this and people don't know what you're doing, they're going to call security and take the baby away.*

*The idea is to take a gauze pad and soak it in the perineal juices ... Then when the baby is born via C-section, instead of essentially disinfecting them with*

*antibacterial products like they do in the hospital, take this vaginal pad that's soaked in all this wonderful flora from the mother and wipe the baby down, especially the head, the eyes, the mouth, all of that. Wipe them down so you're sort of approximating a vaginal birth."*

According to Chutkan, studies show babies born vaginally are colonized with Bifidobacteria, lactobacillus and many other healthy bacteria from the mother's microbiome. C-section babies are colonized mostly with hospital-acquired staph, and this microbial difference can follow the child for years to come.

Not surprisingly then, C-section babies tend to have higher rates of allergy, asthma, obesity and autoimmune diseases – all of which have been linked to poor microbial diversity and makeup. Being able to intervene with this vaginal seeding technique is quite brilliant, and could go a long way toward normalizing your baby's microbiome if you have to have a C-section.

## **Other Dos and Don'ts for New Parents**

Next comes breastfeeding. Not only is breast milk nutritionally superior to formula, it also has a direct impact on your baby's microbiome. The third most common ingredient in breast milk is human milk oligosaccharides (HMOs), a type of sugar that is completely indigestible.

It provides no nutrition per se, rather it nourishes the beneficial bacteria in your baby's digestive tract, which in turn helps repel staph and other potentially harmful microbes, including microbes that may linger on your nipples.

*"It's a great example of this synergy between what's happening on the mother's side and what's going on in the baby's side, and how it's all supposed to work together. That's another critical thing for people to know," Chutkan says, adding:*

*"It's amazing how much stuff gets done to you in the hospital that you don't know about. Most women don't know they get antibiotics for a C-section ... I didn't know that my daughter got not one but two potent antibiotics*



*intravenously in the neonatal intensive care unit. You sign a general consent for treatment ...*

*You know that doctors are well-meaning. You know they're vested in a good outcome for the health of your child, but you make the crucial mistake of thinking they know and completely understand the ramifications of what they're doing. It's clear that they don't, and so you have to be very aware of that ...*

*Your doctors, for the most part ... are lovely, well-meaning people, but they are not well-informed. They are getting their medical information from sources that compel them to keep practicing [a certain] way."*

## **Vitamin D and Inflammatory Bowel Disease**

As previously noted, Chutkan's specialty is inflammatory bowel disease (IBD), a serious autoimmune disease that can be lethal. IBD is not to be confused with irritable bowel syndrome (IBS), which is a functional disease – it can be painful and disabling, but it's not going to kill you. IBD patients are frequently prescribed very toxic drugs and may even require surgery to remove a part of their colon.

If you have IBD, optimizing your vitamin D to a level between 40 and 60 nanograms per milliliter (ng/ml) is an important consideration. Crohn's patients also need to pay attention to vitamin B12, because when your ileum – the end part of your small intestine – is inflamed or has been surgically removed, you cannot absorb B12 as efficiently. Malabsorption of fat-soluble vitamins A, D, E and K, magnesium, iron and more, can also occur.

*"Vitamin D has definitely been shown in many studies to be important for inflammation in general, certainly in patients with IBD," Chutkan says.*

*"It's one of the first things we check and make sure that people are adequately supplemented ... We have people we put on high-dose supplementation ... if they're down in the single digits ... I recommend getting 20 minutes of sun exposure [on] upper body, arms and shoulders, without sunscreen, each day."*

## **On Treating IBD**

When it comes to treating IBD, Chutkan focuses on using food as medicine, and in 77% of cases, her patients will no longer need immune modifying agents once they've properly adjusted their diet. She typically begins by assessing the level of inflammation. The most challenging situation is when you have "fibrostenotic disease," where Crohn's disease has caused severe scarring and narrowing of the gastrointestinal (GI) tract. In some cases, it can be severe enough to be irreversible.

People with colitis who have a lot of ulceration in the colon, and people who have Crohn's who don't have a lot of scarring but have active ulceration, are generally able to successfully treat their condition through diet. Next, she screens for nutrient deficiencies, such as vitamin D, B12, ferritin and fat-soluble vitamins, and begins assessing the diet. Chutkan uses a combination diet that is part specific-carbohydrate diet, part paleo and part vegan.

## **Increasing Vegetable Intake Is Crucial**

Three years ago, Chutkan and colleagues published a small pilot study consisting of 12 patients, nine with Crohn's and three with ulcerative colitis.

