An Interview with Dr. Natasha Campbell-McBride

By Dr. Joseph Mercola

DM: Dr. Joseph Mercola

NC: Dr. Natasha Campbell-McBride

Introduction:

DM: Welcome, everyone. This is Dr. Mercola. Today we are joined by Dr. Natasha Campbell-McBride. We’re really delighted to have her back. We’ve had her on a number of times.

As many of you know, she is a formally trained neurologist from Russia who unfortunately had a child who developed autism. She diverted her interest from her practice to take care of her child and learn quite a bit. In her journey of understanding, she’s been able to not only help her own child, but help many other children across the world with the application of the principles that she learned.

I really think it’s one of the most profoundly important new applications that I’ve learned recently with respect to optimizing not only the treatment of autism, but really the treatment of all health, because the optimization of your gut flora is just so essential. Today we’re going to be talking about immunity, and how this optimization of the gut flora impacts that, because there’s such a profound dynamic and interaction that contributes to that. Welcome.

NC: Hello.

DM: Thank you for joining us again. Maybe you can expound on my introduction and delve right into the topic of immunity.

NC: Absolutely. Hello. I do like to be here again. Thank you, Joe, for this wonderful opportunity again to talk. In my previous interviews, we talked about what GAPS is. It stands for Gut and Psychology Syndrome, and Gut and Physiology Syndrome. Thankfully, both abbreviate to the same, to GAPS. GAPS movement is growing around the world. It establishes a connection between the functioning of the digestive system of the person, and the functioning of the rest of the body.

Gut and Psychology Syndrome, I’ve got already a book about it, covered all the problems that we can develop in our nervous system or in our brain. We talked about autism, dyslexia, dyspraxia, various other learning disabilities, psychiatric disorders, addictions, eating disorders, depression, obsessive-compulsive disorder, bipolar disorder, schizophrenia, epilepsy, and other mental disorders.

But in the Gut and Physiology Syndrome, we can talk about other diseases, which are not located in the nervous system but located in the rest of the body. We can talk about various forms of
arthritis, asthma, allergies, skin problems, kidney problems, digestive problems, and autoimmunity.

Today I would like to focus on the immune system, because immune abnormality is a very important part of GAPS and a very important part of every degenerative disease on our planet whether it is psychiatric disease, learning disability, psychological disorder, or any physical condition. Why is that? It’s because about 85 percent of our immune system is located in the gut wall. This fact has been established by basic physiology research in the 1930s and the 1940s.

Our gut, our digestive wall, is the biggest and the most important immune organ in the human body. There is a very tight conversation and a relationship going on between the gut flora that lives inside our digestive system and the immune system – very, very tight relationship. The gut flora – the state of the gut flora and the composition of microbes in your gut flora – has a profound effect on what forms of immune cells you will be producing on any given day, what they’re going to be doing, and how balanced your immune system is.

When we talk about allergies, for example, and allergies are very widespread problem now in the modern world... If you stop any person on the street, and ask them if they got any kind of allergy, the answer is likely to be “Yes.” Some people would say, “I react to pollen.” Other people react to animals. Some people react to domestic cleaning chemicals, personal care products, or foods. Some react to milk. Some react to egg. Some react to other foods. Pretty much every person will tell you, “I’ve got some kind of reaction, some kind of allergy. “Where do allergies come from? They come from the fact that the immune system in these people is unbalanced.

What our science has discovered is that there are two major arms in our immune system. One is called Th1 immunity, and the other one is called Th2. A recent scientific research found Th3, Th4, and even Th5. But that is very much recent, and we don’t know much about those arms yet. Those two major arms we know quite a lot about.

Th1 immunity is responsible for normal reactions to anything in the environment – to pollen, animal dandruff, dust mites, chemicals, foods, and anything else that your body comes in contact with.

This arm of the immunity, Th1, is kept up to its job, healthy and robust, by your gut flora. When the gut flora is normal, you will be in contact with pollen or in contact with cats, dogs, horses, or anything like that, your immune system will deal with it, and you don’t need to even know about this. And you will not know about it, because there will be no symptoms. But if your gut flora is abnormal, Th1 arm of the immunity becomes disabled. What happens in that situation?

The second arm, Th2, which is not designed to handle these environmental influences (it is designed to handle other functions inside the liquids of the body, inside the body), it tries to compensate for its disabled brother. It tries to react to pollen. It tries to deal with dust mites. It tries to deal with dandruff from animals. It tries to deal with foods, chemicals, and other
influences from the environment. But it doesn’t have the right kind of tools to deal with them. It deals with them in an inappropriate way, in an allergic, atopic way.

Suddenly, you start reacting to pollen. You develop hay fever, or you start reacting to your cat, dog, horses, or to other animals around. You start reacting to your makeup, shampoo, perfume, milk, eggs, meats, or anything else in the environment.

The biggest groups of people that suffer from this situation are people with food allergies and intolerances. This condition is still not recognized by the mainstream medicine, because they only recognize two allergies. This is an anaphylactic type allergy, when your lips swell and you can’t breathe, and it can be a very serious situation – like peanut allergy, for example. But food allergies and intolerances are very different group of allergies. They’re not mediated by the same immunoglobulin as the true allergies are.

They can manifest themselves today, a couple of hours later, tomorrow, a couple of days later, or even a couple of weeks later. Different reactions can overlap on top of each other. For example, on any given day you can be reacting to broccoli that you have just had for lunch, and to lamb that you’ve eaten yesterday, and to egg that you’ve eaten two days ago, and to a piece of bread that you’ve eaten 10 days ago. All of these reactions overlap on top of each other. On any given day, you have no idea what exactly you’re reacting to.

Trouble is, these food allergies and intolerances can bring up any reaction under the sun. It can be a headache. It can be sneezing. It can be a skin rash. It can be coughing. It can be abdominal pain. It can be swollen joints. It can be psoriasis. It can be eczema flaring up. It can be [inaudible 8:26] or it can be chronic cystitis. It can be an episode of depression, anxiety, or a panic attack. Any kind of symptom can be brought up by food allergies and intolerances.

Where do they come from (food allergies and intolerances)? They come from the fact that your immune system is out of balance. At the same time, what’s happening because your gut flora is abnormal, the gut lining deteriorates. The lining of our digestive system is maintained and looked after by our gut flora. The gut flora makes sure that the cells that line your digestive system are healthy, well-fed, and protective from any chemical attack, or from any microbial attack.

