

#### Dr. Keesha (00:01):

Hi, everybody. Welcome back to the Reverse Autoimmune Disease Summit 3.0, we're in the third of our series of Reverse Autoimmune Disease. This is The Autoimmune Brain, and I'm delighted to bring to you Dr. John Dempster, who is board certified in both naturopathic and functional medicine, and is the founder of The Dempster Clinic - Center for Functional Medicine. He focuses on functional medicine to treat patients ranging from high performance individuals to those wanting to treat or prevent chronic illness. He's the founder of The Healthy Gut Institute, which is an in depth online program designed to help identify and treat the root cause of chronic digestive issues. Welcome to the series Dr. Dempster.

#### Dr. John (<u>00:41</u>):

Well, thanks for having me. It's great to be here.

#### Dr. Keesha (00:43):

So I always say that—in my life, I don't know, it's been over 30 years now in medicine—that the people that find their way into a functional medicine paradigm or integrative medicine usually have a personal story that brought them here. I would love to hear what yours is. I find them very compelling.

#### Dr. John (<u>01:04</u>):

I love telling this story. I love hearing everyone else's story. So I'm happy to share mine. I always knew I was going to be into medicine. My parents always somehow had some thought that I'd be in medicine as well. And it wasn't those like, "Oh, you have to be a doctor", type thing. But I grew up in a very medical household, so I didn't know any different. I was headed towards medical school. At the age of about 13 or 14, I had actually lost two uncles in the same year due to chronic illness. So each of my parents lost a brother, which is a big turnaround for the way we approached our diet and the way we approached our health. We grew up in a very small town. My practice is in Toronto, Canada, but we grew up in a small town, much further North of here. So we were just that normal family, eating normal foods, having a normal life, and then suddenly, pow, we had this massive disruption in our family and this massive amount of loss, which many people have experienced at some point in their life. That really—at the age of 13, I wasn't thinking about health or wellness. My parents did. And they started suddenly shoving carrot juice in front of us and shoving cod liver oil in front of us. And you know what? That was really weird at the time. I remember kind of almost being embarrassed by it, but we never got sick and we excelled in a lot of areas. I'm the oldest of four siblings and my parents looked good and they still look good. A lot of my friend's parents, I started to see a change there. I sort of said, "Maybe there's something about this." So I became quite passionate about learning about clinical nutrition, unbeknownst to me before I even knew what it was called. Then in high school and in university, I was doing lots of different courses and trainings in these. While I was still applying to med school, I didn't



know any different, but then I heard about naturopathic medicine and then therefore I said, "Wow, that really appeals to me." Then I heard about functional medicine, once I became a naturopathic doctor. I said, "Wow, I love the science that can really bridge a lot of this natural stuff together." So I really became passionate about functional medicine. That's what became of me and that's why I'm here today. I actually took my application to medical school at the 11th hour. I dropped it in the other box, which was not the mailbox, and I submitted my naturopathic application. That's why I'm here today.

#### Dr. Keesha (03:20):

Well, I'm so glad you are. I really loved also hearing from people, what is it that you thinks of when you hear the term autoimmune brain? What comes to mind for you?

### Dr. John (<u>03:35</u>):

This is a great question. You know what? As soon as you said that I think of a brain that is on fire. I think of an inflamed brain. So I think we can all imagine this like sun just on fire. That to me is what jumps into my mind right away. We can certainly discuss what that really means, but inflammation is ultimately the root of so many different types of autoimmune conditions. As you know, being an autoimmune expert, there's over 200 of them right now. The brain aspect of autoimmunity is just one part of our body that's being triggered by autoimmune sequences. So inflammation is the biggest thing. So I imagine this Inferno going on within our brain, when you say that.

# Dr. Keesha (04:17):

Yeah, it's interesting because to a person, when I ask this question, they say the same thing. A brain on fire. It's a great descriptor and it's a great visual. Now you just pointed to something that I had mentioned in my book, Solving the Autoimmune Puzzle. I said, at the time that I published it and wrote it, there are over 150 autoimmune diseases that we know of. Now you just said, there are over 200. Is that because—this is a really interesting concept—is that because we have all these new diseases on the planet? Or—why did we go from a handful of autoimmune diseases like MS and lupus and rheumatoid arthritis to all of a sudden we have 200 autoimmune diseases?

