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How Spore Probiotics Can Help You

Analysis by Dr. Joseph Mercola | December 17, 2023

STORY AT-A-GLANCE

- Spore-based probiotics, or sporebiotics, consist of the cell wall of bacillus spores, which has a long history of successful use as an immune modulator
- Sporebiotics dramatically increases immune tolerance and is often capable of resolving food intolerances in autistic children and those with neurological disease such as multiple sclerosis, Parkinson's, ALS and Lyme disease
- Since sporebiotics do not contain the actual live bacillus strains, only its spores, they are unaffected by antibiotics and offer excellent microbiome support when you need to take such drugs
- Most people are under daily assault from EMFs, pesticides, airborne aluminum and other highly inflammatory environmental factors. Sporebiotics work on all levels as an antidote to those assaults
- The bacillus genus converts sugar into vitamin C. It's also involved in producing vitamin K in your gut, which works synergistically with vitamin D

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By now, you probably know that probiotics are beneficial for you, but you may not be aware of sporebiotics, and how they can benefit a wide variety of health problems, including autism and other neurological and immune-related diseases. Dr. Dietrich Klinghardt, a long-time mentor of mine, is both an M.D. and a Ph.D.

While trained in Germany, his practice is based in Seattle, where he sees some of the sickest patients around. Obviously, if you want good health, you need to clean up your diet. We won't go into that here. Instead, we'll focus on spore-based probiotics, which are an excellent complement to regular probiotics.

What Are Spore-Based Probiotics?

Spore-based probiotics are part of a group of derivatives of the microbe called bacillus. This genus has hundreds of subspecies, the most important of which is bacillus subtilis. Essentially, spore-based probiotics consist of the cell wall of bacillus spores. The first product of this kind came out in Germany in 1935 and was created by Gunther Enderlein, a German microbiologist.

Contrary to popular belief, the human body actually has the ability to produce its own vitamin C. This is done by a specific species of gut microbes — the bacillus — which converts sugar into vitamin C. It's also involved in producing vitamin K, which works synergistically with vitamin D.

> *"[T]hat was a revolution for me when I found this out,"* Klinghardt says. *"Other species then have the function of creating amino acids. In fact, there is a famous Swiss researcher, Bircher-Benner, who invented muesli … Bircher-Benner was a wonderful researcher, a medical doctor who, in the 1940s, went across different parts of the world to see how long people lived and what they ate.*
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> *He found a subculture in the Caribbean where people lived well into the hundreds, but they only ate one food. It was sweet potatoes. He thought 'How do this people survive on sweet potatoes?' Because there are no amino acids in it, no fatty acids. There's hardly any vitamins in it.*
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> *What he found is that these inhabitants had a species of clostridium in their gut. They were actually producing the whole spectrum of the essential amino acids and the whole spectrum of essential fatty acids [in their guts]."*

Spore-Based Probiotics Are a Primary Tool to Boost Immune Tolerance

There are at least 2,500 species of microbes living in your gut and most, if not all of them, serve your body in a symbiotic way. They either produce something you need, metabolize toxic products so they can be safely eliminated or help reset or balance your immune system and immune tolerance, which goes deeper than fighting inflammation. As noted by Klinghardt:

> *"Many of us have lost our tolerance towards the factors that are in our environment. Many patients have lost the tolerance toward food that would serve them in many ways, but they cannot tolerate it. The truth is that the healthier a person is today, the more immune tolerant that person is. That means, they're the ones that are not affected greatly by the electromagnetic environment.*
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> *They're the people that avoid the chemicals that are in the air and in the food — the aluminum in the air, the glyphosate in the food. The question was always, 'Is immune tolerance a consequence of good health?' Or 'Is immune tolerance actually the factor that makes people healthy?' I would postulate the latter.*
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> *So, the bacillus spores … dramatically increase our immune tolerance. With that it becomes not just one of the many things you can do for health, not one of the many other things you can try or put in your program, but it becomes a very primary issue. We have very few tools to predictively increase immune tolerance in a patient and the spores are right now No. 1."*

Spore-Based Probiotics Are Ideal if You're on Antibiotics

As mentioned, these spore-based probiotics do not contain any live bacillus strains, only its spores — the protective shell around the DNA and the working mechanism of that DNA. As a consequence of this, they are unaffected by antibiotics. Many are

overexposed to antibiotics, if not through medicine then through our food (as 80% of the antibiotics sold in the U.S. are used in food production).