But when the gut flora is abnormal, these cells deteriorate and the junctions between them open. The gut becomes damaged, leaky, or porous. It becomes like a sieve. Foods don’t get the chance to be digested properly before they are absorbed.

They’re absorbed in this maldigested or partially broken down form. When the immune system and the bloodstream finds them and looks at them, it doesn’t recognize them as food. It says, “You’re not food. I don’t recognize you,” and it reacts to them. It creates immune complexes, which attack these partially digested proteins. As a result, we’ll get all sorts of symptoms in the body. When you have a food allergy and intolerance of this kind or sort, you don’t focus on the food. It is not the food’s fault.
You focus on healing and healing your gut lining. It is your digestive system that is letting through partially broken down food.

There are many testing methods developed now for food allergies and intolerances. There are many laboratories around that would test your blood or test something else for you. If one had enough money to test twice a day for two weeks in a row, you would discover that you react to everything you eat – pretty much to every food on this planet. Because as long as your gut lining is like a sieve – as long as it is damaged – all food will not have a chance to be digested properly. It will absorb partially digested, and your immune system will be reacting to it, bringing a plethora of symptoms.

Majority of practitioners who are experienced in this area give up on testing. They recommend not to spend your money on testing anymore. They recommend to focus on healing and sealing your gut lining. Then these food allergies and intolerances will disappear, and you will be able to eventually start eating foods that you could not tolerate before.

The GAPS Diet is the diet that to heal and seal your gut lining – particularly, GAPS Introduction Diet. You need to go patiently from stage to stage of the GAPS Introduction Diet, and you will heal and seal your gut lining.

**DM:** It seems to be a far more cost-effective strategy, because allergy testing can be very expensive from several hundred dollars to several thousand dollars. There’s a lot of controversy depending on which type you’re looking at. It seems to be a far sounder strategy to treat the cause rather than to identify what the specific allergens are.

**NC:** Absolutely. Because this idea of you just test and then remove the food that you react to come from the realms of the real IgE-mediated allergies, such as peanut allergy. There, if you have a real, true allergy, if you have one peanut, you can die, because you will just stop breathing. Your breathing passages will swell, and it can be a serious emergency situation. But food allergies and intolerances are completely different. They’re very different. They are due to the damaged integrity of the gut lining.

Instead of testing and removing foods, you need to focus on healing and sealing the gut lining.

Every practitioner sees that people like that. These are the kind of patients who do a test, and they remove a bunch of foods out, so their diet becomes limited. But then they find out that there has been some improvement, but not enough. Then they start reacting to the foods that were left in their menu, so they remove more foods and more foods. Eventually, they are left with largely nothing left to eat, and they still react. They’re still not sure that the foods that are left in their diet are safe for them. Because as long as your gut is damaged, as long as it remains to be like a sieve, you will be reacting to everything you eat.
Instead of doing that juggling with testing and trying to remove different foods, it is much better to focus on healing and sealing your gut lining with GAPS Nutritional Protocol. And you will find that your food intolerances disappear. There a quite a few people now on the Internet who have gone through the Introduction Diet of the GAPS program, and they have removed their food allergies. They have recovered from this debilitating condition. Some of them are even doing Internet cooking courses on how to follow the whole program, on how to heal and seal your gut lining and remove food allergies.

This is one aspect of immune system abnormalities. Let’s move to other aspects. From allergy, let’s move to autoimmunity. Autoimmunity is a huge problem in our modern world. Our mainstream medicine has identified the best part of 200 autoimmune conditions so far, and the list is growing all the time. The testing in autoimmunity is fairly expensive, so not many people get tested. But the more we test, the more we realize that pretty much every degenerative condition has got an autoimmune component.

Why is that? What I find in my clinic and my GAPS practitioners are finding now that every GAPS person has got an autoimmune component. Why is that? Because 85 percent of your immune system is located in your digestive wall, in your gut wall, and the state of your gut flora has a direct and very profound effect on the way your immune system functions.

Of course, when the immune system is not functioning well, when it is out of balanced (because it doesn’t receive the appropriate balance from the gut flora), at the same time the gut lining is damaged and leaky, all these foods are absorbed, partially broken down, and partially digested. The immune system is overloaded with work. It’s completely overwhelmed with work.

At the same time, our immune system is a very hungry organ. It needs feeding. It needs quite intense feeding all the time. People with abnormal gut flora – GAPS people – do not digest and absorb their food properly, so they develop multiple nutritional deficiencies. Their immune system is starving. It’s not being nourished properly, while being overloaded with work. At the same time, a river of toxicity are flowing from the gut into the bloodstream of these people, because all those pathogenic microbes sitting in their gut flora are converting the food that comes along into hundreds and hundreds of very toxic chemicals, very toxic substances.

These substances are absorbed as well into the bloodstream with the damaged gut lining. The immune system gets quite a lot of this toxicity, so it is intoxicated. It is damaged by various toxins. We have a poor immune system, which is malnourished. It’s intoxicated. It is unbalanced and, at the same time, it is challenged with a huge amount of work to do. Of course, it cannot function properly. Of course, it cannot react appropriately to various things.

Autoimmunity is the result of that. There are many mechanisms of autoimmunity that more of us discover and we understand.
The first mechanism that has been discovered in the 1940s and 1950s is called the mimicry phenomenon. That was discovered when the scientist were researching rheumatic fever. Before antibiotics were discovered, before antibiotics were invented, rheumatic fever was a very serious disease. Many, many people fell prey to it and died from it. It develops as a result of Streptococcal infection in your tonsils or in your throat. These Streptococci have got certain proteins in their outer wall, in their cell membrane.

Once the immune system learns about those proteins and develops antibodies against them, it then finds similar proteins in your own body and attacks them. As it happens, Streptococcus has got the kinds of proteins in it which looks very, very similar as proteins in your heart looks.

That’s why the tradition… The classic saying about rheumatic fever was that rheumatic fever leaks the joints, but bites the heart. A person will have strep throats, these antibodies will be developed, and then they will damage the heart walls of the person. People would develop heart problems, serious heart problems close to heart failure. That phenomenon of mimicry or of mimicking has been discovered starting from that disease.

What we have to understand is that we evolved on this planet, the whole life evolved on this planet billions of years starting from the first primordial soup. The kinds of proteins that we have in our own bodies are very similar to proteins in our food. If these proteins in your food have not been digested properly, if they’re absorbed in a partially broken down form, the immune system then develops antibodies against all proteins. These antibodies will find similar-looking proteins in your own body – in your joints, brain, lungs, skin, and in other organs in your body – and attack them as well. This causes reaction. This mimicry phenomenon is one of the mechanisms of how autoimmunity develops.

