



THE
FATIGUE
SUPER
CONFERENCE

Mitochondria and the power of kimchi

Guest: Dr. Susanne Bennett

Alex: Welcome to the Fatigue Super Conference, and I'm super excited for this interview. I'm talking with Dr. Susanne Bennett. Hi, Susanne.

Dr. Bennett: Hey. How are you, Alex? I'm so happy here, so we can start really powering up our energy level, and getting rid of all this fatigue that we are all suffering from globally.

Alex: I'm super excited to talk to you. We've had a few chats on the phone over the last few weeks. I always feel like I have more energy after I talk to you, so I think we're going to get some transmission here.

Dr. Bennett: You know what? I'm sending it out, man.

Alex: I think our first call was about 11:30 pm at night in the UK and I was kind of winding down and I was suddenly infused with your passion and energy, which was great.

Dr. Bennett: Thank you.

Alex: Just to get a bit of your background, Dr. Susanne Bennett is a holistic chiropractic physician with over 30 years of clinical experience and advanced study specializing in allergies, guts, and autoimmune disorders, environmental and longevity medicine. She is the number one, the best selling author of *The Kimchi Diet: Revive Your Gut, Get Lean, and Live Longer*. That's Susanne's latest book, which we'll definitely be coming to later. *Mighty Mito: Power Up Your Mitochondria for Boundless Energy, Laser Sharp Mental Focus, and a Powerful, Vibrant Body*, which is a good read which I've got here. And *The 7-Day Allergy Makeover: A Simple Program to Eliminate Allergies and Restore Vibrant Health From the Inside Out*.

Sharing simple health strategies to help you start feeling better today is one of Dr. Susanne's passions, and she is the dedicated talk show host of *Wellness for Life* on IHeartRadio and Radio MD. As a mentor and lecturer, Dr. Susanne frequently speaks to audiences globally. Dr. Susanne lives in Pacific Palisades, Fatigue Super Conference 2019

am I saying that right, with her husband, George, and her pup, Lola. Loves organic living, snorkeling with whale sharks, and eating kimchi. I'm assuming that's not all at the same time. Susanne, welcome. Great to have you here.

Dr. Bennett: Thank you so much Alex. I am so happy to be talking to you today. I know I'm in a hotel, and sometimes I have to do this, different locations. Usually I am at home, ready to serve everyone, but I am right here for you, Alex. Let's start chatting.

Alex: Let's go. Let's start with mitochondria. Given you've written a book on the subject, I know it's an area that you're really passionate about. There is a lot of information coming out these days about mitochondria, how it impacts upon chronic diseases, particularly fatigue rates conditions. Let's open up what it is, but also, I'd love to hear a bit about how you got interested in mitochondrial health. I was mentioning to you before we started recording, I don't know why I thought it was funny, but I was amused by the fact that part of your interest in this was you having a disagreement with a fridge. Let's start there.

Dr. Bennett: I'll tell you what. At 48 years old, I ended up experiencing the hardest, the most severe accident I've ever had in my life. I'm super athletic, so I've fallen down mountains and dropped off of a cliff, so many different, but nothing hit me as hard as a refrigerator door. I should say, I hit the refrigerator door. I was at a squatting position and I went into a full extension, full stand up position with an open refrigerator door above me, which I didn't know. I struck from the upper refrigerator, but it swang over. I just did this, and my whole head and neck went into an accordion, and I knew right away as a clinician, something was terribly wrong. I had shocking neurological symptoms down both my arms and legs.

Dr. Bennett: If people know about neurology a little bit, that means you've had symptoms like a quadriplegic would. I had severe symptomatology and what ended up happening was from that head concussion and neck injury, I started having symptoms that was very rapidly deteriorating, a condition called panhypopituitarism. What that means is basically, pan means whole body. Hypopituitary means, your pituitary gland that's in your brain, what happened for me was that the swelling in the brain was so bad from the concussion that it squeezed down on the blood vessels that was going to and feeding the pituitary. So then I ended up having functionality issues of my whole endocrine system.

Dr. Bennett: The pituitary gland controls your thyroid, so I stopped having thyroid function optimal, so I had hypothyroidism. The pituitary gland helps my adrenals function better and communicates with them, so I had

hypoadrenia, and I had adrenal insufficiency. The pituitary gland communicates with my gonads and my ovaries, so then I ended up having amenorrhea and I ended up going into menopause at 48, early menopause. That complete sequelae, or the series of injury and problems started creating all sorts of havoc. Number one thing that happened to me was fatigue. Of course I had fatigue from the injury.

Dr. Bennett: The thing that I didn't realize also was that as I started discovering, oh my gosh, how am I going to get myself back, because I lost memory, I was having severe anxiety, I couldn't sleep, because of the hypoadrenia I was peeing all the time, I was fainting, my blood sugar dropped, going up and down, my cortisol level was crazy. My gut, it's funny how ... Alex, when you've got trauma, even if it's on your head, or you got somewhere else trauma, even emotional trauma, your gut is affected. I started becoming what's called a fat skinny person. Do you know what that means, Alex? Have you heard of that?

Alex: It certainly conjures up some images.

Dr. Bennett: I am changing my, actually, my body mass. I was super muscular, and because of the injury I couldn't work out any more, and my head was hurting. My neck was severely in pain. I'm still getting numbness and weakness in my hands. My legs are starting to feel stronger, but I didn't want to do anything. Moving, I don't want anyone even touching me, a therapist, because it was so painful. So I started gaining fat and losing muscle, but I looked the same. As in, my legs, actually, I would say my legs and my face were shrinking in size, because my muscle loss. I had what's called sarcopenia, early sarcopenia. My belly was getting fatter because I was having that inflammation in the gut and the gut was swelling up like I was three to five months pregnant, depending on the day, but my legs were getting skinny. I'm losing muscle mass, and my mitochondria ...