Antibiotics, of course, indiscriminately kill bacteria, both good and bad. This is why secondary infections and lowered immune function are common side effects of antibiotics. Chronic low-dose exposure through food also takes a toll on your gut microbiome, which can result in chronic ill health, not to mention the fact that chronic exposure raises the risk of drug resistance.

The beautiful thing about spore probiotics is that they can more effectively help reestablish your gut microbiome since they're not being destroyed by antibiotics. Moreover, most acidophilus products have the drawback of not being able to survive the passage through your stomach acid if you take them on an empty stomach, which most people do. Poor-quality probiotics may not even be alive by the time you take them.

The Importance of Healthy Biofilm

If you take your probiotics after a meal, your stomach's pH will be slightly elevated, allowing some to survive, but you're still unlikely to get even 25% of the stated units of the product.

> *"For [probiotics] to become active and actually work for you, they have to germinate. That's number one. They start to germinate in the small intestine, and then they have to establish residency. That means they have to actually talk to the other microbes and be accepted by them. The other species basically have to welcome them and have to agree to a certain number of them so they can establish themselves there.*
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> *Because the bacillus species is a regular innate inhabitant of our normal bowel flora, the spores, once they [germinate], are fully accepted into the community of our resident gut microbiome, and unfold the property of their symbiotic contribution in the gut that way … [T]he research is very clear that the spores,*

when they … germinate, establish permanent residency for their lifespan, and start replicating in the gut …

By the way, the bacillus spores tend to also be very actively involved in creating healthy biofilm, and I think this is important for people to know, because biofilm has gotten such a bad rep recently.

All our resident microbes have a blueprint of themselves and leave a germinating layer in healthy biofilm, which lines the entire gut … [P]athogenic biofilm is a whole different animal, but we have to be careful with the insane strategies to destroy all biofilm.

Healthy gut microbes have a blueprint of themselves lining the entire gut in biofilm, and the bacillus is very involved in creating healthy biofilm. The biofilm is [like] a nursery for the [microbes] we need to help break down our food, metabolize it, talk to the immune system, creating immune tolerance and all that."

How Bacillus Spores Help Improve Immune Function

Once established in your gut, the spores help serve a number of important functions. One is to improve your intestinal barrier function. The mucosal barrier in your gut is what decides which nutrients are absorbed and which are to be excreted.

The intestinal barrier is also a major player in your immune function. So, to absorb the nutrients from your food, first the food must be properly broken down by the digestive process; then your immune system helps decide which components are allowed in and which are not.

As mentioned, the spores increase immune tolerance, which means they help repair damage in your intestinal barrier. According to Klinghardt, they've been found to play a significant role in healing leaky gut. Secondly, the bacillus spores communicate with your immune system, delivering instructions to increase tolerance towards different food particles and to increase absorption of the food.

"It's a fantastic step in all of medicine because we've been looking at all the other things that didn't work — the glutamine and various other probiotics that never really made a difference in that way. Now, the bacillus does that. It's absolutely beautiful what it does.

Research [also shows] it increases IgA, a protective immune globulin in the gut. The bacillus has a fantastic effect in actually increasing innate immunity, the Th1-based immunity, the cell-mediated immunity.

The common issue of people being so allergic today and so intolerant towards the environment really has to do with an upregulation of the Th2 shift. The adaptive immune system is usually activated at cost of the cell-mediated immune system and … vaccines play a huge role in that. There's a recent study showing vaccinated children have 14 times the incidence of severe developmental disorders and allergies.

And so, the beautiful thing of the bacillus is it reverses that. It moves the Th1 that's being suppressed by the vaccines back up into its balance point. We've observed — in the autistic children community — fantastic benefits. Some of the damage caused iatrogenically is reversed by simply taking this product in small amounts. A 5-year-old may just need the content of a quarter capsule once or twice a day to reset the system."

How Microbes Communicate With Your Immune System

The bacillus very effectively modulates cytokines — anti-inflammatory cytokines are upregulated while inflammatory cytokines are downregulated, thereby restoring balance between the two. This is important, as most of us are under daily assault from electromagnetic fields (EMFs), glyphosate- and atrazine-contaminated food, airborne aluminum and other highly inflammatory environmental factors. Spore-based probiotics works on all levels as an antidote to those assaults.

Klinghardt goes on to cite research by Luc Montagnier, who discovered the human immunodeficiency virus (HIV). He's spent the last few years looking at how microbes communicate with each other and with our immune system. As it turns out, they do that through emissions of electromagnetic waves in the light and microwave spectrum.