Another mechanism comes from toxicity. The various toxins that we talked about which are produced by the abnormal flora in the digestive tract, are various pathogenic bacteria, viruses, fungi, worms, protozoa, and other pathogens in there.

As they’re absorbed into your bloodstream and get circulated around your bloodstream, many of them like to attach themselves to proteins. They will find a protein that is in its three-dimensional structure and is compatible with the molecular structure of this particular chemical and will attach itself to it. When this toxin has attached itself to the protein, it changes this three dimensional look of that protein.

Our immune system is constantly surveying our body. It’s constantly racing around and checking that everything is fine. When our immune system finds this changed proteins with a toxin attached to it, it looks at it and says, “You’re not mine. You don’t look like mine. You look foreign,” and it attacks it. As a result, it develops antibodies against those particular proteins. This mechanism is particularly at work in multiple sclerosis in patients. We have researched that quite a lot.
Mercury, lead, aluminum, other toxic metals and organic molecules which contain this toxic metal in them have a particular propensity for getting stored in high fat tissues. Your brain and the rest of the nervous system, particularly the myelin sheath on your nerves, are very high in fat. These toxic metals target your brain and target your nerves.

But when they get accumulated on those high-fat tissues, these toxins attach themselves to proteins in your myelin, in the white matter of the brain, and other parts of your nervous system. Once they’ve accumulated, once they’ve attached themselves to those proteins, they change their three-dimensional structure. Then the immune system develops an antibody against your protein and your myelin.

That is the number one antibody, which is at work in multiple sclerosis. It is called a myelin-specific protein antibody. It’s an antibody which attacks proteins in your myelin. If your immune system’s got punctured holes (usually holes in your myelin), destroys myelin, creating these patches that the doctors can see on the MRI scans that is now the standard for diagnosing multiple sclerosis. You have to have this MRI scan. On that scan, they see these patches where the immune system punched out these holes.

What the immune system is trying to do is it’s trying to clear out mercury, lead, and other toxic metals out of the nervous system, which got stored in there. Where do they come from? 99.9 percent of anything toxic in your body comes out in the digestive system. When your gut wall is damaged, when it is porous and leaky, there is a river of toxicity and partially digested proteins and microbes themselves flowing from your gut into your brain, abusing your immune system, starting all sorts of reactions, and starting all sorts of problems.

The most common autoimmune conditions that people are diagnosed with today are multiple sclerosis, amyotrophic lateral sclerosis, rheumatoid arthritis, osteoarthritis, lupus, various neuropathies, psoriasis, alopecia, chronic cystitis, and many, many other conditions. As I’ve said, they’re the best part of 200 various autoimmune conditions discovered by our mainstream medicine so far. What really happens…Let’s take note of sclerosis as an example.

There’s an epidemic of multiple sclerosis, quite a serious percentage of that epidemic, of course, by new formulation of amalgam fillings in the teeth of people. About 20 years ago or 15 years ago, the dentistry has changed the formulations of amalgams. They moved to high copper amalgams. These amalgams release much higher percentages of mercury into your mouth, which you’re constantly swallowing, and that goes into your digestive system and absorbed into your bloodstream. That caused quite a spike, quite an increase in the incidence of multiple sclerosis and amyotrophic lateral sclerosis, because mercury stores in your myelin sheath and it stores in the rest of the nervous system. That starts the process.
The interesting thing that Mother Nature does and the interesting thing that our own bodies do, when the body is unable to clear a particular toxin on its own, it doesn’t have strong enough mechanisms to clear the mouth, the body will invite and employ microbes from the environment to clear these toxins for it. It employs viruses. It employs bacteria. It employs parasites. It employs other microbes. The microbes in the environment are not our enemies at all. They’re actually our allies. They’re our helpers. Your body employs them when it needs them.

If you have accumulated certain amount of mercury in your brain scan and in your nerves, and they cause you multiple sclerosis, the body might employ a virus. If you catch a virus, if you got a cold, that virus (many, many viruses target your nervous system) will go directly to those patches in your brain and your nervous system and attack them. It will start gobbling it up, start clearing it out. Of course, the immune system then joins in trying to attack the virus. It joins in with the inflammation, and you get the whole symptoms of multiple sclerosis.

You will get tingling. You will get numbness in your face or in your extremities. You might start wetting your bed, or you might get peripheral loss of vision for a while, optic nerve (optic neuritis) for a period of time. That’s one of the first symptoms in multiple sclerosis.

What happens in this situation if you would just feed your immune system properly and if you would leave the whole work for the immune system to complete, then these symptoms would last for a month or two and it will disappear, because the immune system will… The virus will gobble up the nutrient and the immune system will clear out the virus. Your nerves will recover and solves naturally.

Unfortunately, that doesn’t happen now. Nowadays, as soon as people get tingling, numbness, and other symptoms, they run to the doctor. What does the doctor do? The doctor puts them on steroids or other medication that will shut the immune system down. That will not allow the immune system to clear out the viruses. As a result, the viruses spread and establish themselves better. The disease becomes chronic and permanent. You develop multiple sclerosis for the rest of your life.

Every time the immune system tries to create those viruses, the rules are applied again. Some other medication is applied to shut the immune system down and the whole condition becomes chronic.

In the olden days before we had steroids and before this prescription was the standard, when the person after a viral infection got tingling and numbness in their arms, face, or somewhere else, they will just be told by the doctor that this is post-viral. Just eat well, sleep a lot, and rest. It will pass. And they’d think it would pass.

If you allow your immune system to complete the work, it will complete it. It would clear out the virus and will remove the problem permanently. You don’t have to suffer from multiple sclerosis for the rest of your life. The same with amyotrophic lateral sclerosis. It is a very similar
condition. It just develops in a different part of our nervous system, and as a result brings up slightly different symptoms.

But of course, many multiple sclerosis patients and amyotrophic lateral sclerosis patients find that they do need to find a holistic dentist, and they do need to remove their amalgam fillings. They do need to remove the source of mercury in the body. Because if mercury keeps coming, then the virus will keep being employed by the body to attack, and it will keep damaging your nervous system and your immune system. You’ll keep trying to clear out the virus, so your symptoms will not go away. The whole situation will continue. Mercury has to be removed. The amalgams have to be removed.