Dr. Bennett: Mitochondria, you asked me about that. What I found out from doing all this research, figuring out how am I going to get my brain back, because I was thinking about going into early retirement at 48, and what can I do to rejuvenate my mitochondria? That's what it all pointed to. All the research I started finding out, this was many years ago at 48. I'm 57 now, so that was nine years ago. Back then, nobody talked about mitochondria, except that mitochondria produces energy. We all know that these are the powerhouses of our cells. Inside we have an organelle that looks like a little bug, actually, the shape of it, how do I say? It's kind of like a little train with little curves on the side. We all know that, from Biology 101 in high school, that we need these little critters that help us with energy production, which is adenosine triphosphate. That's the currency of what mitochondria does.

Mitochondria takes oxygen that we breathe and food that we eat, combine it, and then once we are getting the right amount of substrate, we can use it for energy production. Whether it's sugar, whether it's for fat metabolism. Mitochondria just makes us more energy.

Dr. Bennett: When you lose muscle mass, and 10% of your muscles in your body is actually made out of mitochondria, and if I'm losing that quality from lack of oxygen, lack of oxygen, lack of blood flow to my brain from the concussion, and then all of my organs are not functioning properly, and plus I'm losing my muscle mass, that's where I'm losing my mitochondria function. So I have mitochondria dysfunction or impairment, and that was the crux of why I was so sick. Once I started figuring out, I can boost up my mitochondria this way, I can start feeding my mitochondria these good nutrients, so I can create more robust mitochondria, I've got to exercise properly, it's actually a certain type of exercise, to build my mitochondria. I started figuring out all the reasons why, and then of course I figured out that when you look at mitochondria, it's related to pretty much every chronic diseases in the world that we're all suffering from.

Dr. Bennett: That was like, oh my gosh, I've got to talk more about the mitochondria. And that's why I wrote the book.

Alex: How long did it take in terms of recovering your own capacities from the injury?

Dr. Bennett: That's a great question. When I started, right away, I think I told you that I went into amenorrheic state meaning I lost my period, the truth of the matter is, I was going through early menopause. In the beginning I just thought, you know what? I've just got to boost up everything, try to get my hormones functioning, my adrenals functioning better, getting better sleep. The sleep was a really, really difficult part, but I will tell you that, from some of the supplements that I was doing, it really improved my ability to heal some of the neurological symptoms I was having.

Dr. Bennett: I would say that within six weeks to eight weeks, I started feeling a little bit better. It didn't really come into play until I started moving more. Moving more took a little bit more time, because I had to break through my fear of movement. When you're in a severe amount of pain and neurological, and when you see that your MRI shows, my MRI showed that you had four disc herniations in the neck, and that it was protruding centrally. What that means, Alex, is that the disc herniation was butting up against my central nervous system which is the spinal cord. That is a severe form of injury. It wasn't just to a nerve root that comes down to one arm. It was centrally. That means whenever I was in flexion or extension, the change

of my vertebrae would completely butt up and it would hit my spinal cord. That's scary. That was scary for me, because I'm thinking, wow. Any kind of injury, then, if I had a little bit, will even push that over the edge, and it could, which then means I might lose complete function and I didn't want that.

Dr. Bennett: Another factor was that I had to, I chose to stop some of my amazing activities that I did that was so healing for me in the past. I stopped surfing. I mean real surfing in waves. And I stopped snowboarding. Both of them could put me in a position where if I was to, I was a great snowboarder. If I were to be in front of someone who was a beginner, then I would hit hard and I would injure myself even more. I had to stop doing a lot of physical things that I loved to do and I enjoyed so much, because I thought that was going to be a way to protect myself. I didn't move a lot.

Dr. Bennett: That took time for me to decide, what can I do? I would say six to eight weeks in the beginning, I started slowly getting more energy back. Then a few months into doing more exercising and figuring out, what is the best exercise? For me, what I put in the book was about high intensity exercise and interval training. HIIT. That's basically, in the beginning I couldn't work out so much, so I only started working out 10 minutes, and I did it High Intensity Interval Training. What that means is that you do one minute of something really strong that gets your heart rate going, and you want to use maximum large muscles. Whether it's climbing stairs, or running, or doing jumping jacks. Something that uses big muscles in your body. That's what it takes to get your muscles to improve the oxygenation into those muscles so that you can increase your mitochondrial function.

Dr. Bennett: You start with 10 minutes on, or 10 ... excuse me, one minute on and one minute off, and that's the interval part. What that will do is that will maximize your oxygen capacity of your muscles, and maximize your pulmonary ability for you to bring oxygen through your lungs. I just started at 10 minutes, which that means I only did five on, five off. The easiest for me, that I really loved, was jump roping and walking on an incline treadmill. Then once I started really perfecting that I went to 20 minutes. Twenty minutes is all you need. What is the beauty of High Intensity Interval Training is you have what is called maximum VO₂, VO₂ max. You get what's called the after burn. What the after burn means is, during the 20 minutes of just exercising only two to three times a week, you feel real intense, you're sweating a lot, you're huffing and puffing, you barely can go any more. But after is when you do all the fat metabolism. That's when you burn your fat the most.

Alex: That's interesting.

Dr. Bennett: Yep.