Some are also in the lowest frequency spectrum. So, microbes recognize each other and communicate with our immune system via electromagnetic signals. Chemical signals are actually secondary.

> *"One [microbe] sends out a spectrum of frequencies and the other microbe answers it by sending out the same pattern of frequencies … So, if you would stick a measuring instrument there, you wouldn't find anything because the two frequencies are exact mirrors of each other. They cancel each other out,"* Klinghardt explains.
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> *"When a new microbe comes in that is not welcome in the gut, there is none of the resident microbes in our immune system to cancel out their frequency.*
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> *This is how the immune system recognizes the foreign microbe, mounting a huge response to it. It's a mechanism that is before the excretion of cytokines, and when we talk about leaky gut and the different mechanisms involved with that, Montagnier found there's a huge involvement with electromagnetic mechanisms that can cause virtually any dysfunction."*

Cellphones and Microwave Radiation Damages Your Microbiome

Importantly, exposure to chronic and excessive levels of microwave radiation such as that from your cellphone, Wi-Fi, computers, tablets, wireless mice and more, will interfere with this communication.

This is yet another way by which this kind of non-ionizing radiation can impact your health. (For a whole other mechanism of harm, please see my **interview with Martin Pall**, Ph.D.) As noted by Klinghardt, your microbiome is "hugely [and] directly damaged by the electromagnetic waves we're exposing them to."

To put this into greater perspective, to understand why protecting microbes in your body is so important, consider this: The weight of the DNA in your cells is only 2% of the entire weight of all the DNA in your body, the rest belongs to the microbes living in your gut, sinuses, nose, eyes, skin and elsewhere on and in your body. Addressing EMF exposures has been a long-standing (and non-negotiable) aspect of Klinghardt's clinical prescriptions.

Klinghardt won't even accept you as a patient unless you agree to remediate your EMF exposure, which typically involves a consultation with a building biologist.[1] They typically bring $10,000 worth of very sophisticated meters to accurately identify and measure your magnetic, electrical and radiofrequency exposures.

I felt it was so important that I had one done for my home and even though I had most of my RF exposure resolved, they were able to identify an ELF exposure from my uninterruptible power supply for my computer that needed to be moved to keep me safe.

Bacillus Spores Increase Production of Other Beneficial Microbes as Well

Klinghardt has found that spore probiotics will, over time, completely heal intestinal mucosal barrier dysfunction and related problems. In many cases, it can take four to six months for full resolution, but as noted by Klinghardt, "We've never had a product that could do that." Research has also shown that these spores massively increase reproduction of acidophilus, bifidus and other microbes in your gut via the electromagnetic messages they send out.

This is entirely unique. When you take a regular probiotic, they primarily take care of themselves. Bacillus spores, on the other hand, actually enhance many of the other beneficial microbes. Bacillus spores also create 24 different substances that have strong antimicrobial properties. But they do not kill indiscriminately. They specifically suppress pathogens that do make a valuable contribution to the whole.

"I think it's important for people to know that the old idea that there are good bugs and bad bugs is no longer true. We know that bad bugs become good bugs the moment they're integrated in our microbiome and the moment they're fed with the food that actually makes them behave properly," Klinghardt explains.

"Every food [you] eat is a probiotic. It's either nurturing the symbiotic bugs in your system, or the pathogens, or (this is more important) makes out of symbiotic microbes pathogens that now behave in ways that is damaging us, or the right food can turn pathogens into symbiotic bugs.

I know that this is not an area that has been investigated properly or has been understood, but there really is no such a thing as a pathogen. It becomes a pathogen when we feed it the wrong way; when we threaten it with electromagnetic waves. I did research years ago that showed fungi that live naturally in the gut, which might actually have contributed to our health, end [up being] highly pathogenic under the influence of microwaves."

Clinical Observations

Some of the hardest to treat patients are autistic children, in most of whom the Th2 part of the immune system has built up, through excessive stimulation with vaccines for example, at the cost of the Th1 system. For clarification, two separate parts of your immune system fight disease in your body. One is the innate immune system, which is always at the ready to attack invaders, and the other is the adaptive immune system.

The adaptive immune system, in turn, consists of two separate arms known as Th1 and Th2. Th1 is commonly known as the cell mediated arm, and Th2 known as the humoral or antibody arm. Most vaccines preferentially stimulate the Th2 or humoral part of the immune system that produces antibodies.

