Introduction and Deanna Minichu2019s Background

Well, Deanna Minich, it is such an honor to have you on this segment of cancer breakthroughs, our Cancer Breakthroughs Summit. And that's going to be fascinating topic.

I'm so thank you so much. Oh, my pleasure, Michael. Thank you for the invite. And this is a topic that I have so much passion for, personal and professional passion, especially when you see family members and friends over the years that have had cancer.

And, you know, I feel like this is definitely something I feel strongly about. So thank you. And for everyone out there, Deanna Minich, a certified functional medicine practitioner, is a nutrition scientist, international lecturer, teacher and author.

With over 20 years of experience in academia and in the food and dietary supplement industries. And throughout the years, she's been active as a functional medicine clinician in clinical trials and in her own practice, food and spirit, which has now become oriented towards groups, workshops and retreats.

She is the author of six consumer books on wellness topics, four book chapters and 50 scientific publications. Her academic background is in nutrition science, including a master of science degree and human nutrition diet dietetics from the University of Illinois at Chicago and a doctorate in medical sciences from the University of Groningen in the Netherlands.

For a decade, she was part of the research team led by the father of Functional medicine, Dr. Jeffrey Bland, and has served on the Nutritional Advisory Board for the Institute of Functional Medicine, as well as on the Board of Directors for American Attrition Association.

And the list goes on. There's a lot of things you've done, but then we would just take up the whole segment of of, of our discussion. Yeah, let's not bore people too much.

But I think the takeaway is I've been in nutrition a long time and that's really where I spend a lot of my time and effort. And one of the fascinating subjects, because we when people talk about food and we we talk on nutrition, should we do plant based, should we do ketogenic type of diet?

But I want to go beyond that. I want to go into kind of the vibrational energy sort of say of of food, because to me, any kind of food, any kind of herb, they actually carry a certain energy with them over and a bit and beyond just the molecular structure.

And I feel that that is so important for our health. Yes. Well, and actually, one begets the other, meaning that the molecular structure imparts a certain vibration and frequency.

So when we have things that are chemically synthesized or humans synthesized, it doesn't quite have that same, I would say resonance that something from nature would have.

And so that really lends us in to the whole topic of phytonutrients and why it's so important to get those colors, because color, as we know, is a wavelength of light, it's a particular wavelength.

And by getting all of those colors, then we do get all of those unique frequencies that we need at the cellular level. And of course, we get them at the physical level as well in the way of the actual nutritional aspect.

But I think that much like you're alluding to, we can see food on many different levels. There's the physical, emotional, mental, more of the spiritual connection aspect and then I would also say the more energetic vibrational

and all of them are relevant.

Food, Energy, and Biophotons

I think we can't ignore any of them because they're all a part of our being as well. So I'm so glad that you brought that up. Yeah. And we have I mean, more recent research when you look at the mitochondria, I in my practice we do a lot of photodynamic therapy and photobiomodulation where we use intravenous laser therapy externally, laser therapy in order to be able to kill cancer cells or killed pathogens and also then activate the mitochondria.

What they're finding is that the mitochondria, the different complexes are very color sensitive, meaning that they get activated by certain frequencies, certain colors.

So bringing them food in to activate the mitochondria becomes a very powerful tool in order to be able to enhance cellular health. Wow. Absolutely. You're diving right into the physics of eating here, which I love.

You know that I don't get to talk about that too often through Summit. So this is a delight. When I think of the mitochondria, I think of truly the key of the cell, the chi, the key, the prana.

It's even been referred to as chi in a scientific paper. So what does that mean? That's like the the energy harvester and if we look very closely into the mitochondria and the pathways, especially things like oxidative phosphorylation, which is a way that that mitochondria can extract energy, it's kind of like the finish line of the metabolic processes.

And through that process there are these cytochrome enzymes. And if we just think of the word cytochrome cyto cell chrome color, you know what the mitochondria is doing at that very basic level is extracting energy from these bonds of color that have been formed within foods.

So I think it's really beautiful. I mean, it's not new work. I mean, if we look at Dr. Fritz Popp and other people in this whole arena of biophysics, so many people have done research on different aspects of food spoilage, how to increase the bio photonic.

