Introduction and Speaker Background

Welcome back. It's Dr. Jenn I couldn't be more thrilled for the next speaker. This is a man who has made such a brilliant contribution to the area of cancer.

He wrote an amazing book called Eat to Beat Disease. Why is that? That my camera won't show it. But I am just delighted to have Dr. William Li with me today.

Dr. Li, welcome. Thank you so much. Dr. Jenn, it's a real pleasure to speak with a fellow physician who's actually actually dealt with real cancer patients and all those issues.

Yeah, for sure. And I'm I'm so excited to dig down into the research on how diet can help fight breast cancer. I know that you plan to share five new ways that food can enhance your body's anti-cancer defenses.

So I'm so excited to hear about that. And I'm especially excited to hear about the brown fat activation because all of this is really fascinating. So start by taking us like what?

Why did you what inspired you to look at food as a solution? Because as physicians, we're really not we're not led there at all. Yeah. No, it's such a great question.

And people ask me. I'll tell you, it goes all the way back to the fact to the fact that I grew up, you know, in an Asian family in America, where in a town of Pittsburgh, Pennsylvania, where it's a very ethnic and culturally diverse world, where the community where I loved exploring the foods from different cultures, when as I was growing up, there were folk festivals and I had friends from so many different cultures.

And so food as a natural part of the community was something that I grew up with. Fast forward to when I was in college, I was a biochemist. Like so many people who go on to pre-med.

You know, you do to study sciences. But I actually spent most of my time, a lot of my time, I should say, in the studio arts and in the history classes, understanding, you know, these old cultures in the Mediterranean and Asia and how it influenced society.

And I became fascinated particularly about the Mediterranean way of life. And this is back in the 1980s, long before people talked about the Mediterranean diet.

And I did a gap year between college and medical school, and I embedded myself in Italy and Greece. I lived there for a year in order to be able to study.

Perhaps not surprisingly, given my what I told you about my childhood and to study food and how it integrated with the culture and how that impacted on their health.

And so we're talking a long time ago where I was walking the walk long before I was talking the talk about Mediterranean diet and healthy foods and healthy eating.

But that really that experience before medical school always implanted in my brain that there were places and people around the world that that think very differently about at least traditionally think very differently about the role of diet on their health and their community and both physical health as well as emotional health, mental health, mental wellness.

And when I went to med school, you know, here we are learning, as you and I both know, memorizing bacteria and viruses and myriad diseases and, you know, digesting and regurgitating textbooks worth of material.

Right. I mean, this is it's just like this is like being in boot camp. Like only people who have done it could even. Like

you're nodding, right? Like you and I understand exactly what that experience is like.

Well, and the best medical student. Right. And the best resident was the one that could regurgitate it. The best. Exactly. You know, original thought there at all.

Right. And it's like 4000 years of medical knowledge. We have to just master. And, you know, the thing that as I was learning it, my professors would show it was diabetes and here's cancer and here's Alzheimer's and here's obesity and here's a thyroid disease.

I'm like, okay, okay, I get it. I get it. I got it memorized. All these diseases that are treatments. But, you know, you tell me about disease. Tell me about health. What is health?

And they never got a straight answer that I felt was convincing about, like from my medical school mentors and residency mentors. What the definition of health was.

And that always bugged me and I connected it back to my earlier experiences during my gap year. Like food and health are so interconnected and so later on, I created the Angiogenesis Foundation because I trained with a surgeon who pioneered the field of angiogenesis, a guy named Dr.

Judah Folkman at Children's Hospital in Boston, very well known to people who are in the surgical ecology world. I literally was taken under his wing and became so inspired.

I created the Angiogenesis Foundation, which led I went on to actually being involved with 44 FDA approved new treatments for cancer, vision loss and diabetes and wound healing.

So for you, surgical oncologists like I, you know, that's where the overlap of what you and I are trained to do are I've really made big contributions.

But I always thought we're treating the horse out of the box when the horse is out of the barn. How could we how could we turn the clock back and intervene for cancer, including breast cancer, long before we actually have this?

You know, the horses are out of the barn of the 20 car pile up on the highway. And this is where food came in. And I, having had lots of experience with developing doing drug development for cancer, you know, these are cancers start being drugs, antiangiogenic therapies and now immunotherapies for diseases including breast cancer.

I wondered, what is the role of food in the prevention and treatment of cancer? This is not a new questions, a very old question, but I had a I had an unfair advantage because I was involved with drug development.

I literally this is about 15 years ago, I started throwing foods into the same lab system. So we study drugs it with biotech as well. They should be. Right?