As a result of having an overactive Th2 system and an underactive Th1, autistic children will often have severe food intolerances. Some can only tolerate two or three foods, severely limiting their nutrition. In these kinds of cases, spore-based probiotics have

been shown to increase the children's tolerance to a broad variety of foods within a few months.

Another difficult to treat patient group is those with chronic intractable neurological disease such as multiple sclerosis, Parkinson's, ALS and Lyme disease. "In that community, the spores have been invaluable," Klinghardt says. "They may have had 60 different documented food allergies before, but within a few months, there may only be five or six left."

He also sees a significant improvement in general neurological symptoms with the spores, as well as improvements in vision. Overall, nearly all patients Klinghardt treats experiences tangible improvements when given spore probiotics.

Lyme Disease Is a Hidden Culprit in Many Diseases

Lyme disease is notoriously difficult to diagnose and treat, and because the symptoms vary so widely from one person to the next, most don't even know they're infected. Klinghardt and Marco Ruggiero have now developed a way of testing phalanges to improve Lyme diagnosis. Amazingly, of the first 150 patients tested at his office, only two were clear of Lyme.

> *"When we broaden the definition of Lyme disease to include other chronic persistent infections like bartonella and mycoplasma, probably 80% to 90% of the U.S. population is suffering symptoms caused by chronic persistent infections, and that community … will improve to a degree or in major ways by adding in this beautiful immune modulator.*
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> *We know that with the chronic infections the symptoms are not really caused by the [microbes]. It's the immune reactions to the [microbe] or the lack of symbiotic immune tolerance towards the microbes, and with giving the sporebiotic, we have access to that expression of illness. So, why do we have to deal with all these chronic persistent infections now?*

Well, it's the same factors that drive that — electromagnetic radiation is the huge one. It's immunosuppressive as a whole and inflammatory at the same time. And it's the environment of toxins. It's really those two factors that have deranged our immune system in such a way that it can no longer control or eliminate the bugs that are not integrated in our healthy microbiome …

And so, with the Mega Sporebiotic, with increasing immune tolerance … our immune system stops attacking those microbes and actually start behaving. When they stop being attacked, they start behaving in symbiotic ways …

The pathogen is trying to be accepted into a greater community of other microbes, and the Mega Sporebiotic has been the magic switch in the system to make people tolerant … Quite honestly, having a probiotic now that actually works gets rid of 50 other products that our poor patients have to swallow every day."

Sporebiotics May Help Those Who Have Electrosensitivities

Another category of patients that can benefit from sporebiotics are those struggling with electrosensitivities. A conservative estimate is that 3% of people, and maybe as much as 10% to 15%, are hypersensitive to EMFs. That said, it's worth noting that several studies indicate that anyone exposed to cellphone radiation is damaged on a cellular level, whether you actually feel it or not.

Those who are hypersensitive, and feel the effects rather acutely, actually have the advantage of an early warning sign. Their discomfort prompts or forces them to implement remedial strategies to minimize exposure.

"I meet people every day that are suffering from this, who can no longer exist in the current city environment or even in the countryside, and need to look for sanctuaries where they can exist," Klinghardt says.

"We found there is [significant] evidence that these people either carry a high load of heavy metals in their system, which works like an antenna that

concentrates the radiation in their system, or what is more common, that they have undiagnosed Lyme disease.

[W]e have been successful in lessening the hypersensitivity largely by putting people on my non-antibiotic-based Lyme protocol plus protecting them from electromagnetic waves, which is part of my Lyme protocol.

And so, by giving the protection for a while, radical protection for about six months and treating the Lyme disease, most people with electrohypersensitivity become non-sensitive. I also give high doses of methylated folate for a while. This is a group that usually benefits [from] 20, 30 or 40 milligrams of methylated folate. It's great for stabilizing a large portion of this group."

More Information

For contact information to Klinghardt's clinic, information on different treatment protocols, such as detox support and his treatment protocol for Lyme disease and more, as well as upcoming events where you can meet Klinghardt in person, please see **klinghardtinstitute.com**.

While you certainly need to address your diet and other lifestyle factors, especially EMF exposures, sporebiotics can be a very helpful adjunct. As noted by Klinghardt:

"Seeding the gut with things that make it stronger, more resilient towards the offenses we present to it is a huge key to our time. We need to live through this insane time, and we need to use all the tools that give us more resilience, which is for me like a holy war.

Resilience means immune tolerance — tolerating the stresses of our time, and any tool that does it, that is healthy, that doesn't have side effects, is important to have in our tool chest. [Sporebiotics] is one of the major ones."

Sources and References

- [1] Building Biology Institute