I would say to preserve that within the food rather than to have emissions, because then that's a sign that we have what's called more of the oxidative spray or we're decaying, we're going rancid.

So, you know, I think eating in its own way is an act of harnessing that energy. Some ways connecting into those bio photons, connecting into the light and the light in the way of sunlight.

Full spectrum light is connecting us to color. And you're talking about emissions. I mean, when, when, when they do research in regards to the emission.

So obviously with that it comes, you know, so people understand that when you're then ingesting these foods with these colors, you essentially are creating emissions of bio photons within your your own structure.

Mm hmm. Mm hmm. Yes. And unfortunately, we don't have a lot of science to look at the effects of, okay, if I eat a banana, what kind of emissions, what kind of bio photons are created?

So really, we are just looking into other studies that have more or less at more or less, I would say, looked at it mechanically or even biochemically, but I would say I'm still waiting for more clinical data.

So where we can actually measure bio photons, because I think that the medicine of the future will be taking our smartphone. We put our finger up to that camera or the light.

We get a read on what kind of light that we are emitting. And the goal is not to have light emit. We actually want to keep it and have a less emissions so that we don't have that kind of burst, that oxidative spray.

There was one study some time ago looking at meditation and finding how even the act of meditation could help to

conserve one's energy or reduce, from my recollection, the ultra weak bio photonic emission that happens just naturally from the fingertips.

Right? So I just thought that that was so interesting. You know, how do we become more enlightened, right? Have the light on the inside. And I think that, Michael, there are so many things that interfere with that process.

We have electromagnetic fields. We have artificial blue light at night. We have so many fields around us that are just zapping our energy, creating more rancidity in our bodies and that really takes us into something like cancer, because if we think of cancer and the processes that occur many times, it is from an overabundance of a lot of free radicals where we have this oxidative damage and maybe that is happening to the membranes, maybe it's happening to the DNA, but we're damaging the body in some way through some external or even internally generated substances or compounds, fields, whatever it is.

Right. And so I think that the way to overturn that or to buffer that is to bring in these colors and the colors in and of themselves will provide that reservoir of colorful energy to to override and provide antioxidant support for when we are bombarded with so many different stressors in our everyday lives.

And there are many. There are, there are. We got plenty of a yeah. And so you're talking a little bit about Professor Popp and his research in regards to by photons and and in his research he talks a lot about cellular communication and by photons within cellular communication and how different reactions in the body is communicated and orchestrated through them.

These, these light particles that are then kind of orchestrating all the events within the body, rather than that you have things that are chemically dependent because they they've seen that if we are then waiting for a chemical reaction to conclude and then the next chemical reaction will start after that conclusion, things that take a very short period of time within the body will take much longer.

So as so, we then leaning them more into then communication being then down through by photons. And so then to be able then to enrich our bodies, then with these photons and utilizing then these different tools, they are like colorful food, like sunlight becomes really important for these.

These, I mean, all tissue to be able to function appropriately. Yes. Oh, my goodness. I you know, I just want to say that I'm no expert in this area, but the whole area is intriguing to me.

And I often get down the rabbit hole of looking at the literature. And one of the things that I have seen recently is if we look at aromatic amino acids like tryptophan, tryptophan is a really interesting amino acid.

So I have stumbled across some literature here looking at the conversion of tryptophan to serotonin to melatonin.

Mitochondria, Light, and Cellular Communication

Well, as it turns out, if you look at some of the cellular biology literature, it would seem that these compounds, the three of them, which are interrelated, seem to be involved in exactly what you're speaking about, which is that transfer of bio photons.

So there's talk about how they can help with microtubules within the cell, kind of changing that communication within the cell. And I just think it's interesting because in some way I think that these are molecules of consciousness.

If we were to think, you know, how do we have the consciousness to make decisions? How do we drive our behavior? How do we create states of awareness?

Well, if you look at even again, just to go back to meditation, because there seem to be a number of studies on that kind of a practice and consciousness.

What you see is that serum levels, so blood levels of serotonin and melatonin are higher in people that are long term meditators. So people that meditate, you know, they've been doing it for like ten or more years versus people who don't meditate even when other factors are controlled for.