Another very common autoimmune condition that we have in our modern world is rheumatoid arthritis, osteoarthritis, and various other forms of arthritis. These things are due to the fact that many toxins that are absorbed on the damaged gut in the GAPS person like to target collagen.

Collagen is the most ubiquitous protein in your body. It is an elastic protein which holds us together. It holds your body together. It makes your body elastic, and it gives the tone to the whole body. Without collagen, we’ll be just a puddle on the floor. There are many different forms of collagen protein in the body. There it is in different fractions, joints, and tissues.

Various toxins like to attach themselves to collagen molecules, particularly the byproducts of yeast overgrowth. Yeast produces alcohol. As the alcohol absorbs and heats your liver, the liver converts it into a very toxic chemical cold acetaldehyde. Acetaldehyde then absorbs, and acetaldehyde likes to attach itself to collagen molecules. But when it attaches itself to molecular collagen, the immune system then finds that molecule, looks at it, doesn’t recognize it as yours, and attacks it. You get inflammation, stiffness, and swelling in your joint.

The situation usually begins with a condition, which is called migratory arthralgia. What happens here… Our detox system is usually the most active while we sleep during the night. A bunch of toxins came in when you were asleep. It targeted a particular joint in your body, attached themselves to collagen in your joint. The immune system starts clearing that toxin out, causing inflammation. You wake up in the morning and your knees are swollen, hurt, and painful. A couple of hours later or a couple of days later, the immune system has cleared that bunch of toxins out, the inflammation subsides, and your knee is perfectly fine and perfectly normal.

But then next morning you wake up, your tongue is swollen. It hurts, because another bunch of toxins came in and caused the same situation. A couple of days later, inflammation is gone. Your tongue is normal again. It’s fine, no pain, no swelling anymore, but you wake up a couple of days later, and your elbow is swollen. The inflammation migrates from joint to joint. If you heal your gut, if you focus on healing and sealing your gut, and if the level of toxicity coming in drops dramatically, this situation will be cleared permanently. You will never have it again.
But if the condition continues, if toxins keep coming, and if the amount of toxicity increase over time, then your immune system will not be able to cope with the level of toxicity, and the inflammation will become permanent. Joint after joint after joint, you will start getting more and more inflammation, and the arthritis will become permanent and chronic.

Then if the mainstream medicine finds the particular antibody, against your collagen molecules, it would pronounce that you have got rheumatoid arthritis. Or if they’ve got another antibody, you will have osteoarthritis or some other form of arthritis. That’s how it develops.

In order to heal arthritis and get rid of it, you need to change your gut flora, normalize it, and you need to heal and seal your gut lining. Then the immune system will recognize that situation. It will get re-balanced again, and it will stop attacking your joints. It will bring the whole situation down.

What people have to understand is that we all – 100 percent of humans – have in our bodies antibodies to deal with multiple sclerosis, amyotrophic lateral sclerosis, rheumatoid arthritis, osteoarthritis, lupus, or any other autoimmune condition.

How does that happen? We all have got a potential for these diseases. But we do not develop them – not all of us. They only develop in a certain situation. How does that happen? It starts developing in the uterus, when you were inside your mom’s womb, still a baby. As soon as a baby is in the uterus as a fetus and the immune system is developed, some form of immune system. As soon as thymus, a little gland behind your sternum develops, the proteins that float in mom’s blood and enter the bloodstream of the baby are starting to educate the immune system. The immune system will allocate a particular cell to every protein. It will tell that cell – that T-cell – “You go and learn about that protein and remember it.” Once the cell memorizes that particular protein, it is put into a library inside your body, largely in the thymus again. There’s a large library there. That little cell will be piled away on to its shelf and catalogued properly by the immune system. When we are born and in the first few years of life, we develop a huge library, where your immune system has got a cell for each protein on this planet.

Our immune system knows a configuration and knows how each protein on the planet looks, whether it’s in the food, drink, colon, in something we breathe, or in something that comes in contact with our skin and mucous membrane. But then in order for that protein to actually attack your proteins inside your body and start an autoimmune condition, the immune system has to pull that book off the shelf, open it up, and say, “Now you’re becoming active. Now I’m going to send you to the nervous system and attack myelin, or send you to the joints and attack collagen or something else.”

How does that happen? That happens when the immune system… The immune system in a human body is staggeringly complex. It’s an amazing organ. It’s amazingly complex. The checks and balances are so complicated. We only touch a tip of an iceberg in our research work on our
immune system. But what happens is the immune system has to be in balance. It has to be in a certain state in order to pull that book off the shelf, and send it to start destroying your particular tissue and particular proteins in your body because they have been attacked and contaminated by toxins or some other influence. That happens. This imbalance in the immune system is created in your digestive system or gut wall.

Autoimmunity is born in the gut. That’s where it comes from – your gut wall. That happens because your gut flora is abnormal.

In order to heal any autoimmune condition – whether it’s multiple sclerosis, rheumatoid arthritis, osteoarthritis, lupus, alopecia, psoriasis, or anything else that has got an autoimmune component – you have to focus on healing and sealing the gut lining with the GAPS Nutritional Protocol. And you have to focus on changing your gut flora, normalizing your gut flora. You have to drive out the pathogens from the gut flora. You have to replace them with the beneficial flora.

Then a lot of healing will happen. Your immune system will re-balance itself, and it will bring all those books back to the library. It will put them back on the shelf, catalogue them, and tell them, “Sit here and don’t do any harm in here.” All of us have a potential for developing any kind of autoimmune condition, because we have got that kind of library in our bodies.

All immune abnormalities, whether it’s allergies, autoimmunity, or any other immune abnormality is born in the gut or in the digestive system. These are essentially digestive disorders, and they need to be treated as such.

Unfortunately, our mainstream medicine is not yet aware of this research. They have not consolidated it. They may not be aware of it. If you talk to your mainstream doctor, they may look at you in surprise and not recognize what you’re talking about. But you have to understand that our mainstream medicine doesn’t have a monopoly on knowledge. If your doctor doesn’t know something, it doesn’t mean that the knowledge doesn’t exist elsewhere. It usually does. You just have to look elsewhere.

Coming back to GAPS and coming back to the gut flora, what we have to understand is that the roots of your health are sitting in your gut. If the roots of a tree are sick, no matter how far away from the roots the branches, twigs, and leaves might be, they are not going to thrive. The tree is going to rot and die.

When you go to farming conferences and you look at the photographs of roots of plants that are shown on the screen, the roots of plants are sitting in a soil. It is the help of the soil that maintains those roots, makes sure that the roots are healthy, that the whole plant thrives and is fed properly.