Alex:It's interesting that you were adapting what you were doing to what was appropriate for your body. I think one of the things is often people which are on even the severe end of the fatigue spectrum that may not be able to do something right here, maybe what they can do is gentle yoga stretches. It's the importance of listening to one's body, I guess in terms of the process of what you're doing.

Alex:I wanted to dig a bit more in terms of some of the things that support mitochondrial health. As I was reading your book *Mighty Mito*, one of the things I really liked is you have this idea of the three Ps for optimum mito health. You were talking about preventing impairment, purging the damaged mitochondria, and protecting and producing healthy mitochondria. I thought that was quite a neat way of thinking about it. Maybe say a bit more about what are some of the things that people can do to prevent impairment, to get rid of damaged mitochondria, and to start to protect and produce more healthy mitochondria.

Dr. Bennett: Absolutely. When it comes down to it, how do we protect it is literally you've got to make sure that you're not putting junk into your body. I talk about nutrition and making sure that you don't get all the inflammatory chemicals, for instance, environmentally. The food that you eat and the chemicals that you put in your system, things that we put on our skin, that will impair. All the chemicals that you're exposed to, even in water, tap water in America. Actually, Alex, I know you live in the other part of the world, but in our country we have tap water that it loaded with chloramines, chemicals, fluoride-

Alex:Same here.

Dr. Bennett: Oh, you do? Okay. We deal with that. That is a number, it's one of the definitely poisons to mitochondria. Food, specific types of foods that are pesticide-ridden. Herbicide. Here in America we also have the herbicide, the glyphosate chemical, all of this are mitochondrial poisons. We also got to look at heavy metals that we're not even aware of. We eat it in our fish. We have it in our mouths. We have it in our air, because on the west coast we deal with a great deal of junk coming up from China, the air, and we get the brunt of it. A lot of our food is contaminated. The air just settles and the mercury settles, and that has to do with coal plants. They're burning coal in China for energy and production of power. We get the brunt of that and we're not even aware.

Dr. Bennett: We love fish because we have the ocean by the west coast so fish is a big part of the way we nourish our body with proteins, but it's also the highest level of mercury a lot of us get is from fish and taking fish. We got

to prevent dousing our body with toxins, chemicals, and environmental health, environmental toxicins that can create damage to mitochondria. Mitochondria have very, very delicate lipid membrane. What the membrane is is basically, what it's housed, it's a bilipid membrane and it can be damaged quickly. Plus, the mitochondria DNA is 10 times more sensitive than our cellular DNA. Sensitive to damage. That's why, inside the mitochondria, we have a lot of glutathione in it, SOD, superoxide dismutase, to prevent damage. That's free radical damage. Otherwise, the mitochondria will die quickly.

Dr. Bennett: Once you do that, then you also want to, how do I say, we're going to protect it, and then we got to look at what is it that we can do to create robust, you know, mitochondria? There are mitochondrias that go through fission. Fission is, it breaks off the bad stuff, and then the good ones, these little critters, actually ... I call them critters because mitochondria was, two million years ago, a billion years ago, little bugs that joined together inside the cell and symbiotically they lived together. It's like an ancient bug. They look like a little cilla, actually, like I was saying.

Dr. Bennett: Anyway, they have the capability of fission and it cuts off, and then two of them join together. If you eat healthy nutrients, healthy foods, and also exercise you can create that. Another way is called mitophagy. That's a way to get rid of, get rid of bad mitochondria. Exercise does that really well. A lot of people know about intermittent fasting. That's what creates, or even fasting. That creates a way of getting rid of mitophagy, getting rid of the bad ones. Then, to create robust ones, we've got to also then, using the exercise, using nutrients, supplements, sleep. There's vitamin D and melatonin. I could go into so many different forms of supplements that are so good for you. Of course, meditation and making sure that you are ... I'm a big believer that meditation doesn't have to be the ohm thing and silence. You can mediate just being outside and being in the sun. Everyone has their own way. You can listen, and there are guided meditations. There's many, many different ways.

Dr. Bennett: We talk about the three Ps and there's so many new science coming out, too. The one I talk about a lot of is kimchi.

Alex: We're going to come to that.

Dr. Bennett: Yeah.

Alex: Before we come to kimchi, though, I think people sometimes can underestimate just how much of an impact the mitochondria are having. They're playing a role in weight and insomnia, in blood sugar, in heart disease. The people that are kind of underestimating how crucial they really are. Maybe just say a bit about how wide reaching the impact is.

Dr. Bennett: Absolutely. Because mitochondria is actually our ability to produce energy, we can produce energy without the mitochondria, that's what's called glycolysis, in the short term. But the number of ATPs that you make, the energy level, is much lower than when you can burn the fat. Fat metabolism. There's also a component where when you can utilize energy, that's when all the cells in our body function better. For instance, if you want to have liver detoxification and you've got a lot of exposure because you live in the city, you're walking all the time from one job, and going home, and you're in the polluted atmosphere of car exhaust and pollution and smog and all that. Your mitochondria needs to produce the energy to help your liver function better. That mitochondria is the actual rate limiting factor for every cell. What I mean by that is, every cell, whether it's the heart cell, a heart has the highest number of mitochondria because it never stops. It's always pumping, no matter what, until it's time for you to go. No matter what, it is pumping all the time. That's why there's a huge amount of mitochondria in heart cells.

Dr. Bennett: Same with eyes. Eyes are always so active. There are areas in the muscles, excuse me. Muscles have a high levels of mitochondria as well. Those tissues need mitochondria to function optimally. Think about it, if you don't get enough oxygen in the mitochondria of the heart cell, it actually can cause infarction or oxygen deprivation of the heart muscle. Because it can't contract properly. Every aspect of the organ, every aspect of the glands, thyroid function, adrenals, your gonads, all of that need mitochondria. That's the reason why I was so desperate to get my mitochondria up in every part of my body. Desperate, because I needed those organs to come back alive again. I was aging rapidly. Aging very rapidly at 48 years old.