# Dr. John (<u>05:02</u>):

Well, I think a couple of reasons. I think we are getting better at understanding some of the mechanisms of what's going on and we're able to identify certain labels. Now, one of the things I caution all my patients is it's never about the label. It's always about what's behind the curtain. Now, labels can still be helpful. They can help you identify. They can give you a sense of, "Oh, that's what I have. Okay." So that makes a bit of sense, but I always caution. I say, "Look, let's not go chasing the labels and then looking for the recipe that goes along with that label". We have to understand that I could have 10 people with



MS in front of me and they could all walk out of here with very different treatment plans, according to what's going on with their biochemistry, what's going on with their genetics and what's going on within their environment and social and workplace environments. So these are all things that we need to consider when we're addressing autoimmunity.

### Dr. Keesha (05:56):

Absolutely. I have a graphic in my book that has all the autoimmune diseases in one bucket and on the front of it, it says "inflammation", right? So I think this idea that we've gone from a few things that we knew were autoimmune, like type one diabetes, now we know that type two also fits in the bucket. Is that very thing that we're starting to understand the role of inflammation in disease and understanding how that then gets turned on ourselves on our own system. This was a—I was really happy to hear you say that because I think this is something that people don't really understand like that Raynaud's, as an autoimmune disease, isn't necessarily an ICD 10 code of Raynaud's disease, right? Then the eczema or the Hashimoto's that they also have as separate entities on their list. Yes, it's three separate diagnosis codes, but they're not three separate issues. At the root, what we have is something quite different. We have whatever it is that's going on. So this is the difference between functional medicine and Western medicine, because we tend to treat the diagnosis code with right pill to ill. What is the medication list we can draw from for that diagnostic code? So let's talk about the difference between functional medicine approach to an autoimmune brain or auto-immunity in any place in the body and a standard Western approach.

Dr. John (<u>07:28</u>):

The two integrate. This is where one of the things I'm really pro about is, it's time to integrate.

Dr. Keesha (<u>07:34</u>):

Yeah.

# Dr. John (<u>07:34</u>):

This is—every aspect of medicine has value. Every aspect of medicine also has shortcomings. We have to understand that there's a time and a place to come together in the middle. That's where the patient is at. Some situations we need to manage those symptoms in order to get somebody on their feet and to get them active and to get a quality or some semblance of quality of life back while we're doing the hard work and understanding where all these fires are coming from. And so, I always like to preface that comment with, it's not about picking a camp, it's about figuring out, "Okay, where do we meet in the middle that's going to be the best thing for each patient or each person that comes through our door." So the real difference is crisis management is traditionally what Western medicine is really good at.



That's an overgeneralization, but that's really what they're going to be focusing on is a lot of these main crises, a lot of the symptom management. Where the healing really becomes important is using a functional medicine approach. That's going to be identifying where this fuel source for this inflammation comes from. What we can do to put out that fuel that's in a non suppressive way that doesn't create other fires down the road. And really ultimately, what are we missing that allows our body to heal? If you can bring all those pieces together, you're going to create a very powerful healing environment and something that also makes that patient feel like something's happening right away.

#### Dr. Keesha (<u>09:04</u>):

So, this is really important. I always tell people, if you have chest pain, you're not gonna take an herb for it. Please, you need to be in the emergency room. The idea that you throw out—there's that saying, don't throw out the baby with the bath water, right? But the thing that I wanted to point to is that outside of that kind of cookbook approach that I learned in my training as a nurse many, many years ago, we had flashcards of medications. That we would go through side effects, what was the classification of the medication? Then what were drug interactions? What was it used for? We had to memorize loads of information about that. It was the primary emphasis actually in my education. I know it's that way in medical school, too. Very little time is spent on nutrition. So when somebody comes in to my practice that has an autoimmune illness and says, "Why hasn't my regular doctor spoken to me the way that you're talking to me?" And they get very angry and feel betrayed by the medical system. I'm always very quick to say, "That's not how they were trained to do this. This is not the kind of training they received. They're not trying to hurt you. They're using the paradigm that they were trained inside of." So what's happening here is we're adding a new perspective to it and a richness to getting underneath the root cause. There's not one that's better than the other, but if we're talking about a chronic illness, then there is one that's better than the other. And you know—because we really want to talk about reversing it because people walk out of a Western rheumatology office that doesn't have a functional approach, and you are told—now I was told this, I was diagnosed with rheumatoid arthritis 25 years ago. I was handed a prescription for two meds, methotrexate and nonsteroidal antiinflammatory drug, and told "When you get worse, come back." And I said, "Well, hang on. Is there anything else? Like, I'm very disciplined. I make my own food. Is there anything that's food related?" "No, no, this is in your genetics. You told me your grandfather had it, therefore..." Case closed. That's what brought me to this form of medicine is like, there has to be something else. So I want people to hear what you're saying, because it's really important that sometimes you have to put out the fire with a really big hose. So medications are not bad. I think people tend to be polarized in many things, right? Politics, religion, medicine, and the message of integration I think, and bridging, is so important. I appreciate your response to that. So when-why would I invite somebody that has started the Healthy Gut Institute to talk about the brain?