The soil – if you look at the soil composition – is a community of microbial creatures. It is a living community of living organisms. The soil is made largely out of bacteria, fungi, viruses,
protozoans, and various other creepy crawlers in there. The soil is alive. It’s only in the mass of organic matter these things live together.

This community has to be very balanced. All the species of microbes in there have to balance each other. They keep checks and balances of each other. They don’t allow any of them to get out of control and proliferate at the expense of everything else. A balanced healthy soil will make sure that the roots of the plants are healthy and the plant is healthy.

But when we look under the electron microscope at the gut lining, we find exactly the same picture. In fact, it looks very similar to the roots of the plant sitting in the soil. The microvilli, the brush border of the absorptive surface of the gut, looks very much like the roots of the plant, those tiny thin roots and long stringy things. They are sitting in their own soil – your gut flora.

Your gut flora inside the digestive tract is your soil. That soil has to be healthy. It is also made out of thousands and thousands of various species of microbes. They have to be in the right balance. They all control each other, and they don’t allow each other to get out of control and to proliferate too much.

Every time you take antibiotics, you introduce an imbalance. You kill off a part of that microbial community. As a result, other microbes that these microbes used to control get out of control, and you introduce an imbalance.

Every time you take another pharmaceutical medication on a chronic, long prescription basis, if you take something for months or years, you create the same imbalance. Every time you have amalgams put into your teeth, you’re swallowing masses of mercury, copper, and some other metals, which will also poison some species of microbes in your soil inside your digestive system and introduce an imbalance. A sick soil will create sick fruits, and it’s the roots of your health that are sitting inside that soil or inside your digestive system.

A recent research has demonstrated that 90 percent of all cells and all genetic materials in your body is your gut flora – is your soil. You are just 10 percent – just a show, a habitat for this mass of microbes. And we ignore these microbes that are [inaudible 39:25]. This is the soil inside the roots of your health. If the soil is sick, nothing in the body can function well.

Of course, your immune system is right there. Eighty-five percent of it is located in your gut wall. The relationship between the soil inside your digestive system and the immune system is very, very intimate, very tight. Any abnormality in your gut flora will translate into abnormality in the functioning of your immune system. As a result, you will develop disease.

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DM: Yeah. There’s an amazing – I guess – observation that you just mentioned with respect to the number of bacteria in our body. It’s a hundred trillion bacteria, and we only have 10 trillion cells. Interestingly, I’m not sure if Caroline has gotten back in some of the studies that we did
with the fermented foods, which is ultimately a huge part of the solution that you’re recommending to address these issues… But many people will try to swallow probiotic pills to enhance and supplement their good bacteria in the gut.

As you know, most probiotic pills – it’s unusual for them to have 10 billion colony-forming units. We have some of the highest ones in our products. Two of them are over 100 billion. But when we actually did measurements, we took the fermented vegetables that were actually produced by starter cultures of these probiotics. When we actually took the analysis on it, they had 10 trillion colony-forming units of bacteria. Literally, one serving was equal to an entire full bottle of a high potency probiotic. You’re just far better off to have the food solution. Basically, create your little farm in your kitchen than to try to swallow them by taking a commercial supplement.

NC: Absolutely. That is the most natural way for us to get probiotic bacteria. What many people don’t realize is that until the last few decades, humanity had no refrigeration. We didn’t have freezers and fridges. How did people preserved their food? When your cabbages were ripe in autumn, if you didn’t do something with them, in few months’ time, they will rot away, and you will be left without a cabbage. Or when you kill the whole deer and you can’t eat all of the deer at once, what do you do with it without refrigeration? The meat will rot in a few days, and you’ll be left without meat again. What did people do from millennia in order to preserve their food? They fermented it. Every traditional culture, when you look at their traditional diet, they ferment it (foods). They fermented everything. You can ferment dairy, grains, beans, vegetables, fruits, meats, and fish. Everything can be fermented, and there were fermented beverages in every culture. When the cabbages were ripe in September, you made it a fermented cabbage. Perhaps for a month or two, you were eating fresh cabbage, but then for the rest of the year, 10 months of the year, you ate your cabbage in a fermented form.

Quite a large percent of all the foods that people consume on a daily basis were fermented. And with every mouthful of these fermented foods you consume trillions of beneficial bacteria…

DM: Yeah that will put trillions. I mean that’s really what it is, just enormous amounts.

NC: Exactly.

DM: Do you know how far back from – I guess – studies that our ancestors’ fermentation process was going on? Do you know what the records show about how long people have been fermenting foods? I’m just curious.

NC: For as far as we have the records… It’s coming from Russia. I know the classical Russian writings, which some of them date to the 10th century. There are mentions of sauerkraut, and there are mentions of kefir and other fermented milk beverages and milk products. In the culture,
people consumed mostly cabbage in a fermented form. Only for a very limited time of the year, they have cabbage fresh. Cabbages were a staple in Russian families, so people consume a lot…

**DM:** Maybe you can just review for our listeners the chemistry as to why fermentation stops their food from rotting? What type of conditions it sets up with respect to pH and other variables that allows the food to be preserved rather than rotting away?

**NC:** Absolutely. Mother Nature is extremely wise and extremely kind. It populated all organic fruit and vegetables, the dust on our soils, and all plant matter. It populated them with Lactobacilli. The fresh cabbage leaves, if it’s organically grown, if it’s a real cabbage (not the one from chemical farming), it will be covered in Lactobacilli, in lacto-fermenting bacteria. You don’t need to add anything. You just chop it up. Add some salt in the initial stages. The salt is added in the initial stage in order to stop putrefactive bacteria from multiplying.

Then as the Lactobacillus stop working and start multiplying, they produce lactic acid. That’s why they’re called Lactobacillus. That’s just lactic acid. If you look at the research in lactic acid, it is one of the most powerful antiseptics. It kills off lots and lots of bacteria. Most of them, it just kills off. As the lactic acid starts producing, it will kill off all those putrefactive and pathogenic microbes and preserve the food. It’s a great preservative.

Once you’ve made a sauerkraut – the good batch of sauerkraut can keep for five to six years without spoiling or rotting at all, as long as it is covered by its own juice. Lacto fermentation is an anaerobic process.

**DM:** That’s without refrigeration.

**NC:** Without refrigeration, of course, because people didn’t have refrigerators. There was no refrigeration for thousands of years. Only in the very recent times we’ve invented it. People just stored their sauerkraut in great beer oak barrels and at a room temperature, or in the cellar where it is cooler. That would last and last and last.