So it's kind of interesting are these truly the harvesters of light because they have a certain structure chemically. So it's kind of like photosynthesis, right?

Why is Chlorophyl so important in plants? Well, it has a structure that enables it to carry forth the light into that plant for energy and chlorophyl in conjunction with Carotenoids.

So Carotenoids are a large family of compounds like 700 different compounds. They can be red, orange, yellow. Some of them are a little bit like yellow, green.

And so within the plant there is this almost like a passing of the light baton where the carotenoids are protective and helpful against too much light.

Chlorophyl is harnessing and moving that light through to photosynthesis, and I think much in the same way in our bodies this is happening, you know, how do we move cellular communication through through to that vehicle of light, those photons?

Now we can't see them. We also have difficulty measuring them. So it's hard to be tangible in this kind of a science. This is where physics meets biology and we have biophysics.

This is an emerging area. Some people would call this quantum biology. You know, it's like taking quantum physics and applying it to biological systems.

So food and eating and this whole experience of taking in these plant compounds, which all have very unique types of chemical conformations, I believe are helping us in this whole process of extraction of light, the communication in the cell through that conductance of light.

But I think for the average person, that's really hard to kind of put into practical reality, right? So I think that the best we can do is we can talk about eating the rainbow because through those colorful compounds which we are seeing with our eyes, we are able to take in color.

I see color as a nutrient. So many people just kind of disregard it. You know, we're eating so many brown, yellow and white, lackluster, bland foods. I mean, these foods are devoid of that high resonance of color.

And again, what we're speaking about, more of that photonic aspect, I call it sometimes photonic nutrition. You know, if we want the most vital form of life to bring that into our own being, looking for those colors, I think that that's a good signal in nature.

Yeah. And talking going back to cancer. I mean here you have then tissue that is then lacking that that vibrancy and lacking that that energy, the vitality.

And so to be able then to ingest the that the vibrational energy or that that that, you know, we're talking about bio photons. We're talking about like I talked about frequency.

And we are beings are frequency. We are beings of light things. Things communicate, things vibrate. And when they stop vibrating, that's when we're moving towards death.

So then to be able to bring in vibration on a full spectrum level becomes really important because you can then become deficient in certain type of vibrations and then your your body is not able to communicate and function at the level it needs to.

Yes, it's so true. And so any kind of disease state with signify that we're not in that that place of harmony at that

cellular level. So when it comes to food, I think that there are certain different aspects that we can key into.

One is the pure, I would call it the color red. It is these aspect of survival protein, the grounded aspect of eating. And many of us really need to get grounded.

You know, there's so much talk about the microbiome, there's talk about earthing, there's talk about soil and how one we're taking in a food we're actually taking in not just the nutrients but the microbiome of that particular food.

So there's a real earthy kind of a grounded element. And oftentimes this presents in the way of protein. And people have very strong views about what source of protein that they choose to eat.

In fact, many times the conversation with food and nutrition starts there. Are you vegan, are you keto? Are you paleo? What is your and it's all really rallied around this aspect of how we feel that we most need to ground through protein.

Now for some people, animal protein is not an option. For other people, it's just about plant protein. So I think that, you know, probably I would say that you and I probably share a very similar way of how we could view that that there's a personalized approach.

Right. Because when we're talking cancer, now we start thinking about personalized genetics. You and I were talking before we jumped on about our Swedish ancestry.

So we have certain genes that just kind of travel along and we're turning certain things on and off. Then we have epigenetics. So that's very strong within the whole arena of cancer and that's very well acknowledged.

So similarly, certain foods can be doing that, turning things on and off, but I think at a very basic grounded level, so many people are focused on the protein.

And. Nutrition is so much more as we know. It is fascinating how things are become simplified, but obviously for people to understand because it's such a complex conversation and when you're dealing with certain health issues and you want it then simplified.

But I think it's important to understand the that we are complex individuals and with that we need a, you know, a rainbow of of foods. We we we can't just limit ourselves to one component.

We need all these different nutrients because they they work in conjunction with each other and they, they support each other working as co enzymes and enzymes and, you know, and they so you can't just maybe for a period of time you can limit yourself.