*"We looked retrospectively at the diet. We found some interesting things. We found that the average time for the diet to work was about 90 days. When I say to work, to really kick in to the point where people felt like they were in remission. But some people notice results in as quickly as two to three days. Other people take several months. Ninety days was kind of the sweet spot.*

*Two-thirds of patients were able to get off their medication or significantly reduce their medication. Again, the majority of people, when we looked endoscopically, had healing of the inflammation.*

*But this is the most important part of the study: everybody took out the processed carbohydrates. Everybody was off gluten, off refined sugar.*

*Essentially grain-free for the most part. As people get better, we do add in some brown rice, some legumes and so on.*

*For the most part, it was looking like a modified paleo diet. But there were two distinct groups: the group who got better and the group who didn't, despite excluding all the not-so-great stuff. What was the difference?*

*The difference was the amount of vegetables people were consuming. The people who took out the gluten and the processed sugars ... without increasing their vegetable intake, did not tend to do a lot better. The people who really ramped up their consumption of green leafy vegetables, and particularly the stringy vegetables like celery, asparagus and artichokes, which are high in inulin that really feed gut bacteria, did significantly better."*

So, a key take-home point here is that it's not enough to simply remove certain foods, such as sugar and refined grains. You must also replace them with a significant amount of vegetables.

In fact, there appears to be a critical threshold when it comes to vegetables, which you must meet in order to see meaningful changes in your health. Dr. Terry Wahls has noted that multiple sclerosis (MS) patients typically need six to nine servings of leafy greens each day in order to affect positive change.

Chutkan says the same applies to autoimmune patients with Crohn's and ulcerative colitis. Each morning, she makes herself a green smoothie with spinach, kale, celery, parsley, green apple, a peeled lemon, some fresh ginger and water. Each day, she'll drink two to four glasses.

## **On Breaking the Mold**

Chutkan is a perfect example of a conventional physician who, by listening to her patients and keeping an open mind, broke through the brainwashing – the carefully orchestrated propaganda created by the drug and medical industries. And she shares a great deal of priceless information in her book, "[The Microbiome Solution](#)."

*"[W]hen I saw the results of a meta-analysis out of Mount Sinai hospital ... looking at over 7,000 patients with inflammatory bowel disease and identifying frequent antibiotic use, particularly in childhood, as one of the main risk factors for developing IBD, I said, 'People have to know this.'*

*... [A]s an author, it is an incredible privilege to be able to put your nickel down and say 'This is what I think. This is what I believe in. I feel an obligation to share it with you.' But it's also scary. People come after you ...*

*I had a lot of conversations with Penguin about what I could or couldn't say, or should or shouldn't say. It's scary because you know there's an incredible amount of money being made by some of these companies. When you say something that's critical, their goal is to crush you. They've done it very effectively to a lot of people we know.*

*It's scary but you get to the point where you feel like you cannot legitimately not share this information with people. As you know, books are not a way to get rich, right? Typically, books are probably, at best, a break-even proposition, or you lose money writing a book when you think about the amount of time it takes.*

*But it is an incredible way to take this information out of the office ... and get it into the hands of millions of people. That's a wonderful privilege ... I do have to say that I am emboldened by practitioners like you who have been doing this for a very long time and play such an important role in this education of the public.*

*You've been criticized by conventional medicine and by pharmaceutical companies. It really emboldens those of us who have our eyes open to say 'You know what? I'm going to speak the truth. I'm going to educate patients. I'm going to try to bring a few colleagues along. I'm going to be okay.'"*

## **How Patients Can Help Their Doctors**

As noted by Chutkan, many doctors still do not realize the wool has been pulled over their eyes. They don't realize they are being used to market drugs for pharmaceutical companies – some of which are effective, others not so much, and virtually all of which have side effects.

However, all is not lost. Just like Chutkan came to see the light after being repeatedly prompted by her patients to provide answers other than drugs, you too can affect positive change by talking to and informing your doctor about strategies that are important to you.

*"I think ... it's so important for patients to not just abandon their doctors," she says. "If you have a doctor and you have a decent relationship with them, but they're still hell bent on prescribing an antibiotic you don't need, I think it's so important to say to them 'This is why I don't want to take the antibiotic. Here is a book you should read.'*

*Because that's what people did with me. People trusted me. They felt that I had their best interest at heart. They took the time to educate me and I'm so glad they did. I think we have to bring a colleague along. We have to bring our physicians along and not just abandon them entirely."*

One of the books you can bring your physician if he or she wants to prescribe antibiotics is "[The Microbiome Solution](#)." It should really open their eyes. Chutkan is incredibly articulate, and her book is chockfull of valuable information that can have a tremendously beneficial impact on your health.