Dr. Bennett: Remember I was saying that I had all of these functions, thyroid, my thyroid is actually functioning perfectly. What was interesting was with the thyroid, I ended up getting Hashimoto because of my immunity disruption. Remember the gut, there's a big, big immune called immune body I should say, gut associated lymphoid tissue in the gut. That was disrupted from the injury. When your immunity's disrupted, then other kinds of bugs like to come in and live. For me, it was Epstein-Barr virus. That triggered Hashimoto and autoimmune condition in me. Now I'm completely free of that. My adrenals came back really well so I don't have any disruption with my aldosterone, which is part of the reason why I was urinating so much. Aldosterone is one of the mineralocorticoids that keeps me, prevents me from urinating out a lot of my water. It was helping me with my water metabolism.

Dr. Bennett: All my functionality came back. I'd say that the only thing that really didn't come back was my period. I went into early menopause and so since then, nine years, I've had no cycle and I'm in menopause. I'm in that

stage where I don't have a cycle. But I do know this, is that even though my hormone levels are low, my adrenal functions are really well. If I were to do blood testing, although my hormone levels are on the lower end, as an amenorrheic person or a menopausal person, that if you were to look at me and if you were to understand what my blood markers are and look at that, you would think that I would still be really high with my hormones. I don't have a lot of the symptoms that women have when they go into amenorrhea. My skin is super supple, my muscle mass is really high, my bone density is strong, and that's because I have worked on my mitochondrial function.

Dr. Bennett: If you can do that, and you start early on, you can start as an infant. Help your babe and help your children, and even when you're in your teens and you work on it, then your likelihood of optimizing and creating robust mitochondria ... because mitochondria can die quickly, and then it'll grow quickly, too. Just know that you have that capability.

Alex: I want to come on to kimchi in a minute. Before we do, let's talk about ... you mentioned oxygen and food being two of the key raw ingredients for mitochondria function. Maybe just touch on, what are some of the foods which are important in supporting mitochondrial function.

Dr. Bennett: Number one, we talked about getting rid of all the chemicals. We have a lot of toxic foods and chemicals these days. I'm talking about foods that you get in the middle of the aisles, right? All the packaged items that just aren't fresh. Start shopping from the outside. The fresh, organic vegetables.

Alex: There's a whole part of the supermarket you don't need to walk around, right?

Dr. Bennett: That's right. The outskirts, where all the refrigerated section is. The perishable items. I'm big on vegetables, vegan, but I'm not a vegan as in, like, only. I really, really believe that protein is essential for mitochondria function. Protein, I wrote a lot about protein because I had sarcopenia muscle early, muscle loss. Age related muscle loss. To build muscle, you need protein, animal protein. But I must tell you that I am a big believer in you doing what feels right for you. If you want to be only plant based, let's go for it. That's also what you want. But I highly recommend amino acid therapy.

Dr. Bennett: That's actually something that totally changed my life, is that I started using amino acids. That's going to produce ... amino acids, eight essential amino acids. My supplements are super eight aminos because there's eight essential amino acids that you need that are essential, meaning your body needs it to build and regenerate, and develop your muscles, develop your bones, develop your organs, and bring your brain back. All the

precursors to neurotransmitters, all of that are in amino acids, eight amino acids.

Dr. Bennett: So then, what you want to do is get protein. If you're vegan, then you've got to definitely get some amino acids in you. Low inflammatory foods, please, and what that means, gluten, dairy, sugar free. There's so much we all know, and I'm sure a lot of you are experts, I've talked about this anti-inflammatory foods. I add alcohol in it because alcohol is a microtoxin, and alcohol is a byproduct of, whether it's carbohydrate or fruit metabolism, or fermentation, and that microtoxin is a poison, also, for the mitochondria. Not just the gut lining and the bacterias in your gut, the healthy bacterias, but it's also a microtoxin. You can say that because it is a microtoxin for your mitochondria of your body.

Dr. Bennett: Those are the things that you want to prevent. Then, again, eat all the healthy, vegan, get all the seeds and nuts, and fats are super important because like we said, the mitochondria love fat. It's called beta-oxidation, and when it goes through beta-oxidation, and oxidative phosphorylation, another term, it goes through all these different steps, the five different complexes, until it makes, through ATP synthesis, until it makes ATP, and oxygen is clearly important. If you understand about cancer and cancer being a metabolic disease, Dr. Warburg, Otto Warburg, got the Nobel Prize for this, and recognized that cancer cells, it goes through fermentation rather than it goes through fat, oxidative ... it does, but it does not like fat. It does not, it loves to use a way of getting energy without oxygen.

Dr. Bennett: That's part of the reason why making sure that your mitochondria are functioning, so that it can use that oxygen and it can use an optimal substrate so you can burn your fat and become a fat burner. You become a fat burner, you'll have sustained amount of energy all throughout the day, and that's why that high intensity exercise I talk about it so important, because you're becoming, you're pushing your body to utilize your ability to burn fat outside of it. It could be not only 24 hours, 48 hours you can literally be having that fat metabolism or the after burn. Forty-eight hours is really amazing. That's what they found. That's why you don't need to exercise every day.