But for long term survival, you need the full spectrum. You need the full spectrum. That's true. And you know, back a few years ago, I published a paper in the Journal of Nutrition and Metabolism, and I was talking about the color code.

So even, you know, this is what I typically show is my operating system, you know, the rainbow and each color of the rainbow which seemed to be keyed into a functional signature.

So what do I mean by that? That means that colors in nature to a large degree, maybe not to complete degree, because nature is very complex and diverse.

So it's hard to put nature into a box, but through the eyes of patterns, looking at just patterns of how those colors connect to functions in the body, I see that there's a connection.

So the way that I see it is that the color red, if we just go back to that for a second, the color red connects to things like red colored carotenoids, like Lycopene Astor's, and then it connects to polyphenols that we find in berries.

So there are specific kinds of of these kinds of polyphenols that we would find in red colored fruits like pomegranate as an example. So allowed to tannin.

So when I think of red and I look at the science of red, whether it's strawberries, watermelon, cherries, these types of foods, what I see is that there's a connection between those red pigments and inflammation and immunity.

In other words, they would be helpful for creating a healthier immune inflammatory response. Now, in some cases, red colored foods can perturb the immune system.

We could have a histamine release through something like strawberries for especially children or, you know, people with more vulnerable immune systems might be a little bit more susceptible to that because of their gut or otherwise.

So red in general, I think of the immune inflammatory response. So should we go through each color? So everybody that's I.

The Rainbow Diet and Color-Based Nutrition

Think that I think that'd be fascinating for people to kind of understand how how colors are reflected in food and then also the impact that has on the human body.

Yeah. Yeah. Because this will justify why we need the rainbow if you miss a color, you could potentially be missing phytonutrients and functions. So red is not one that I'm too concerned about.

So when I see people's eating, you know, I kind of feel like, okay, people get some red, then there's orange. So orange would be things like orange fruits.

So oranges, percent ends, mangoes, tangerines, these kinds of foods and also vegetable squashes and carrots and root vegetables. So what's unique about orange is that we tend to see orange is connected to things like beta carotene, which is just one of the many carotenoids.

But there are other types of carotenoids that would connect to the orange colored foods, like there's another one called beta crypts. And then so orange in the rainbow diet system that I teach and write about is about reproductive health.

It's about the fat tissues of the body, like the skin, like the the ovaries. It's also the brain has a higher concentration of carotenoids. So these often orange carotenoids have an association with things like ovulation in women and even sperm quality and men.

So the head of the sperm is actually concentrated in these carotenoids. And, you know, as you go down the rabbit hole, looking at the studies on orange, it's really interesting because even in the animal kingdom, orange is it's often used as a symbol that connects to mating and confers some kind of viability or survival.

Like you see that with guppies, you see that with certain birds, which is just interesting. Other animal studies, like with goats and cows, would suggest that there's an association between certain carotenoids and hormones.

So I don't know. I just think it's kind of interesting that connection between fertility, reproductive health, the adipose tissues of the body and these carotenoids.

So oranges and I usually see that people get orange juice. So. So it'd be interesting though then to is there any kind of correlation with the type of cancer and also with which kind of color that you might be missing?

Well, goodness, that's an excellent research question. I've never seen that specifically. But there has been a study looking specifically at the ovarian tissue of people with ovarian cancer versus non ovarian cancer tissue and they find different levels of carotenoids.

So that's interesting in fact, I was just it was a I believe a study from Poland, so that was just intriguing. So, yeah, I mean, I think, again, all the colors, you know, yellow is a color that we find in things like lemons, plantains, bananas, pineapple.

When I ginger, when I think of those kinds of foods, typically I think of digestive health. They contain proteolytic enzymes, which can be important. They contain prebiotic fibers, which can be important for establishing a good, healthy gut.

Some of those foods are also connected to higher levels of serotonin, which is now we don't know if eating more yellow foods makes you a happier person, but I do think that the bananas, the smile is kind of interesting and it also has high serotonin levels.

But we don't know that food serotonin translates to more happiness in the body. I think. GREEN If I were to think about cancer, I would be thinking about green and the rainbow diet that I teach.