Dr. John (<u>11:58</u>): Good question!

Dr. Keesha (<u>11:58</u>): [Laughing] Are they related?

Dr. John (<u>12:05</u>): [Inaudible]

Dr. Keesha (<u>12:05</u>): You know what, all of a sudden, I can't hear you.

Dr. John (<u>12:08</u>): You hear me now?

Dr. Keesha (<u>12:10</u>): Yes, but it seemed like all of a sudden your microphone got far away.

Dr. John (<u>12:15</u>): Can you hear me now? Is that okay?

Dr. Keesha (<u>12:17</u>): That's okay. Yes.

Dr. John (<u>12:18</u>): All right. Maybe I'll speak a little closer here.

Dr. Keesha (<u>12:21</u>): There you go.

Dr. John (<u>12:22</u>):



So it's a great topic and it's a great conversation, but it is definitely something that is important to recognize. We actually have three different brains in our body. We've got our central nervous system, of course. Most of us can recognize that. We do have our gut brain and we also have our heart brain. And all of these are connected by a nerve called the vagus nerve. Now, why am I talking about the gut having to do anything with your brain? Well, we've got a lot of nervous tissue, a lot of different neurons that are actually starting to get created and grow within our gut brain, which is called the enteric nervous system. So it's really important that if we are talking about anything to do with this brain, we've got to talk about the other brain in our gut. They are connected. There's a tremendous amount of literature on this. A lot of our neuro-transmitters that control how we think, how we feel, how we sleep, they're produced in our gut and they travel up and they affect our synapses up in our central nervous system. A lot of the nutrients that are required to produce these neurotransmitters and hormones are produced and absorbed in our gut. And of course, a lot of the problems that happen along the way that can disrupt these hormones, neurotransmitters, nutrients, a lot of that can actually take place in the gut initially that can create a cascade of events that can impact us mentally and emotionally, and then cognitively. So that's why the gut is such a fundamental step off point to helping anybody who's dealing with stuff going on, apparently up here.

# Dr. Keesha (<u>13:45</u>):

Also the immune system, when we're talking about the autoimmune brain, what role does the gut have in immunity?

#### Dr. John (<u>13:52</u>):

Yeah, and there's approximately 80% of our immune system lies within various parts of our gut. Anytime you've got an autoimmune situation going on, there's a lot of confusion going on with the immune system in your body. So it really makes sense that that should be your gateway to investigate initially, while we're looking at a number of other things, but the gut needs to be part of that.

#### Dr. Keesha (<u>14:14</u>):

Yeah. Along those lines, we hear the term intestinal permeability, or leaky gut. And leaky gut, we usually say, "if there's leaky gut there's leaky brain", what does that mean?

