Dynamic Chiropractic

HEALTH & WELLNESS / LIFESTYLE

Your Gut: Why You Should Be Very Afraid

PROTECT YOUR INTESTINAL FLORA BEFORE IT'S SYSTEMATICALLY DEPLETED.

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We think it's so easy — just take that probiotic to make up for whatever damage might have happened from the prescription antibiotic your doctor gave you, and you'll be fine, right? And that antibiotic — you hear about antibiotic resistance, but you take it correctly, and you really needed it for that sinus infection, so it's not that big of a deal either, right? You're wrong in ways you can't possibly imagine – and that should make you very, very nervous.

The World Health Organization has started to use the phrase, "The Post-Antibiotic Era," to describe our current period of time. In September 2013, the Centers for Disease Control and Prevention issued its first solid numbers regarding antibiotic resistance. It estimates at least 2 million Americans fall ill to antibiotic-resistant infections and between 23,000 to 100,000 people die from them every year. There are 23 known bacteria that are *completely* resistant to anything we throw at them and that number, of course, is climbing.

This resistance has occurred for a couple of reasons. First, the CDC says 50 percent of the prescriptions written for antibiotics are unnecessary or inappropriate (for example, a broad-spectrum antibiotic is given when a culture isn't taken to determine a more targeted drug). Second, 80 percent of available antibiotics are actually given to animals in confined feed lots (which might make you decide to buy grass-fed, or at least, antibiotic-free, meat). Roundup® glyphosphate, found in conventionally raised farming, has been shown to have an inhibitory effect on food microorganisms and suppress beneficial bacteria in the gut.

You probably have no idea (and most patients certainly are in the dark) how ineffective antibiotics are for the things they're prescribed for most often. They're not effective for bronchitis, sinus infections or ear infections. They are incorrectly prescribed in 80 percent of strep infections. And of course, they are often given for the common cold or the flu, despite the fact that both are viral, because either the patient demands a prescription or the doctor wants to prophylactically prevent a secondary bacterial infection.

Think about all the times in your life you've taken an antibiotic — it's most often for respiratory conditions and yet is the least effective. The person who says, one or two months after their sinus infection, that they've gotten another one, probably has the same infection that wasn't properly handled or was resistant to medication.

When people feel better taking an antibiotic, it's often just because of a reduction in the pathogenic bacteria, not because it's actually killing them off; and it's been shown time and time again that taking an antibiotic only reduces your illness time by a day or two.

"But that's a lot!" you cry. However, if you knew taking that antibiotic might *permanently* damage your gut flora or cause other bacteria to become resistant, you might pause or possibly decline taking that medicine. And it's now been found that bacteria "talk" to each other, and convey

resistance to medications. Yes, that means bacteria are passing on antibiotic resistance to other bacteria.

The biggest problem is that our gut flora can't take this abuse. Let's start with some basics that will explain why this is potentially such a problem.

Impact on Gut Flora

You inherit your gut flora from your mother in a vaginal birth and continue to populate your gut with different strains from the air, food, soil, etc., until the age of 2, when it's "set." Going back to your mother, how healthy was her gut flora? How many antibiotics did she take in her lifetime? How about your grandmother?

We've had antibiotics for 80 years now and while there's no doubt they've saved a lot of lives, there's also no doubt they are less and less effective, and the collective damage to gut flora is irreparable. Add in the high Caesarean section rate and you can begin to get an idea that our gut flora are currently the weakest in human history. Studies are showing that babies born by C-section have higher rates of celiac disease and autoimmune disorders like type 1 diabetes and obesity.

Our gut flora outnumber our body cells by 10-to-1. Yes, we're only 10 percent human. The Human Microbiome Project is attempting to distinguish all the different actions and functions of the gut flora, but to give you some idea:

It is estimated that 70-90 percent of your immune system resides in your gut. Autoimmune diseases have been directly linked to imbalances in gut flora, and celiac disease has been directly linked to dysbiosis. I dealt with a patient in her 60s who got debilitating celiac disease after a single round of antibiotics, and another who improved his ulcerative colitis 80 percent by not washing the vegetables from his garden.

Gut bacteria are responsible for B vitamins, vitamin K, and the production of amino acids and fatty acids.

It is now thought that gut microbes, along with some of the inflammatory foods we're eating, like junk food and bad fats, make endotoxins, which are one of the root causes of inflammation. Rats with no gut microbes can eat any amount of "bad" foods and not gain weight or have inflammation, but when given gut flora, immediately develop high levels of endotoxins and the resulting inflammation. And those endotoxins? Huge contributors to leaky gut syndrome.

Your gut has the same number of neurons as your spinal cord, and about 95 percent of your body's serotonin is produced in the gut, as well as many other neurotransmitters. It almost seems odd, then, to have prescriptions for SSRI medications and never actually deal with what might be happening in the gut.