I mean, where did the drugs come from? Most most of them are originated from our food system.

Food, Health, and Cancer Prevention

And natural and natural products. Right. So this was the Eureka for me that 15 years ago I began to discover that about 50% of the foods that I was testing in drug systems would could go head to head against drugs like they could be as or even more powerful in those systems and drugs.

And it gave me an entirely new view of how our diets could influence our health, whether you're sick and being treated with medicines. My gosh, food is a tool in the toolbox we had forgotten about because before pharmaceuticals we only had food, diet and lifestyle.

And now you know it. Maybe incantations, you know, and leeches. But but but we've somehow in the era of pharmaceuticals that started what, in the 1940s more or less, we just kind of completely put out of mind in the

medical community the role of the old tool in the toolbox, which is our our food.

So I went back and really dove in it saying, look, I want to be agnostic, whether it's a food or a drug, but I'm interested in the food. Let's study how these things work.

Let's figure out how they activate the hardwired health defense systems in our bodies that my medical school professors never taught me. Let's go figure this out. Let's define health.

Let's figure out what our health defense is and let's figure out how foods activate them. And for me, the orientation was to discover the benefits of adding foods to your system, because there's already so many people that focus on what to cut out.

I wanted to figure out what are the delicious things you could add to your body? Yeah, it's brilliant. I think a large part of the reason why you couldn't get an answer to what is health is because it's not a focus of medical school.

Right. And so we are not trained to recognize health. And in fact, I would I would go so far as to say that I believe in our training. Health was equivalent to the absence of disease.

But that's right. Health at all. No. Right. Yeah. And so I think in our training we got stuck in that place and we are our training is so segregated. I mean, we just talk about the body as a collection of systems and nowhere do we appreciate the fact that it is a system and that those separate things are acting collectively to form one functional being and if one of those systems is off, the whole system is off.

But that's not recognized at all. Well. Well, it's time for things to change, because I remember and maybe you do as well. When I was in med school, nutrition was something that was deemed below the medical school curriculum and there were.

There were other people to deal with that. Yeah, exactly. Exactly. And now, I mean, I can tell you, particularly in oncology, for for treating and treating cancer, that data is so overwhelming that the foods that we actually eat through rigorous studies and published in the major journals and presented at the major cancer meetings, have a huge difference.

And so one of the things that we talked about a little bit before starting this, this taping was really like, what are the things that we should be eating when you actually have cancer?

Right. Because every patient I've ever had who is dealing with cancer has always asked me, Dr. Li, how bad is it? What is it? Treatment? How long do I have?

You know, the usual questions that every cancer patient naturally asks. And then in my own clinical experience, the patient leaves the leaves in my office.

Right. And then and then they pop their head back in and say, One more thing, doc, what should I be eating? What can I do for myself? Yeah, right. Yeah, absolutely.

And I actually think that we need to make a distinction between what can I eat during treatment and what should I eat during treatment? Because there are things that markedly improve how you do during treatment.

I'm beyond Yeah, no, and I'll tell you. And by the way, those things that you can eat that markedly improve your outcomes are easy, easy foods to add to your diet.

You don't have to reach. You don't have to go into anything crazy. This is not it's not a diet. In fact, I sort of even don't like to work to use the word diet.

I think that, you know, if you have cancer and you are getting the best possible treatment out there, you're still not optimizing, you're still leaving opportunities to improve your own outcome if you don't open the refrigerator and

make good choices or the pantry.

And so here's an example. Just about a little bit more than a year ago, one of my colleagues, Dr. Jennifer Wargo at the MD Anderson Cancer Center, one of the big major research cancer institutes in the world, published a paper in the journal Science.

This is one of the most difficult, prestigious, most rigorous, hard core scientific journals, only four major discoveries that can advance humankind. She published a study looking at melanoma and, you know, skin cancer that had was very advanced and and people were getting the latest treatment, which is immunotherapy.

So for people who are listening, who don't know about immuno therapy, immunotherapy not only is one of the biggest advances in cancer research and cancer treatment, but it actually works and it works really, really well for some people.

And when I say work well, it can actually reverse your cancer. Think about a dry erase board with writing on it, you know, your your markers. And I love that imagery.

And immunotherapy activates your own body's immune system, which normally wipes out cancer in your body. So literally, immunotherapy is like going to the dry erase board with all this messy stuff that cancer's written all over your body and literally just scrubbing it off and cleaning off.

So you've got a white board again. That's how powerful immunotherapies, however, and like before melanoma, it used to be, maybe 20% of people would actually get the response you want, which is basically having the immune system wipe out the cancer.