#### Dr. John (<u>14:28</u>):

Well, the two do go hand in hand. They often have very similar barriers. We've got the blood brain barrier in our central nervous system and then we've got intestinal barrier, which is in our gut. The two are actually impacted by very similar things. Think of them as almost like—when we talk about the leaky gut, I always envision a brick wall and a brick wall has little bits of grouting separating the bricks and



those are your little tight junctions. These are little microscopic channels that are very selective about letting things that are beneficial into your bloodstream. A blood brain barrier is very selective as well. What we notice, that there are different proteins that we can measure that can tell us if this integrity is being compromised, whether it's in our guts, such as occludin and zonulin, these are certain proteins that we can measure, and you can do these in blood tests or different stool tests. It can give you an idea if there's some integrity issues with the bridges that are causing these cells to stick together, almost like the grouting on these bricks. So if somebody came along and started smashing my brick wall with a sledgehammer, that's going to create some problems. I'm going to get things that are coming into my house that I don't want to be coming into my house. So we want to make sure that we're identifying if that's an issue so that we can start to heal and seal the gut lining, which is also again, very similar to how the blood brain barrier operates in our brain.

Dr. Keesha (15:48):

So what are some symptoms of leaky brain?

#### Dr. John (<u>15:53</u>):

So leaky brain—this is where we're going to see all different types of ADHD type of spectrum. We're going to get anxiety, depression, dementias, and of course, different autoimmune, actual diseases, such as Alzheimer's or Parkinson's and beyond. There's a whole number of other processes that are involved, but those are just a few— Some of the common symptoms and common illnesses that people can associate with that.

#### Dr. Keesha (16:19):

The little critters that move into your house that you don't want there. Right? This is one of, of course, the root causes. I tend to group things in root causes for autoimmunity, from toxins to intestinal permeability, to genetics, and also the way that you deal with your stress and then have past trauma. So when we start talking about these different organisms that we share the planet with, they're here all around us, right? We can think about this in terms of COVID right now, too. It's quite up in the forefront of everyone's mind. What relationship does that have with a tight intestinal barrier?

#### Dr. John (<u>17:01</u>):

Well, there's something called the gut microbiome, and this may not be a new term many of your listeners, but the microbiome is a collection of all these different organisms. We have microbiomes all over our body, but the gut microbiome is the biggest and generally speaking has the biggest impact on a lot of systems in our body. If we are over time consuming foods that have been fed antibiotics or have different pesticides and herbicides, potentially been exposed to toxic compounds like glyphosate,



chronic stress, nutrient deficiencies. So many different things can impact this delicate balance that happens in our body. There's research out there right now that, you mentioned COVID, there's never been a time in recent history where people have been consistently more stressed out globally. We're seeing research right now that you can change and infect your microbiome with chronic stress or even acute stress within 24 hours. So these are just a few examples of how we can impact that. If we start to have these triggers happening over and over again, then we're going to have accumulative effect that's not going to be beneficial. It's this delicate balance of good bacteria and a lot of different viruses. Believe me, there are viruses within us right now that aren't doing bad things. We want to keep it that way, but there's yeast in there and not all yeast is bad. It's just when yeast gets overgrown and takes over then that could be problematic. And of course, we don't want to be having a large amount of parasites, such as protozoans and worms, and so forth that are hiding out in there. If that balance becomes shifting in those organisms favor, then we can start to have problems. So we have to go back and look, and there's fortunately some tools that can give us a snapshot and give us an idea of what's going on with our microbiome. But that's a really important concept to understand.

#### Dr. Keesha (<u>18:45</u>):

I think a lot of people don't understand that we're actually 40% virus. [Laughing] So the viruses are not bad guys necessarily, right? They're just little messengers of genetic material. It's how we interact and open the envelope and play with that material that becomes relevant to our health status. Yeah.

Dr. John (<u>19:10</u>):

Yes.

# Dr. Keesha (<u>19:10</u>):

So what is it that you would like our listeners to know about functional medicine's role in an autoimmune brain that we haven't discussed?

# Dr. John (<u>19:20</u>):

Well, it comes back to what I envision when you say an autoimmune brain. I think of inflammation. We, as humans, we're innately producing inflammation on a daily basis. And what we want to do is we want to contain that inflammation much like in a campfire pit. If you go camping, you don't want that campfire to leave that campfire pit. Or your barbecue, think of it that way as well. If the flames or the coals enter a forest that's not being monitored then we have a big problem. We have a forest fire. So what I want to do is help people understand that it's not about being zero inflammation. That's—we're constantly producing this and it's part of our metabolism and the results of what's going on with our biochemistry. But what we want to do is we want to manage it as best as we can. We want to start to