Your gut flora individuality is like a fingerprint, in that it's different for everyone. That being said, diversity is the key to health in regards to microbes; and if you don't have diversity, or you don't have the right type of bacteria, it leaves you open to a host of diseases, including obesity. It's this diversity of your gut, not just the number of bacteria, which seems to be key to staying healthy.

First World children have less diversity than Third World children, with corresponding levels of asthma and allergies, and even though rural Third World countries have greater exposure to infectious diseases and lower life expectancies, they also have much lower rates of overall degenerative and chronic diseases.

Irreparable Damage?

The use of antibiotics is what's frightening — they don't just deplete gut bacteria, but can actually permanently wipe out whole strains. Scientists are now going into remote areas of the Amazon and collecting gut bacteria from tribes that have never been exposed to Westerners, antibiotics or modern foods, and are finding that a pristine microbiome has huge diversity, including species never before sequenced.

Of course, how we have tended to look at bacteria is a "good" versus "bad" scenario, but it is much more complicated than that. First, everyone has pathogenic bacteria in their gut, but they are often kept under control by adequate amounts of beneficial bacteria. Take an antibiotic, however, wiping down or out our good guys, and the bad guys can flourish, leading to deadly *Clostridium difficile* infections, for example. Or take *Helicobacter pylori*, which we've been trying to exterminate since 1983, when it was linked to peptic ulcers.

But it's also been shown that *H. pylori* regulates acid in the stomach — when people eliminate their *H. pylori*, they have less peptic ulcers, but higher rates of acid reflux, Barrett's esophagus, and esophageal cancer, rates of which have soared since we've been eliminating *H. pylori*. It also calms the immune system (populations with higher *H. pylori* have lower rates of allergy and asthma), and regulates ghrelin and correspondingly, metabolism; obesity related to low *H. pylori* levels is currently being investigated.

What happens if you wipe out your home team so badly it can't recover? The symptoms can range from chronic, debilitating diarrhea, to malnutrition, anemia, systemic infections and death. When faced with a pathogenic infection as a result of taking antibiotics, most doctors employ the very method that got the patient in trouble in the first place — antibiotics — but what is becoming a quickly developing (and more effective) treatment is fecal transplants.

A fecal transplant takes the gut bacteria from a healthy person and introduces it to the sick person, often with shockingly dramatic improvements. In a study done with patients who had a *C. difficile* infection and never properly recovered (most had more than 150 days of incapacitating diarrhea), a fecal transplant reversed their symptoms in 24 hours, on average, with a total cure rate of over 90 percent. In fact, they halted the study because it became unethical to withhold such a successful treatment from the control group.

The problem is, you can't actually replace what you've lost. We're under the mistaken impression that you can simply take an antibiotic and then follow with a probiotic, and your gut will be completely back to normal – but that's not what being seen in research. Even fecal transplants, with their dramatic impacts, simply buy time for the home team to recover.

Probiotics also help to keep the "bad guys" in check, but don't replace lost strains. If my system got "flushed out" with some food-poisoning diarrhea, for example, I might use a probiotic pill to help my gut out while it repopulates, but when someone has to rely on probiotic pills for their digestion to be "normal," that's an indication that there's some dysbiosis / dysfunction in their gut. Taking higher and higher amounts of probiotics isn't great, either — buying one with insane amounts of colony-forming units (CFUs) can cause dysbiosis as well. And of course, there's no probiotic specific for your individual microorganism makeup.

A Preservation Strategy

Prebiotics, like the oligosaccharides found in vegetables and whole grains, as well as in breast milk (to encourage gut flora growth in a baby), are like food and housing for your home team — they

encourage your native flora to grow. Focusing on good prebiotics, as well as severely reducing foods like sugar and bad fats (which cause that inflammatory reaction with the gut flora and can encourage dysbiosis) would be a better plan of action.

"What if I take my home team and cultivate them in a Petri dish for sometime in the future?" I sometimes get asked. That doesn't work, either — when implanted back into the gut, your original "home team" bacteria don't survive long enough to reinoculate.

This is where the impact starts to hit people — when we begin to realize that we're destroying the biggest and most complicated "organ" we have from sheer lack of understanding. In labeling bacteria "good" and "bad," we've sanitized our houses, our skin, our bodies and our kids. The result is a confused and weakened immune system, obesity, neurological dysfunction, chronic diseases, and more modern, deadly diseases.

It was after all this research that I began to realize I would literally have to be dying to take another antibiotic. It makes more sense to keep my immune system strong, and use herbs and nutrition to fight infections if necessary, while in the meantime regularly eating the traditional foods that gave us a little probiotic help — fermented foods like sauerkraut, kimchi, kombucha, lacto-fermented vegetables, etc.

It's not just the specter of antibiotic resistance that should scare people silly. It's also the depletion of their own gut flora and the resulting physiological damage for following generations that might make you, or your now-educated patients, choose differently the next time they're in the doctor's office.

Resources

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