I talk about green as the color of the heart because of the nitrates that are naturally occurring, folate, magnesium, some of the B vitamins. So it's a very you know, it's a it helps to create that healthy vascular system, healthy blood flow.

I also think about it as connected to detoxification, keeping the blood pure and green. It's almost like we're supposed to have green because that is the color that is in greatest proportion and nature.

Green binds things like different toxic compounds in food and can carry it out. So I think that that chlorophyl in green foods is important for that reason for sure.

So I would be thinking about the binding, the nutritional supportive effects of green foods like leaves and different legumes and beans of that nature would be, I think, very important.

But the color that most people don't get enough of out of the whole rainbow is actually blue purple. It's like the color I'm wearing. So that would be blueberries, blackberries, the color of eggplant, figs, raisins, purple grapes, even concord grape juice.

These foods are precious. They're rare in nature. We were talking about in the north of Sweden how you get all of these highly intense berries that are small.

They're they're wild. They tend to be very high in certain compounds. Now, those compounds would tend to be very favorable for the brain. So when I think of blue purple, I think of the brain.

So that would be mood learning memory. And we see that there is a connection, a strong connection in the literature between a number of these studies looking at eating those foods and improving those different markers.

So I think all of the colors are relevant for cancer and reducing the risk of cancer, as well as just overall health. And with most most people not getting the blue purple color, I do have concerns that they're missing out on certain compounds that are uniquely connected to brain health.

Is there a way for an individual to it's like a test or something a person can do to maybe analyze and see what am I deficient in this color versus that color?

And should I focus more on these this group of food? Obviously, you want to do the whole rainbow again, but can you then analyze and see I'm more deficient, this area versus another?

Okay. There are some laboratory tests which would involve taking a blood sample and looking at things like levels of beta carotene or certain tocopherol.

But as you probably know, it's quite scant and it's not very commonly done and it certainly wouldn't be covered by

health insurance. So I think that the way that I've seen most people do it and how I've coached people is to very simply use what I call and eat the Rainbow Tracker, where every day you focus on and I actually have seven colors on my tracker, so I have red orange, yellow, green, blue, purple, white and brown.

So I bring in the white for cauliflower, coconut things, garlic things of that nature. I bring in the brown for things like cocoa, cocoa tea, different kinds of grains for people that eat them.

So that's said a very simple level. Am I getting 5 to 7 of those colors per day? And I've had, you know, families like to do this together. Children like to do it now. That's one thing.

And most people, eight out of ten Americans, have some phytonutrient gap, meaning that they're missing one of those colors, so that that's a problem. So that's just one level.

The other level for people that eat a pretty good diet, they say, oh, I'm doing good, I eat the rainbow. That's such a simple message. And I say, Well, what about, you know, what kinds of red foods are you eating?

And typically what happens is that people lack diversity, so they get into what I call a phytonutrient rut, meaning that they eat the same foods every day.

So for their red they have tomatoes, but it's always tomatoes for their orange. They might always have carrots for their yellow, they might always have a banana, but that's not enough.

You actually have to create diversity within each of the spectra of the rainbow in order to get those full the full breadth of phytonutrients. Because each food even let's just take the green family.

They're all so different. They have different phytonutrients. So if I were to eat a green apple versus a red apple, even though they're both apples, they're going to give me different phytonutrients and even if I had two red apples, but different varieties, like a red delicious apple and a pink lady apple, I'm getting two different kinds of sets of phytonutrients.

So I think that there's the Eat the Rainbow message, and then I think that there's another one which is have diversity within the rainbow. And that's where many, many people are falling short.

They think that, oh, you know, I eat a healthy diet, I'm eating all of those colors. But they're they're actually in a food rut. And having diversity has been shown to be helpful for so many things.

And with cancer, one of the things I think about is toxic exposures. I teach on that topic a lot and I know that you know a lot about that as well. And one of the things to help to reduce our toxic load is to rotate our foods.

So we don't concentrate any one particular, I would say, nutrient or even a toxin. Right. And so that's why many times I'm not loyal to brands. I like diversity of brands.

I like diversity of different kinds of even grocery stores, different spices, different herbs, different brands of tea. I mean, as long as they're to the higher quality of what we can choose, but then create diversity.