take stock of what's causing inflammation that's outside of that controlled environment. Is it the diet? Is it the food you're eating? Is it certain things that are creating inflammation or things that we're missing that are putting those fires out that we need to be looking at? Is it specific nutrient deficiencies? Is it certain toxins like molds or mycotoxins or heavy metals? There's so many other toxins that are out there that we're being bombarded with on a daily level. Is it the compounded impact of stress? Is there certain things—And we have tools in functional medicine to measure the impact of a lot of these things and to give our patients and our clients almost like a GPS. That GPS helps them navigate these environments so they have a very customized approach. So that's what I really love about functional medicine. I get so passionate about it is that it's like a choose your own adventure. Yes, there are core concepts that we can apply to almost everybody that's listening, but at the end of the day, if you find that you're hitting a barrier and you're hitting a wall and you're just not plunging forward, it's time for you to work with a functional doc in your neighborhood or in your area that can help you navigate some of these blind spots. That's really what I love to do, is I'm almost like a health detective with my patients, helping them navigate where these hidden little traps are and those are things that are acting like anchors that are holding these people down. If you cut off the anchors then they rise up and they start to heal. It starts to really hit that top level of health that they've been waiting for for a long time.

Dr. Keesha (21:27):

So is there one diet that's going to take that inflammation down?

Dr. John (21:32):

There are going to be some core principles. That's a great question. I don't believe in any one type of diet.

Dr. Keesha (<u>21:36</u>): Me neither! [Laughing]

Dr. John (<u>21:43</u>): [Inaudible] But there are some core principles.

Dr. Keesha (<u>21:47</u>): You're fading again.

Dr. John (<u>21:50</u>): [Inaudible]



#### Dr. Keesha (21:53):

Here, let me... So before we started having a little tech difficulty here, you were talking about core principles that we can adhere to when we're talking about reducing inflammation in the brain or helping with somebody reversing their autoimmunity.

#### Dr. John (22:10):

Yeah. I think we were talking about food as a core concept here. There's no one necessarily perfect diet for the masses. There are many concepts that we can apply in general. And one of the biggest things that we've got to look at is what's going on with grain and get a lot about gluten. But there's a lot of activity going on beyond those classic gluten containing grains that are barley, rye, wheat, and spelt. Those are real big players in the grain industry that are very triggering for people with autoimmunity, but there's over 200 different coding proteins and markers that we can be looking at that actually trigger the same gluten receptors. We can't measure all 200 of those, but we can get an idea of some of the susceptibilities that people may have genetically to grains. There are some testing kits that are available that can give you a bit more insight into that. So one of the things, if you are dealing with a known autoimmune situation, whether it's in your brain or elsewhere, I highly recommend being very careful with not only the gluten containing grains, but grains in general. Be on a pretty strict grain-free diet, at least for the first few months, get some initial inertia going. Then you can start to maybe lax off a little bit. Some people can't, some people need to be on that for a long time, but a lot of the questions I get is, "Well, why do I have to be on a grain free diet? When we were brought up that bread is life. We must break bread with our family and our friends." It's a bigger conversation and one that I'm very passionate about, but it has a lot to do with big agriculture. It has a lot to do with things that are going in our crops that have been going into the farming practices. Those are things that are certainly worth a discussion, but-

#### Dr. Keesha (23:48):

And genetic changes in ourselves as a result of that.

#### Dr. John (23:51):

Oh, absolutely. The field of epigenetics is fascinating, you and I both know that. Your genes don't predict your destiny, but we can switch them on and off. With what goes on our dinner plate, what goes on in their environment, what goes on between our ears. So we are being more and more triggered for



certain genetic situations, but we do have the power to switch that off. So I do think that looking at grains is a very important aspect. We have to look at processed foods. That's a very common thing to hear, but we're still eating them. Now during this high-stressed environment of COVID, we're reaching for those comfort foods probably more than we should be. Those are things that are just going to be adding fuel to that fire. 'Cause they're filled with hydrogenated oils, they're filled with different types of sugars and sweeteners. Some people are consuming more alcohol than normal. It's not to say that you can't ever have a life, you can't go out and celebrate a birthday or a certain occasion, but you've got to understand that most of us have taken liberties there and we celebrate way too often. Sometimes that is just dumping gas on that fire. So those are two massive blind spots to look for and to start to address. Pasteurized dairy is another. Classic industry-raised dairy is something to be looking at as well. Those are often providing a lot of inflammatory compounds. If you were to have a grass fed organic cow in your backyard, then generally speaking, that might not be as bad an option, but it's not realistic for most of us.