James Cook, one of the most celebrated explorers around the world who discovered Australia, New Zealand, and many other places, how did he prevent scurvy on his ships? He had barrels and barrels of sauerkraut.

**DM:** [Laughs] I bet that’s not widely known.

**NC:** It is not widely known. Because vitamin C has not been discovered yet in those days, he just knew from experience that if you took barrels of sauerkraut with you, they will not starve. He had to stand. His crew had to stand months and months in the sea before they could find any land and could find any plant matter to get some vitamin C. They just knew that sauerkraut prevents it.
How does that happen? Apparently, when we ferment cabbage, the Lactobacilli, as they break down the plant matter during the fermentation process, they release nutrients. They make them more bioavailable. They pre-digest the products for us, so sauerkraut is much easier to digest for the human digestive system than fresh cabbage.

The amount of bioavailable vitamin C in sauerkraut is 20 times higher than in the same helping of fresh cabbage. Because in the fresh cabbage, vitamin C is bound in the cellulose structure and various other molecules in there, and our digestive system is just not able to cleave it off and absorb it. Lots of it goes undigested and come out right out of you. Despite the fact that cabbage may be very rich in vitamin C, a lot of it you will not be able to absorb.

But if you fermented that cabbage and made sauerkraut, all the vitamin C becomes bioavailable, easily available for your digestive system to just absorb and circulate around the body.

Sauerkraut on ships is far more effective in preventing scurvy than limes, oranges, and lemons.

DM: It’s not just the vitamin C. Because many people understand that the vitamin C by itself is certainly useful as ascorbic acid, but it’s the accessory nutrients, the bioflavonoids, and everything that comes with vitamin C in nature that really magnifies its beneficial effects in the human body.

NC: Absolutely. The vast majority of supplements of vitamin C that is added into our foods to fortify it is made from crude oil. It comes from the chemical industry. It is a single molecule of ascorbic acid, and it doesn’t work in the body. It just does not work.

I had a friend who has got a yacht. He’s one of those lucky people who does not have walk. He can just travel around the world. He was cruising in Atlantic, and he took jars and jars of vitamin C supplement with him. By the time he arrived from the States to Britain, he had a random scurvy…

DM: [Laughs]

NC: …despite the fact that he was taking huge doses of commercial vitamin C. So he said, “Next time, I took box of oranges with me on the next travel. [Laughs] That was fine. I didn’t develop scurvy.”

DM: And next time, he’ll take some sauerkraut. [Laughs]

NC: Next time, I’ll tell him to take some sauerkraut. [Laughs] Absolutely.

What you have to understand is that vitamin C in the natural form is bound to amino acids, bioflavonoids, and to many other molecules. They’re all together. It’s a complex, a vitamin C complex that has to come into the body. Only in that shape and form, the body recognizes it and knows what to do with it. Only in that shape and form it helps.
The fact they analyzed oranges and lemons in the laboratory and found that there is so much vitamin C in oranges and lemons, the methods and chemicals that we can use in the laboratory to extract that vitamin C may not be available to your digestive system. Your digestive system may not possess those chemicals and methods. It may not be able to extract the same amounts of vitamin C from the orange, so it may not be as bioavailable to you.

But if you fermented the food, if your orange got so overripe that the skin developed a slight subtle molds around, became soft, and the whole orange started fermenting naturally, that orange will release all the vitamin C to you in your digestive system. You will get much, much more from it. The riper the fruit is, the more vitamin C is available from it.

It’s not just vitamin C as you mentioned, Joe, absolutely. When we ferment food, we predigest it. Many, many nutrients there become much more bioavailable to us, so our digestive system has to do much less work to cleave them off and to absorb them. They become far more nourishing for us. Fermentation achieves many, many things for us. Not only is it a wonderful source of alive and kicking bacteria, but it’s also very cheap. It’s much less expensive to ferment your own foods at home rather than buying commercial probiotics.

Secondly, you’re consuming a much superior source of nutrition for yourself. Because you’re consuming a food that has been predigested for you and many nutrients have been released for you. At the same time, you’re consuming large amounts of lactic acid, which will bring down any overgrowth in your digestive system. If you have H. pylori, if you have yeast overgrowth, if you have got any other pathogens, lactic acid will be doing its good work on them. It will be reducing their population and stopping them down.

Also, it is teeming with various enzymes, which will help you to digest meat and other nutrients. People will say that they struggle with digesting fatty foods or digesting meats. If they have a helping of sauerkraut, kimchi, or any other fermented vegetables with that meat and fat, these foods will digest the meat for you. It will help you to digest it. It will find it much, much easier to digest, and it will nourish you much, much better.

DM: Terrific. It just seems to me that it’s beyond foolishness to not recognize and appreciate this and integrate our regular source of fermented vegetables in your diet. It just seems to be an absolutely essential component of staying healthy.

NC: Absolutely wonderful, wonderful… But what you do have to keep in mind is that we talked about trillions of bacteria in a helping of sauerkraut. Probiotic beneficial bacteria can cause a reaction, called a die off reaction, in the body. If you have an overgrowth of pathogens in your digestive system, if you have got an overgrowth of yeast, clostridia, [inaudible 52:43], Streptococci, or something else – many people do… If you’ve never had fermented foods and
you suddenly got a helping of fermented food, you can develop quite a die off reaction. It can make you quite ill.

What happens there? These beneficial bacteria that will come into your digestive system works up killing yeast, killing clostridia, and killing other pathogens in your gut, but when these creatures die, they release toxins. These are the toxins which are giving you the idea of depression, panic attacks, rheumatoid arthritis, multiple sclerosis, or whatever individual problem it is. It’s the toxins that are causing it. If you suddenly have a large helping of sauerkraut, the amount of bacteria that will die in your gut and release toxicity, the amount of this toxicity will suddenly increase going into your bloodstream.

All the symptoms that toxins cause will also increase. You will suddenly… All your joints will swell. All your panic attacks get worse, your depression will get worse, or something else will happen. That is called the die off reaction.

Generally speaking, die off is a good news. It means that we’re hitting the nail in the head, that the probiotics are really working on the core, on the cause of your problems. But it is important to control the die off. If you’ve never had fermented foods in your life, you start very carefully and very gradually.

You have one teaspoon of that sauerkraut with one of your meals, and then wait for a couple of days. See what happens, what kind of die off you would get from it. If it is manageable, if you can live with that level of die off, have another helping and then another helping, gradually increase.