Dr. Bennett: Oh, I didn't mention that if you overexercise, you're going to kill off the mitochondria, too. That's a way to ... it'll kill off the mitochondria, and you've heard of post-exercise fatigue. Many athletes go through this. Many biohackers go through this thinking that long distance, long term, over hour, doing double ... I used to do that. Double training. Your body is sore, but you think, you know what? My body's going to get bigger muscles. That's not true. What they're finding is that you're basically deteriorating the

mitochondria, and then the percentage of mitochondria in your muscles go down, and then your quality of exercise also is impaired, and then you're not going to grow your muscles. You're breaking it down, you have more lactic acid build up, which then of course is the end result of anaerobic exercise, which means not using oxygen. Oxygen is key.

Alex: Yes. Let's come into kimchi. As I was reading your new book on kimchi, one of the things that ... there you go. I've only got the e-book, that's all I could get here in the UK so far. One of the things that ... obviously we should explain what kimchi is. One of the things that particularly jumped out to me was you were talking about the SARS virus and how that became a really scary kind of the way that was spreading. But it didn't spread in Korea. The kind of finding was that this was potentially the reason why. Tell us what kimchi is, and explain why it has such a powerful impact.

Dr. Bennett: Right. Kimchi's a fermented food, and it's an iconic, traditional food of Korea where I'm from. I was brought up on kimchi, and in my family kimchi is a food that has been actually passed down from generation to generation. I learned it from my mother's lineage of course, and my grandmother to my mother and to myself. What I found was that, when I visited Korea, back when I was 50 years old with my family, I couldn't believe how modern Korea was. I left when I was 12, and when I went back at 50 I'm like, wow. It's very much like New York. There's so much city life and hustle and bustle. Everyone's walking, but everyone eats bad food. The truth of the matter is they've got the pizza parlors and in every corner the sandwich shops and the pastries, and they love, love, ice cream, and noodles. Wow, noodle shops galore. They eat a really high level of white food. White sugar, white flour, white noodles and white rice, all that.

Dr. Bennett: I'm just watching them, but they don't look like we do. I've not been to UK much, but in America, we're number one when it comes to obesity. Thirty three percent of our population are obese. So then, while I was going and I'm looking at everyone, instead of taking videos of the beautiful landscape and the temples, I'm beginning to taking pictures of what they're eating. Because I'm blown away by their consumption of calories. They eat thousands per serving. Three, five thousand easy. An enormous amount of food. Their obesity level is only at 5.8. They're eating the same food that we are here in America, but they don't look the same. They have beautiful skin. They are definitely not fatigued.

Dr. Bennett: I talked to them in this broken Korean language, because I don't speak Korean very well, asking them, do you ever get bloated? Do you get headaches? Are you suffering from joint pain? I'm really engaging with Korean people and asking, because I want their secret, too. I want to know

what it is. They're all laughing at me, thinking I'm this crazy Korean-American that just, they didn't know what she's doing. Anyway, what it ended up being was I observed something very carefully. I saw that everyone was eating kimchi with, as a side dish, with their food. I keep on looking at it, like, wow, there's kimchi on their sandwiches and pizza. They're just kimchi all the time, breakfast, lunch, and dinner.

Dr. Bennett: What I decided to do is I started digging in deeper about kimchi, and I found out a ridiculous amount of science of kimchi. In fact, there's so much science that there's a world institute of kimchi in Gwangju, in the southern part of Korea, South Korea. I ended up visiting them last year. Really, so much interesting health benefits. I started, when I got back I started implementing kimchi into patients' lives. Started giving them, okay, you've got to take kimchi and you've got to eat kimchi, and let me teach you about my recipes and all that. I made some mistakes, Alex because I didn't know in the beginning that kimchi, at the time, because I've been used to eating kimchi my whole life. But with people that's never had fermented food, wow. What an eye opener. Everyone, not everyone, but a lot of them would come and say, I'm getting a lot of gut problems. I'm getting way bloated, and I'm getting super gassy. I don't want to eat kimchi. This one time thing is not good for me.

Dr. Bennett: So then I started looking at okay, maybe I'm missing the boat here. I realized, well, gosh, Koreans eat 200 types of kimchi. There's 200 types of kimchi that we eat. I started looking at, what can I make and teach people how to make so that it's easy for them, and I found out that there's literally an order of eating the right kimchi so that you can start developing and seeding properly, inoculating the gut, microbiome, so that we flush out the bad slowly, bring in the good slowly, and there's an actual diet, meaning a kimchi diet. So I created the eight week program, that's why it's called The Kimchi Diet. Every couple of weeks we're putting a different type of kimchi, and you're making it yourself because it's so easy. It's easy to brine, and you just mix it all up and you just stuff it into a glass container, or ceramic container, and you just leave it there and let the magic happen with the natural bacterias.

Dr. Bennett: Now I'm going to tell you why kimchi's so powerful. There's lactic acid bacterias in the fermented food. What happens is when you brine, brine kimchi, brine a vegetable, brining means using a salt and you take out the extra water of that vegetable, and you just let it sit there for a little while. What the salt does is it kills the bad bugs. Salmonella, e. Coli, engococcus, viruses and things like that, and fungi. And then, the lactic acid bacteria are actually, can grow better in salty environment. So then, with that, you mix all the vegetables. It's very, very simple vegetables. Garlic, ginger, daikon, which is radish, you can add carrots, chives, or garlic chives. When you just mix that together, and some kimchis are red kimchi, meaning it has red pepper. A lot of

times I don't make it with red pepper, but some people don't like having spicy foods, but you can make it non-spicy. The combination of your hands, which is where all your probiotics ... you know we've got a flora, skin flora specifically, on our body and our skin, and remember, external skin becomes the internal skin. The inside of your body's internal skin, I look at it. That's your entire mouth all the way down. You've got your entire oral down to the gut. That's your other internal microbiome. You have an external microbiome and internal.