Dr. Keesha (25:17):

Corn and soy are in that group too, of the things that have been modified. Yeah.

Dr. John (25:25):

Corn is a grain it's not a vegetable and this is something that might be useful to some people listening. Why do we feed corn to cattle? We feed it because it's A, number one, very sweet. That triggers an insulin response in the body, which is very pro-inflammatory by the way, but it creates more fat deposition. So anyone also listening right now is, if you're hanging on to a couple of extra pounds going grain-free is also very good at reducing a lot of that fat deposition. The reason why it's fed to cows is that the farmers will get a bigger yield when they sell their cow.

Dr. Keesha (<u>25:54</u>):

And I stick caffeine in the group too.

Dr. John (<u>25:57</u>): Certainly.

Dr. Keesha (25:57):

I live in Seattle and I'm a very unpopular person when I say it. [Laughing].

Dr. John (<u>26:01</u>):

You're not getting any [inaudible].



### Dr. Keesha (26:02):

I don't get the most popular provider on the block award for this one. But it is, I mean, it's acidic and it triggers inflammation. So if—and I often will hear, "Well, it's my last one vice. It's the one thing that brings me joy in the morning." And what I would say to our listeners is, if you're still struggling with inflammation though, the definition of insanity is doing the same thing over and over again. So it's worth a try to take it out for a couple of months and see. Then I'm a big fan of testing what is your immune system triggering? 'Cause if you have leaky gut and you're eating blueberries every day, then blueberries are very probably a trigger for you.

#### Dr. John (26:50):

Yeah, that's a big thing. [Inaudible] Luckily there are tools out there that give us some deeper insights and not all foods are the same. There are different antibodies out there that elicit different responses in the body. Ideally the principle—there is no perfect food test. Let me just qualify that. Maybe one day there will be. But the best ones available right now are going to do a combination of different IGG, IGA, IGM, and IGE antibodies. They're gonna give you a much broader spectrum of how all those different forces, if you will, are happening in the body and creating inflammation. So, I know there's a number of different companies offering the single antibody tests. Sometimes those are a valuable place to start and sometimes they're not available in every state or every province or every country. So you have to use what is given to you and what you have the ability to access. But measuring those foods, sometimes those antibody reactions can happen 10 to 14 days later. So it's very hard for you to have a grilled cheese and be like, "Aw, I felt terrible an hour later."

Dr. Keesha (<u>27:48</u>): Right.

Dr. John (<u>27:48</u>): People feel terrible 3 to 4 days later.

# Dr. Keesha (27:51):

You can't keep a food diary when we're talking about these delayed responses, because you've eaten 12 to 25 times in between the time you could have had the triggering food. Another one that I really like to test for is lectins to see if your creating auto antibodies or antibodies against lectins, because they're



demonized a lot in the autoimmune world and I'm finding that that's not necessarily a true statement for every single person. You can actually break out which ones are a problem and which aren't.

Dr. John (<u>28:22</u>): Oh yeah, absolutely.

#### Dr. Keesha (28:24):

Yeah. Well, Dr. Dempster it's been a joy and a pleasure to have you here. Thank you so much for taking the time to share your wisdom. I really appreciate it.

#### Dr. John (<u>28:34</u>):

Thank you for what you're doing. It's a very important topic. As we know, autoimmune disease, if you take all the different diagnoses that are out there and they actually accumulate more than cancer and heart disease as we speak right now. So it's a very important topic.

#### Dr. Keesha (28:47):

Yeah. It's the pandemic I was talking about before COVID. [Laughing] We have another one that's now taken over the term, but yeah, I just kept calling it a pandemic because it's like, we're adding diseases to that bucket and all of them are on the rise. We're even saying heart disease is autoimmune, right? Which was the number one killer in our country, in the United States. So it's like, well now autoimmune disease has taken that spot. Yeah.

#### Dr. John (29:14):

In order to treat the autoimmune disease in your brain you have to start in your gut.

#### Dr. Keesha (29:18):

Yeah. All right. Thank you again. All right everybody, until next time, be well.