So instead of buying a big bag of apples at the grocery store, what I would recommend is, well, just spend an additional minute and pick seven apples that are all different because you're going to get a lot of variety there.

And variety helps to ensure better nutritional status, reduced toxic load. It also helps to fortify the gut microbiome and make it more diverse, which will help the immune system, which ultimately will help in being much more preventative in the way of looking at that path into something like cancer.

So getting out of ruts is really important from a food perspective, but then also from a life perspective, I think that oftentimes one begets the other.

I yeah, I couldn't agree more. And in regards to the microbiome, it is it is proven that the more diverse it is, the better your immune system is. And also you're talking about serotonin and the different neurotransmitters that are produced and how that impacts our health and our our our mood and how we relate to other people.

And all of that is also produced in the gut then. So the more diverse your type of food selection is that the the different types of food or because all the bacteria they use different, eat different types of fiber.

And, and so one type of fiber will promote one, one area of bacteria and another type of fiber will promote another, you know, another. So by doing that diversity, you will then have a much more, you know, well-rounded group of bacterium and your gut.

100%. I mean, I think that dietary diversity is overlooked. And for some people, they won't change how they eat, but they can change what they're eating within that. So, you know, oftentimes what I'll say to people is just try one new food every week and one of the benchmarks.

So if people are thinking, well, what does she mean? How many diverse foods per week? Well, if you look at the American Gut Project and you look at some of the other types of scientific publications, they would encourage 30 to 50 unique plant foods in seven days.

That sounds like a lot, but it's actually not. For example, you could bring in spices like spice blends. If I have a curry powder that I use at home, and that curry powder has 11 unique plants in it, it's not just turmeric, it's got 11 plants.

So just right there, you're getting diversity. If you have an herbal tea with maybe five different plants, now you have five.

Dietary Diversity, Gut Health, and Cancer Prevention

But now that that means that the next day you can't be having that same herbal tea. You have to be thinking, how can I have something different? So I really do think it's it's one of those things that's that's incredibly important for for health.

And there's quite you know, I did a 90 minute lecture just on dietary diversity, going through all of the benefits based on the research, how to measure it.

And I can tell you that from mood state to the immune system to nutritional status as I spoke of and even to things like fractures and falls and later life, I mean, it really does translate.

So I think it's it's really essential to have color, creativity and variety. It's important. And and Michael, one other thing I would like to address to as it relates to thinking about cancer, it's how we cook our foods.

We could be having diversity in how we cook based on seasons, based on our bodies. But I think one of the issues with with people that they are overcooking even healthy foods, making them unhealthy.

So the science is really telling us that grilling, broiling and frying are all producing what are what would be called advanced glycation end products.

These are nasty inflammatory compounds. And in the body, they create inflammation. They lodge in our skin. They can make discoloration of the skin. They can change and lodge in the brain and cause inflammation.

So one of the familiar advanced glycation end products that most people know about is hemoglobin and A1 C, which is something that we make in our own bodies that's not even from food, right?

So that is a glycated protein. We can do a very similar thing in food through the presence of high heat. So when we have that brown, crisp crust or, you know, we take a piece of bread, we put it in the toaster, now we have a nice tasting piece of toast, but we actually also increase advanced glycation end products.

Another thing would be even nuts. When nuts are roasted in oil, this actually leads to more of these advanced glycation end products now nuts and seeds and toast those would not be the heavy hitters.

The heavy hitters here would be bacon, would be taking meats and cooking them, grilling and charring and frying this actually becomes very inflammatory.

And there have been studies where they show the same meal. One of it is is steamed, the other of it is broiled or fried. Very different responses in the body, even though it's exactly the same food, just prepared differently.

And the one that is fried causes all of the problems. That's probably easy for people to to know. But I just want to tell you, it's it's a big thing, especially when we're thinking of reducing the risk for cancer.

Yeah. And people have such a hard time to step away from their barbecuing, their smoking there and then by recognizing the impact they have on their health and not I mean, we're talking about cancer, but any kind of inflammatory situation moving towards things like dementia or Alzheimer's, which is becoming such a big deal as well.

So all of that will be impacted by improper preparation of food. So it's vital to recognize what is the best way to do it. Yes. And I would say for your listeners, if they're thinking, well, what am I supposed to do?