But if the die off is too much, then you need to stop. Let the die off subside, and then have a tiny amount of sauerkraut or even have a teaspoon of juice from it first, not the cabbage itself. Just get some juice from the sauerkraut, and have a teaspoon of it. Per day, one teaspoon, then two teaspoons per day and so on, until enough die off happen in your body. Your gut flora changed enough for you to be ready for having the cabbage itself.

Then you can start eating the sauerkraut itself, not just having juice from it. And you increase the fermented food gradually in order to control your die off. Some die off has to be just all right. You just have to go through it.

**DM:** If a person was relatively healthy and didn’t have symptoms (any obvious symptoms at least), what would you recommend as a safe dose to start with?

**NC:** Half a teaspoon.

**DM:** Half a teaspoon. That’s it?

**NC:** That’s right.

**DM:** That’s really small.
NC: Exactly.

DM: I mean compared to the ultimate dose, which might be four to six ounces.

NC: Half a teaspoon, because you don’t know. You have no idea what kind of overgrowth you might have in your digestive system, and you have no idea how you will react. Besides, there are many active enzymes in the fermented foods – very, very active enzymes. They are detoxifiers, and detox quite often can feel very much like die off.

If you have got particular toxicity stored in your body, (and many toxins store in our muscles, fat tissues, brains, and other tissues in the body), as these enzymes come in and the fat chelating those things, grabbing hold of them, and removing them from your body, that spring cleaning can feel very uncomfortable until these toxins leave your body. Very, very uncomfortable…

You can develop a headache. You can feel nauseas. You can even start vomiting. You can develop a skin rash. It’s very, very individual. It is important to start carefully. You would need many people who go to conferences (natural conferences) where fermented foods are displayed and people can try them. They’re delicious! They taste absolutely fantastic. Many of these people who have a large helping, and then they’ll be ill for a week afterwards. [Laughs] The reaction can be so severe that people are afraid after that to even touch fermented foods – to touch them at all.

Be sensible about it. Start carefully. Have one teaspoon today. See what happens first. If nothing happens, hurray! Fantastic, you can tolerate it. Go on increasing, until you can have a good helping with every meal.

DM: In your experience, what’s the range of the length of this detoxification process? Is it just a few days, a few weeks, a few months? What’s the longest you’ve ever seen?

NC: It is very individual – very, very individual. One person for a couple of weeks, he’s over his die off and there’s no detox. If you’re fine, then you can have large helpings. It’s fantastic. Another person can take a year and a half.

DM: Oh, that long, so it can be over a year?

NC: Absolutely. It depends on the severity of the condition and the toxicity you’re having. As I say, with the fermented foods you have a double whammy. For once, you’ve got probiotic bacteria coming into your digestive tract on a force, in large amounts, which will be killing pathogens. Those pathogens will be releasing their toxins. These toxins then absorbed into your bloodstream can exacerbate your existing symptoms. That’s die off.

On top of that, fermented food will come in with all-alive and active enzymes, which will again be absorbed into your bloodstream and start trying to clean your body up.
If you are very toxic, if your body is dirty on the inside, if you’ve stored toxic metals, petrochemicals, and whatever else you’ve been exposed to, these enzymes will try to remove these things. What they do is they grab hold of them. They pull them out of the storage site, perhaps out of your muscles or your fat tissue into the bloodstream, and then they circulate in your bloodstream for a while, until they’re delivered either to your kidneys, bowel, skin, or other elimination organs from which they can leave the body.

For those couple of hours while these toxins are floating in your bloodstream, they will be causing symptoms. They will make you feel quite unwell. That’s the spring cleaning. Like with any spring cleaning in the house, before the house is cleaned it’s quite a mess, isn’t it?

DM: Absolutely.

NC: That’s what you will cause with the detox. With fermented foods, in some persons the detox is very powerful, the die off perhaps is not. And in another person, both the detox and the die off can be quite powerful. The person already has to deal with both. Both are bringing symptoms. That can feel very, very uncomfortable, so start gradually.

The same goes for commercial probiotics. There are many good formulas in the market, which are therapeutic commercial probiotics. It doesn’t matter what the dosages are. What matters is the strength of the species of bacteria and the whole group of the species of bacteria, because every probiotic bacteria have strong points and weak points. Good therapeutic formulas will be compiled with a group of probiotic bacteria, where their weak points are compensated by other species.

Overall, formula can be very, very powerful. Despite the fact that every capsule might only contain two billion bacteria, the die off that that formula can produce in your body can be powerful enough to make you ill, quite ill. You need to start from a tiny amount of that kind of formula. Perhaps, some patients that I have would open a capsule, pour the powder onto a plate, and take as little as what can fit on a sharp end of a knife. Even that amount of that commercial probiotic can cause a serious die off, serious regression in symptoms.

[----- 1:00:00 -----]

You have to stay on that amount for two weeks, sometimes two months, before you’re ready to move to double the dose, and then triple the dose. It’s very, very individual. Therapeutic probiotics, which are in the market, can also develop very powerful and can produce quite a serious die off as well.

DM: Terrific.

NC: They need to be introduced gradually.
DM: Those are some marvelous guidelines to implement this program, because it’s such a powerful intervention. But I really appreciate the details, because many people will have die offs. Because the average person is not consuming an ideal diet, this die off can easily last over a year. That’s a long time. It’s really easy if you don’t understand that to believe that the food is making it worse when it’s actually just part of the healing process.

NC: Exactly. Healing goes through two steps forward, one step back, two steps forward, and one step back. If any of you watched Shrek (it’s one of the favorite things of my children), our bodies are like onion. Like Shrek says, “I’m an onion.” As the body peeled off one layer of toxicity, and you’d get better. The die off is over. The detox is over. You feel fantastic, you’re over the moon. But then the body decides, “Right. I’m strong enough now to get to the next layer.” [Laughs] If it starts peeling the next layer of toxicity, you get ill again.

Many people feel discouraged. They feel, “Gosh, I went through this already, and I felt so well. What’s going wrong? This is not working. I better stop the whole thing.” Not at all – you have to continue. You will find that this next layer is smaller. The die off and the detox will not last as long as the previous one. It will be much shorter and not as severe. You will get better after it much, much quicker. The very few months of bliss would pass, and your body would get down to the third layer and then to the fourth layer.

We live in a toxic world, and many of us have accumulated layers and layers of toxicity in our bodies. The body will clean them out, but you will find that each layer will last shorter and not as severe. The regression will be not as severe. Eventually, you will come to a complete, radiant health. You will feel 100 percent healthy, no matter how ill you were before.