Dr. Bennett: What you're doing is, by making the ... mixing all the vegetables, and then mashing it all up and then stuffing it in. When you add red pepper, you've got to wear gloves. The red pepper can irritate your skin. The only individuals who I don't recommend for you to use your natural outside skin and your hands naturally are people who've got skin issues. Eczema, psoriasis, if you have warts, don't use it. It can affect the kimchi that you're making. There's great bacteria in all of these vegetables. Did you know that garlic has specific bacteria, compared to ginger? It's fascinating.

Alex: It is fascinating, it is.

Dr. Bennett: It's fascinating that each food, or each vegetable, has its own microbiome. I love that. So the microbiome of each unique vegetable, and your microbiome, you're combining together. Did you know that you don't need any heating element? Heating element like fire or any type of gas to cook anything. This is so interesting, remember, this is 2,000 years old. I make kimchi outside. Outside. I tell people all around the world, for my kimchi detox program, I have about 13 different countries, and people from even Africa are now my students. They can make it in the Serengeti and in the jungles, because all you need is salt, solar sea salt, or I use Korean sea salt, but you can get Celtic sea salt or Kosher sea salt. It's got to be coarse. It's got to be really chunky. You can't have regular sea salt, especially no table salt. You know about table salt and iodine and excess iodine use. I'm not a big believer in using iodine. Natural iodine's fine, but I don't recommend using that because you're going to have a lot of salt in the kimchi, and the iodized salt is going to have an affect on the outcome of what you're eating.

Dr. Bennett: So then, you can be anywhere. I can make kimchi outside, and I've got the sun charging up the food and activating the bacteria, good bacteria love food, and sunlight as well. Then together, with your own microbiome, you're making something so incredibly magical that what you're doing is you're feeding your own native flora, native flora that you've gotten from your mother. If you were so lucky to be delivered through the birth canal where you had the first inoculation of your life, not a vaccine, but first inoculation through the vagina and coming out, and your mouth and your

eyes and your skin is all bathed through that birth canal. That is what you're nourishing when you eat fermented foods. You're nourishing that native flora.

Alex: It's utterly fascinating, and what I think is also very cool about it is you're talking about kimchi being almost a supplement to any meal that someone's having. Like you were describing in Korea, that it's not that necessarily that one has to radically change their diet, but if someone's already on a healthy diet and they're already sporting things, it's an add-on that people can do. How about people which have issues with bacterial overgrowth in the gut, and they think fermented foods. Where does this fit with those people?

Dr. Bennett: I did a lot of research on, what are we finding really about bacterial overgrowth, SIBO? Small intestine bacterial overgrowth. Very, very common in America, and that's because we have low diversity in our gut, and we have a tendency to eat foods that feed bacteria in our small intestine. So we have a major overgrowth, and then we end up having gassy, bloaty, irritable bowel symptoms, constipation, diarrhea. When you've got a small intestine biome overgrowth, you get what's called hydrogen sulfide gas production. The difference between methane gas, because a lot of us get gassy because of the overgrowth, right? That's why when you do the breathalyzer test and all that, the breath test I should say, you can you where there's methane or hydrogen sulfide. That's what it's reading.

Dr. Bennett: Hydrogen sulfide gas, H₂S, is a toxin for the brain function. Very often, if you've got odorous gas, so it smells like garlic, hydrosulfide is too much gaseous, smelly. Talking about odors, it smells like ... sometimes gas doesn't smell. You're like, oh, I'm tooting and it's not a big deal. But if it does, I want to ask the audience, when you do have that, do I have foggy brain? Do I feel like I've got a hangover? Do I have low energy? Do I feel anxious? Do I feel depression? That's actually an indication that your mitochondria are hurting, in your brain and in the rest of your body.

Dr. Bennett: Small intestine bacterial overgrowth is definitely a problem. But what I've found in the research is that the bacteria, pathogenic bacteria, and when you eat kimchi little by little, the lactic acid bacteria slowly eats up, or I should say, it takes over and the bad bacteria goes down. It is antimicrobial. It's antimicrobial. Remember I said that when you're brining, that's the action of getting rid of the bad bugs, the salting? That's because of the lactic acid starts to grow already and the salt has a tendency to kill the bad bacteria. Inside the fermentation process, during the process, the kimchi studies show is that the y.silla, the ... there's three bacteria strains. The y.silla, leuconostoc, and lactobacillus, a lot of people know lactobacillus because we know about the probiotics, lactobacillus in the pill form. These

bacterias grow up, and they grow a lot more during the fermentation process from day one, day two of fermenting, and you're holding it there and getting it ready so that it's perfectly ripe or the taste is ... I like to eat fermented foods that's not even completely ripe, or completely fermented for the palate. I like to eat it because I just like the taste of it. You can eat a little bit more fresh if you want.

Dr. Bennett: But during that time, the process, you're going to see that it's also going to kill off other bugs that it hasn't during the brining process. They found that the garlic and the ginger kill off bugs, and that's why those are two superfoods. The red pepper, the capsaicin in that will also be antimicrobial. It's really interesting, the red pepper gives, it allows the length of the kimchi to be longer, meaning it ferments it very slowly, slows down the fermentation. If you have red kimchi, it may last three months before it gets mushy. Although I would still eat it or make some other type of food with it, but it actually creates a longer. I have kimchi right now that's four months old in my refrigerator and I'm still eating it. I've got a kimchi refrigerator, if you're a connoisseur like me, you have a kimchi refrigerator. The only reason, also, for me, is because my husband doesn't like the smell of it in our regular refrigerator, so I've got it in the garage. I've got about 20 different bottles at different phases. I make kimchi probably every two weeks now. I just love it.