I would say, you know, steaming, slow, low, moist methods, water is good. Water is a great conductor of heat. In fact, you know, I've been on a cardiovascular summit before with Dr.

Joel Kahn, and there's always a question about cooking with oils. And I just don't think we need oils to cook. I think that even the high smoke point oils, there are different kinds of fats in there that can degrade or break down.

So my preference is always heat with water, you know, just steam poach. I think that those are better methods. You don't have to eat raw. You know, that's not for everybody.

And sometimes you need just a little bit of heat to liberate the fiber away from the nutrients so that they can be absorbed, especially like the carotenoids.

So I do think that that cooking is important. Now, let's just say that you still want to have that hamburger on the barbecue well before you cook the burger, put spices in it, actually even put blueberries in it, then cook it, and then put half of an avocado on top.

Now you are buffering yourself against the inflammatory effects of whatever carcinogens or you know, and I can't say that for in all cases that to the same degree, but you'll at least be reducing a lot of the main offenders that would be causing inflammation.

John. Back to me about microwaving. Microwaving is a different kind of cooking, so it doesn't produce the same burning and charring and that grilling and frying does the thing with you know, it's interesting because you don't really find a lot of data to suggest that microwaving is bad.

But what microwaving does so it vibrates the particle rather than have heat go from the outside in, which is why you get more of the crusty outside versus the inside.

Microwaving is just vibrating. Those those molecules of the food all at the same rate. So the thing that I don't like about microwaving is that, you know, it generates a field.

So I have a Gauss meter and a Gauss meter measures in electromagnetic fields. So you can take the Gauss meter and then just move it through your home and you can see where do I have fields that I can't see?

They're electric or, you know, I've got things plugged in. You know, the microwave emits off fields when it is doing its cooking. But I'll just be straight.

I don't think that there's a lot of science to show that it is an inferior method, and in fact, it might actually preserve certain nutrients because then they're not being lost in water or not subjected to high heat.

But for me personally, I don't choose to to use it. So the house that we live in, actually, it did have a microwave that came with the house, but we don't use it, I don't know, just philosophically or just it just doesn't feel right as part of the cooking process.

So I try to but so for for some people don't think it's terrible. I just don't think if you're going to use a microwave, don't stand in front of it when you're using it. And and, you know, just look at the containers that you're using within the microwave because, again, subjecting heat to plastics could be detrimental.

You start to release certain compounds. So just be thinking about those things. Yeah, yeah, I agree. And I just wanted can I bring back a point that you made in regards to when you pick food and diversity and, and pick from different stores by apples from different stores because you have an apples that are grown in different soils, different climate different.

So they will based upon that, they will create different phytonutrients. So then that will then enhance seed and diversity as well and mineral content, nutritional content and so forth.

So yeah, if. I in season and by in season when you can, I do think that the science on that as well as a traditional literature and kind of the ancient ways of eating, have always encouraged that.

And what we would see is that it's really fascinating actually, like fruits grown at certain times of the year have certain phytochemical compositions that can metabolically affect us differently.

Now, there haven't been a lot of human studies doing this, but there have been animal studies. And it's fascinating to see how certain polyphenols, like in cherries eaten at certain times of the year, can have different effects hormonally.

So be very, very in tune with whatever is in your local environment. You know, I have a good friend. You might appreciate this one, Michael, because it really connects to the land and to the energetics.

But I have a good friend who did a lot of gardening with me on our property. So we live on five acres and we have these nice gardens. Well, they're not so nice.

Cooking Methods, Heat, and Food Preparation

I mean, I haven't worked on them so, so well this year, but he would also say that whatever is growing on your property is probably what you need, you know.

So I often think of, okay, I have a lot of dandelion, I have a lot of nettles. Is there a liver immune, you know, at certain times of year? Why do we just why does nature present us with those things?

How can we be more savvy about taking into that? Like, why is nature why do we get apples in September? Like we have about three apple trees and in September they're exploding with apples.

Well, apples are rich and polyphenols are rich in quercetin. They're anti-allergy. And that's perfect for the time that we start to feel more immune compromised when we move into a different season.