DM: Terrific. Now many of our listeners may already realize that we previously did an interview with Caroline Barringer – who’s one of your top trainers – that discusses the details of how one can make fermented foods at home, because that is really a strong recommendation. Although Caroline has a company that sells these, the real message is just to make them yourself. Then we do actually sell the starter cultures. Actually, I think Caroline is using those now as our Complete Probiotics.

The starter culture itself is not available yet, but we’re in the process of having it in the next few months. It will be a powder that you can sprinkle out rather than having to open up all these capsules. It makes it a lot easier when you’re making a large batch. We’re also doing research to even improve the strain combination. Because our initial analysis showed that the fermented vegetables had vitamin K2, but not as much as we would have liked to. There was only like 50 micrograms in a four-ounce serving. So, we’re looking to increase that double, triple, or maybe even five or 10 times by modifying the strains that we’re putting in the starter culture.

NC: That’s fantastic. The starter cultures can be very, very helpful. The trouble is that for many people, the real, organic, good-quality vegetables are not available. They have to ferment what they can find or what is available to them. You see the cabbage, in order for it to be really good
and ready to be fermented, it has to be allowed to grow to its full size. They become very large and the leaves really accumulate juices (the water on them) and they open up. That kind of cabbage is simply not available commercially in the supermarkets. They harvest them when they’re still teenagers. They’re still young.

**DM:** Oh….

**NC:** They haven’t accumulated enough nutrition. They haven’t accumulated enough water. It’s just too dry. There is not enough juice. Many people who try to do the natural traditional fermentation, where you don’t have any culture, find that it rots away, it doesn’t quite work. Adding a commercial culture is extremely helpful, because it will guarantee that your fermentation process will go right.

**DM:** It is also provides a larger balance of different bacteria. Rather than just a one or two strains that might be growing naturally on the cabbage, there are additional strains in there that could even further enhance the benefits.

**NC:** Absolutely. It makes it more powerful. Well, Caroline is doing a great job. Because many people who start the GAPS Nutritional Protocol, there’s a lot to take in, a lot to learn for them. It’s quite a steep learning curve. They have to learn to cook. Many people, they have to learn how to make meat stocks and go through the introduction stages. Making their own fermented foods at home just can be too much in the usual stages. It can just break the camel’s back for many people. *[laughs]*

**DM:** Sure.

**NC:** Particularly if we’re talking about a mother of an autistic child – these people are tired anyway. They’re exhausted. They have years and years of lack of sleep and exhaustion looking after a child like that. Being able to just buy fermented vegetables from somebody who’s already done it can be tremendously helpful and amazing.

**DM:** Yeah.

**NC:** Companies like Caroline’s can be very, very helpful. Caroline is one of my GAPS practitioners. I’m proud to say that I’ve trained the best part of 240 practitioners around the world now to make them certified GAPS practitioners. I select people very carefully. whom I trained. These are experienced health practitioners in their own right. Many of them are doctors, medical nurses, osteopathic doctors, naturopaths, homeopaths, kinesiologists, and Chinese medicine specialists. I’ve trained them in the GAPS Nutritional Protocol.

I just came back from Australia and New Zealand, where I trained 40 practitioners there. We’ve got them in all the English-speaking countries now and many other countries around the world. They’re all listed on my website, [www.GAPS.me](http://www.GAPS.me). The wonderful thing is that we have a forum on that site, which is a closed forum for practitioners. I’ve just been checking the forum before
talking to you, Joe, and my heart is singing. It’s absolute warm. It’s buzzing. It is so busy. All these 240 experienced health practitioners from all over the world are talking to each other on that forum.

Every patient who goes to a GAPS practitioner will not have access only to one person or to the brain of one person. He will have an access to 240 practitioners all over the world with different experiences, with different spectrums of knowledge. They’re all talking to each other. I’m on that forum as well, so whenever there are some issues that one practitioner that cannot manage, there will be lots of other practitioners who will come up with ideas on how to solve that situation. I do recommend that you work with a GAPS-certified practitioner.

DM: For those who are seeking to find one of these practitioners, they will just go to your site www.GAPS.me to locate them. Is that correct?

NC: That’s right. There is a button there which says, “Find a GAPS Practitioner,” and they are listed by country.

DM: If there is a healthcare clinician out there who is interested in getting the training, how do they do that? Go to the same site?

NC: They go to the same site, www. GAPS.me. Also I have a blog, which is called doctor-natasha.com. (Doctor is spelled as a full word.) Also through that site, you can contact me directly. We are planning to do another course in London in September. Then I’m doing three courses in North America in October and November, so there would be more practitioners registered and more practitioners trained.

I will continue training practitioners, because I find that we simply can’t have enough of them, because GAPS problems are huge. There are literally millions of people around the world who are suffering with these problems. And they all need help, so we need as many practitioners as possible.

Now we have practitioners in all the English-speaking countries, many European countries, plus Malaysia, Dubai, Indonesia, and many other countries around the world.

DM: Terrific. Thank you for all that you’re doing. We’re going to include the interview that we did with Caroline also on this page, so that people can access that information for specific details. You know if anyone wants to identify a local GAPS practitioner to have a one-on-one mentoring through the process, that’s certainly the best way to go. They can find them on your site at www. GAPS.me. I appreciate all that you’re doing. Are there any words of wisdom you’d like to leave with our listeners?

NC: Well, I would just like to say that there is no such thing as an incurable condition. No matter what you hear about any health problem that says it’s incurable and can’t be helped, there is nobody in this world who’s beyond help.
Human body has a wonderful self-healing ability programmed into it. It’s your own body that heals you – not the doctor, not the science. Just nobody else, it’s your own body. Just trust your body and provide it with all the right tools in the form of proper food, fermented foods, probiotics, and the body will do all the healing. There is nobody beyond help and nobody beyond help at all. Just walk in it and trust your body.

DM: Yeah, interestingly, many of the health challenges that people have have very similar approaches to improving their health. The strategies and your work being a major essential component of that, it’s a… I would certainly highlight your words and also emphasize that to realize that there’s virtually almost no health condition (assuming you’re not close to death) that you almost can’t reverse with these types of strategies. I mean it’s really very, very effective, so just keep a positive outlook on that and know that you can get better.

NC: Absolutely.

DM: Thank you for all your work. We really appreciate it.

NC: It’s a pleasure. Thank you, Joe.