Alex: How long does it take you to make it? I'm wondering people are thinking, I don't have the time, this is too involved, I want to just go and buy it from the local health food stores. Is that a good idea, or is it better to make it at home? How long does it need to take someone to make it?

Dr. Bennett: Yes, yes. You mentioned something about how it was a side dish, right, and that's a really, really important factor. Anyone can do this. Anyone can make kimchi all around the world, like I said, as long as you've got the structured vegetable and you've got the sea salt, and you've got garlic and ginger, and you've got some extra vegetables. You can make it, and it's a side dish, and you almost use a tablespoon to two tablespoons a day is all you need, and you can be a vegan, paleo, Mediterranean, keto, anything. This is just a side dish. I don't want you to think the diet means that you've got to take everything out. That's not what this is about. I'm only asking you to add in, and this is really why it's so easy. You just make it and add in.

Dr. Bennett: The reason why I want people to make it more is that I've found out from the commercial, I wrote that in the book, in the commercial kimchis, yes, if you get it at Whole Foods, you're going to get the better ones. Maybe if you're lucky there's organic vegetables. But there are ones that have sugar in it. My recipes are not sugared, it's only the natural sugar of fruit, such as Asian pear or apple pear, apples I should say. The bacteria needs

some form of carbohydrate so that it can use it as a substrate to grow. It just needs food. That's the reason why I have decided that by using pears, or fruit, you're going to have a much better chance of having a healthier kimchi.

Dr. Bennett: Number two, you're not going to, if you make your own, you're not going to use MSG. MSG's a huge, in the commercial brand, and if you get it at Korean markets and things like that, you're going to definitely get MSG in it. I don't want people to be having other reactions. MSG can cause definitely histamine problem, definitely headache issues, definitely anxiety and muscle cramping in the body. The second thing that people ask me about, whether kimchis are the right food for me, is because okay, I am sensitive to histamine. I've done the research on that as well. Not everyone can eat ... if you're histamine problematic, there might be many other reasons why you've got a histamine issue. If you're eating an allergenic food and you eat kimchi, you're actually going to have less problems because the kimchi is known to reduce inflammation and reduce allergies. It's known to optimize anti-inflammatory markers to help you with allergies. It's known, and in fact the science shows that it helps you with asthma, it helps with skin allergies, it helps with inflammation of the gut, it helps you with inflammation that can trigger heart disease, it helps with diabetes and sugar control. There's a lot of other health benefits that offset, of course, the histamine.

Dr. Bennett: There's also studies that show that because of the health benefits and all the antioxidants in kimchi, it reduces, it's more as an antihistamine rather than histamine-producing. I would ask the person to just try it, and try it by eating cucumber kimchi, and listen to the body, and only, and I'm someone that loves that whole concept of removing food and then challenging it. You've got to remove, and I talk a lot about that in my first book, *The 7-Day Allergy Makeover*, because the gold standard is elimination diet. You just got to remove. If you take an allergenic food, you don't even know, let's say, and you eat a food, it takes four days for that allergenic reaction, antigen, to leave your body. Four days. So even if you had dairy twice a week, you're not going to get rid of your allergenic symptoms. You really cannot look at how well your body responds unless, two weeks I say.

Dr. Bennett: You can do two weeks. Everyone can do two weeks. You remove the allergenic foods, you start seeding it, and you start introducing the cucumber kimchi, like I said. If you start at Napa cabbage kimchi, Napa has fermentable carbohydrates, Alex, which, fermented carbohydrates, remember I said bacteria love it? Well, bad bugs love that, too, and it's known as a fermentable carbohydrate. Our enzymes in our own body, we don't produce enzymes for fermentable carbohydrates. That's why we need to feed. It's like a pre-biotic. It is a pre-biotic. But if you do pre-biotics when you've got SIBO, you've got trouble. You're going to notice it right away. So much gas comes

out. So much bloating. Gas and bloating is a not a really good ... people think, you know what? I just have it and it goes away by the morning. But the truth of the matter is, you're setting yourself up for diverticulosis. Has anyone talked about diverticulosis in this?

Alex:No.

Dr. Bennett: No, diverticulosis is a condition where your large intestine, usually it's on the descending aspect of your colon. They can find it out by doing a lower GI, which is where they do a test of a barium enema or they do a colonoscopy. That's really the only way you'll know. What you can visually see from either test is that there's outpocketing. Instead of the wall being nice and tight and like a nice hose, there's little outpockets and little bit of ballooned out outpockets, almost like when you have one of those balloons and you have the clown making an animal, and it's all blown up beautifully, and then you let it go and certain areas are a little overstretched. That's what happens if you've got gas. That's what happens when you have inflammation. So it's key to reduce inflammation.

Dr. Bennett: Forty percent of us, everyone who is here, watching and listening, 40% of us have diverticulosis that is asymptomatic. You don't know that's what's happening. You don't know. Then once it hits, you will notice so big. It might become diverticulitis and you get inflammation and infection of those outpocketing. Then you end up having to have antibiotics. That's some of the problems of SIBO, too.

Dr. Bennett: SIBO is so much of an overgrowth that the allopathic medicine, mainstream, they just use Xifaxin and they can do two three rounds of this heavy duty bacteria, antibacterial agent, excuse me. That is wiping out all the good as well as the bad, and then how are you going to maintain your optimal energy level? One of the biggest signs of antibacterial, antibiotic use is fatigue. Everyone will tell you, I'm so tired when I'm taking these drugs. It wipes out the good. It does affect, I believe, the reason I believe what it does it it kills off also mitochondria because it's a mitochondria poison. It also depletes vitamins like B12. There's a lot of reasons why you don't want to take antibiotics, as much as you can.