And that's a bummer because it means 80% of people are not getting the response you want and this is a life or death kind of situation. Right. So in the research that's started in your diet matters and what you eat among what you eat, the foods that that help to nurture are healthy gut microbiome, gut health, heart.

You've heard about this. Everyone's heard about gut health. This becomes a life or death situation for the cancer patient. Our gut bacteria, 39 trillion bacteria that mostly live in our gut.

Where in the last part of the gut. Before the tailpipe. But in the colon and where in the colon. Right. I mean, you know, you're a surgeon. So this is like the kind of conversations that surgeons talk about most.

And most of the people talk about gut microbiome. They don't know where or where most of them live. It lives of the fecal. The secret is sort of this baggy, like the vacuum cleaner bag part of the colon.

It connects the small intestines to the large intestines. And it's also where the appendix is. And this baggy area is where most of your gut bacteria actually live.

And in fact, because that's where the appendix is, there's now some conversation. So I typically ask whether the appendix might actually serve as air traffic control or a new ammo clip for your restoring healthy gut bacteria when you have a problem.

So anyway, the point is that that bacteria in cancer patients do something really important when it's healthy. First, it lowers inflammation. So when we have got good, healthy gut bacteria, they produce substances called short chain fatty acids that lower inflammation, all throughout our body, regardless of the cancer of breast cancer, melanoma, brain tumor, it's very important.

So you want that to happen, all comers, you need that to happen. Lower inflammation, number one. Number two is that our healthy gut bacteria talks to our immune system.

Now, when you and I went to medical school, we were taught that your immune system lives in your lymph nodes, in your spleen, in your bone marrow. Actually, 70% of our immune system lives in the wall of our gut.

And if you think about it, what that means is it's kind of like a garden hose. If you were to take a big garden share and clip the garden hose and look at it, there's a tube in the middle.

But the thick wall of the garden hose that you've just transacted inside there is where the immune system is a large part of the immune system. Now, and we're beginning to learn where our immune system lives.

It also lives in body fat, by the way, which is really cool and very important for metabolism and using that to control inflammation as well. But when good is good, healthy gut bacteria, they talk to your immune system, they'll think about the cancer patient getting treatment, whether it's chemotherapy, targeted therapy, immunotherapy, the thing that we are now, we never thought until just a few years ago, but now every modern oncologist must think about this.

Is that stuff that goes bacteria in the gut, the lower gut, the colon lowering inflammation, helping treatments work better. Okay, making the patient's body more receptive to treatment.

The bacteria. Talk to your immune system, especially if you're on immunotherapy. You need your immune system to be able to follow instructions, which is search out and destroy cancer like your immune cells when they're activated.

It's kind of like ways they fall away as they get they get they get the directions of where to go next. Okay. And if they're not able to respond, if there's like a problem with the app and they can't go to the tumor, you're not going to get the benefit of immunotherapy.

So we're now realizing that gut health is connected to immune health, which is connected to response to immunotherapy. So what my colleague Jennifer Wargo showed is that dietary fiber, which we find in lots of plant based foods, okay, activate, feed our gut microbiome and talk to our immune system and makes it possible for our immune system to respond.

In this study that was published in the journal Science, she found that for every six grams, 5 to 6 grams of dietary fiber that a patient with melanoma eats per day.

There's a 33 0% reduction in mortality death from the cancer during treatment. So eating dietary fiber can help you respond and up your chances for being one of those people that actually get the beneficial outcome, get that dry erase effect that we're talking about.

So 5 to 6 grams of dietary fiber. How do you get that? Well, turns out the average pair, medium sized pair, has five grams of dietary fiber. You eat a pair or two a day while you're getting cancer treatment.

You're their baby. Like it's not hard.

Gut Microbiome and Immunotherapy

And the more you eat, the better it is. And I think this is the thing that cancer patients are looking for is what is the evidence, what should we eat?

How much should we eat? And and how what are things that we can do for ourselves? And this is where in the cancer world, patients and doctors need to be able to have this dialog and they need to have trusted spine specked information.

That's food as medicine for cancer is really important during treatment and also important for people who are at risk or people who just want to avoid cancer.

That same effect is really beneficial, that dry erase. That's what you want every single day in your life. Yeah. And and to prevent recurrence afterwards.

Exactly. You've been through it once. You for sure don't want to go through it again. And I'm so glad you brought up the immune system and its role in all of it, because actually cancer is a reflection that your immune system has become overwhelmed.

And that's right. Only by resetting the immune system, empowering the immune system, bringing the immune system back online, that it's going to reverse this process and allow you to live cancer free.