We might have seasonal allergies crop up. So I just think that the more that we harmonize to nature, the more in alignment we we can be. And I guess the only other thing I'd like to say to this has been on my mind with respect to temperature.

Just to go back to that topic for a second, you know, I don't know what it is, but I have family, friends, colleagues who have experienced more in the way of laryngeal and throat issues, cancers related to this area.

And one of the things to be very cognizant of is the temperature of foods that we take in. You know, so many people are drinking coffee, tea on the run.

You know, they go to cafes, they go to those drive thru cafes. They're drinking those coffees in those plastic containers. And at the temperature is hot, hot.

I'm I'm always the sensitive one. I'm letting that cup sit there and waiting it till that cools to room too. But just be careful of that very tender mucous membrane, you know, the mouth, because it just requires a lot for your mouth to have to repair over and over again if you're damaging it through hot liquids.

And that could be soups, broths, you know, anything that you're heating, actually, it could even be like a meal of solid food. It doesn't have to be a liquid.

I'm just thinking in terms of liquid beverages, how much that's commonly done and people drinking potentially very high temperatures of those things. So sometimes it's not the food or the beverage, it's how we prepare it, how we consume it, what is our mindset?

Are we, you know, really in that place of awareness? You know, I think all of those things, circadian rhythm and that kind of timing is also key. So people and look, looking at your food, kind of gazing at your food, prepares your system to, be able to utilize those phytonutrients even better.

So it kind of starts the whole digestive process by observing the food for a little bit and taking a moment to appreciate it. Yeah, there's so many aspects of food that I think the the culture, the American culture and how we consume our food has really moved us away from from healthy eating.

And so it's not always, you know, that the kind of food is also how we consume it. You know, we can consume a green apple and the wrong way and then it just doesn't become as beneficial for us as it should be. Yes.

And to that point, which is excellent, I think even smelling the food, you know, in the process, sometimes I wonder if people do better at home with cooking because they can actually smell.

And there is like a building out process of the olfactory system. And we're learning so much about the aspect of taste, taste receptors, taste receptors found through the body and also the olfactory, the smell, the odors are so strongly connected to the brain, to memory centers, to our digestive tract.

I mean, that actually initiates the salivary juices, right? We start to get hungry, just even smelling certain foods. So I really do think that rather than having to take copious amounts of digestive enzymes doing exactly what you're suggesting, which is spending a couple more minutes on being in that food, that mealtime experience, smelling the food, you know, just being there, eating with community, or if you're eating by yourself, just really being attentive, chewing, not scrolling on social media or watching the television or reading on Kindle, you know.

But really, some of those silent meals can be very profound in many ways. And there are some studies on setting an intention and then having mood state change after a meal.

You know, there was a beautiful study with tea where people didn't know that there were certain kinds of teas that were either blessed by a Buddhist monk.

I think it was, or there was no blessing. And what the researchers found was that there was an amplification of mood when they drank the tea from the the that had been blessed and they didn't know it was blessed.

But when they had to drink the tea again and they knew it was glass, it was like it took it to a whole other level. So I think that our we eat our intention.

This is why, you know, I grew up Catholic and I think one of the best practices that I had growing up was that of saying grace, you know, giving thanks for the food, giving thanks to the farmer, giving thanks to the animal, giving

thanks to the plant, whatever It was it just sets the tone for your psychology, which then informs your physiology and your energetics.

Yeah, I love it. Well, Deanna, this has been so fascinating.

Mindful Eating and Closing Resources

I mean, you're you're so amazing in the research that you're bringing forth and and what you're educating people about and this arena, where where can people go to learn more and to experience this type of eating more intentionally.

And that's a good question. There are some resources out there. If people go to my website, it's name, which is Deanna, deannaminich.com So on my Website, under resources, I have so many downloads that people could just take for free.

I have a food and mood tracker. I have I even have I recently put this together like a way to cook food and like what are best practices with that? So we talked about that.

So that's available on the website. And then I would just say, you know, social media, I do like to make a lot of infographics that connect into the energetics as well as the physical aspects.

So people would be able to find that on Instagram. I love it. Well, thank you so much, Deanna. I really appreciate this conversation. Thank you. It was lovely.

Thank you.