Dr. Bennett: There's also a condition, what ends up happening when you take antibiotics. Let's say that you have SIBO and you get antibiotics, and this is what the doctor says. I totally appreciate all that they're doing, because they are truly believing this is the only way to do this, but I don't think that's true. I've worked with many, and I use kimchi as one way. Not only, kimchi's not just one. I have other methodologies that I would use antimicrobial agents. For me, sleep is key. Boy, have I had people have inflammation just by stress.

Before they're going and speaking to a big conference, they just complain about their gut having problems. There's many other reasons. I just want you to know that kimchi is one of the ways to be able to master, and as a do it yourself. I want everyone to be able to do this for yourself, to help yourself. It's just one layer that you can help.

Dr. Bennett: The problem about SIBO and SIBO and taking antibiotics, then you end up getting SIFO. Small Intestine Fungal Overgrowth. Yeasts grow in the gut because the fungi and the bacteria are always keeping it in check. Everyone has some form of yeast, an amount in our gut. You need a certain level of fungi. Not an overgrowth, so then you get thrush in your mouth, you get skin reactions. Have you ever seen white patches on the chest, and there's little red patches on the face, and sometimes underarm? Jock itch, athlete's feet, all of that. There are different types of dermatitis that are fungally related. Remember, if you've got inner gut or inner skin problems, you're going to possibly have outer skin problems.

Dr. Bennett: For me to work on the outer skin, I treat a great deal of dermatological conditions. Rosacea, that's actually a gut problem. It's not a skin problem, so using the typical antibacterial agents that doctors use to get rid of the rosacea, it defeats the problem, it defeats the purpose, because it's really a gut issue. Then any kind of skin, eczema ... oh, did I say that kimchi, the studies show a huge amount, if you've got atopic dermatitis, eczema, 40% goes away with kimchi. Just kimchi alone.

Alex:Wow. Wow.

Dr. Bennett: Yes, yes.

Alex:That's very, very cool.

Dr. Bennett: Really powerful. There's many different levels of how. The science, the kimchiology-

Alex:I love that phrase. I remember reading that, that was great.

Dr. Bennett: Honestly? I wish I would have coined it, but I didn't. I learned about kimchiology from the World Institute of Kimchi. The scientists there coined that term. I am so happy that they did because I want people to know that there is really a true science of kimchi. In fact, just like any fermented foods, every fermented foods have different types of bacteria. The three bacteria I said the strains, in a probiotic, and the reason why eating kimchi rather than taking a probiotic is this. The studies show that taking probiotics, and there's some really good ones out there, but when you do a probiotic you're not changing your native flora, and you're not changing the diversity.

What I mean by the different types of bugs. The science shows that kimchi, when you take it, diversity and the number of bacterias grow.

Dr. Bennett: In kimchi, you can have 2,000 different strains. Two thousand. Typically, in kimchi, it could be 900 and into the thousands. But what do you get when you get one biome? You get five strains, 12 strains if you're lucky. How do you really change that native flora that you got? If you've already had antibiotic use, if you've already been taking a lot of drugs, you're eating chemical ridden foods, if you're drinking tap water every day, if you're having a huge amount of stress, how are you going to change that diversity? Diversity is key to help change the modern diseases that we all suffer from.

Alex: Susanne, I'm mindful of time. There's so much more we can say on kimchi, but actually it's a good link to wrapping this up, of how can people find out more about you and your work, and also where can they find The Kimchi Diet?

Dr. Bennett: Everyone can go to my website, drsusanne.com, D-R-S-U-S-A-N-N-E dot com. Also, I've got The Kimchi Diet, the title of the book, thekimchidiet.com. That's where you can get access to where to get my book. There's also, it's called the kimchi detox program. If you get the book and you sign up, you're going to get access to how to join up and get more deeper into learning exactly how to make kimchi and how to implement kimchi into your life so you really can start feeling that you're going to change your gut. True change and reviving that microbiome so that you can start to feel better and your energy level ... that's what everyone usually talks about. Oh, I feel calmer. Because the psychobiotics, which are the probiotics in kimchi that really help with your brain and GABA levels, serotonin levels, and it sparks up your ability to have more focus and energy. Your feelings of your flat belly, literally you're going to lose inflammation so your gut heals.

Dr. Bennett: What I'm hoping for everyone is that they're going to have kimchi, and you'll be able to utilize it your whole life so that your future health and your future generations, which I talk about in the book, is because you're changing your microbiome. Men and women. When you procreate and you're having those children for your future, and your kids, their flora will be different because you're delivering into a much healthier microbiome. Then you're feeding those children to even nourish even more.

Dr. Bennett: It's really fascinating, the life cycle of the microbiome. I get chills thinking about it, you know? You can go to my website, you'll find all that information there. Want to make it easy. But you can also go to thekimchidiet.com.

Dr. Bennett: Alex, I want to thank you for asking me wonderful questions and letting me share this, I think, important information. They can do this, everyone can do this in their own household. You know what? If you can't go to the Whole Foods or any kind of health food store and you'll get access to kimchi.

Alex: Awesome. Susanne, thank you so much. That has been genuinely fascinating. I love the fact that there's a real simplicity to this, it's something that can also have an enormous impact. Thank you so much for your time.

Dr. Bennett: Thank you. Bye bye, everyone.