But in order to do that, since 70% of our immune system is housed in the gut, it is absolutely impossible to bring your immune system back online unless you're paying attention to the gut, unless you're nurturing the gut, unless you're healing the got it 100%.

There has to be one there. 100%. And this is this is the this is the only way that I mean, this is not the only way this is the most important missing piece that has been ignored for decades in cancer treatment.

And although there are some old school oncologists who are not yet sort of on the program, I would say that a growing number of us, especially the younger people who are going into oncology or surgical oncology, are beginning to recognize that data is out there.

There is opportunity to learn and to also connect to our patients. But the patients now, I mean, if you're listening to this and you're a cancer patient, the time is now for you to go out there and find that information.

And if it's not if it's not discussed with you, you bring it to your oncologist. You have that conversation. Yeah, that's where it's going to come from.

Because, I mean, I'll tell you that I see thousands of women a year and they are still being told that what they eat doesn't matter, don't lose weight, eat ice cream and pizza.

I mean, they're still getting really, really, really bad information. So while I do agree that the world is changing, it's not changing fast enough for my liking.

And I know that the the movement and the change is going to come from the women that demand it. Oh, absolutely. Well, this is like so many other things in medicine.

You know, I think that doctors in this case will respond to patients. And I think that as younger doctors are coming into practice, they're going to be people that are naturally more sensitive to diet and lifestyle to begin with.

And so they can begin to talk the talk because they themselves walk the walk. This was a big problem for us. You know, I think our generation, we went to medical school.

The food that we had in the cafeteria was so. God awful. Disgusting. Right? Yeah. So we we had bad role models for sure. You know, I remember the day when we got all the department heads, got an announcement so excited, Ed, that we have a new partnership with Pepsi.

And I called my chief medical officer and I said, Are you kidding me? I'm trying to run a cancer program here. We can't partner with Pepsi. And he's like, why? They have bottled water?

And Mike, he really did not see any connection there. So it thankfully things are changing. I wish they were changing faster. Yeah, but let's let's give people the information that they need.

So let's start with what are the biggest myths when it comes to food and cancer? You know, there are so many myths out there. I want to pick out a few of them that relate to breast cancer and show some surprises that can go along with it. So can I start with the first one which is yeah.

And it and ensure are not good for you. Please don't drink them. Well, okay. So let's back up for a second to say when doctors tend to give old school advice, it's all focused on macronutrients and proteins and getting enough fat

to prevent weight loss.

And it is true that cancer patients can get compromised and lose muscle mass and it is a problem. But before you get to that problem, the key is that you want to actually try to let your body be strong enough to to help, to treatments, beat the cancer.

Then you don't get to that position weight. Right. So so you know, this. Is the very end stage issue. Yeah. In that not happening early on in the cancer process.

No, not at all. Absolutely. And so the thing that you want to do is avoid these ultra processed nutritional supplements. And by the way, this is even the stuff that you can find on the Internet that people talk on social media, all these manufactured things.

And if you take a look at the ingredient label and it kind of creeps you out because you can't pronounce it and you don't know what it does, it's probably stuff to stay away from.

Yeah, that's a hard pass. That's a hard pass. Soda, whether it's regular soda or diet soda, should be a pass. Okay. And the reason is the diet soda, because we're not talking about weight gain or weight loss.

We're talking about artificial sweeteners that damage your gut microbiome. The thing we were just talking about that your immune system requires and that normally lowers inflammation, the last thing you want to do is to slake your thirst with something that's going to damage that 39 trillion member ecosystem, that it's going to help you get through your disease and help you get back to your health.

And so that's a pass as well as any of these ultra processed foods with artificial preservatives, artificial coloring, artificial sweeteners, artificial flavorings, they are everywhere.

And when you go out to eat, especially the drive through places, you know, a lot of that food is all manufactured stuff. The make it can be and cheap this you know cancer patients like you know the the author of the James Bond novels Ian Fleming had this great quote that he wrote about and he said, you know, one of the titles of the novels was You Only Live Twice.

And the book opens with this quote that says, You only live twice, once when you're born and once when you look death in the face. And I think that this is really the opportunity to reexamine and take a fresh start, regardless of what your old dietary habits are.

You know, you're looking at a serious disease. You're looking at your own mortality to face time, to actually have a fresh start to do something and let your body do the work, the heavy lifting for you.

And so sort of avoiding those ultra processed foods, avoiding sodas, avoiding alcohol, smoking, vaping, you know, all of these things that trigger inflammation compromised your immune system.

You don't want to do that. What do you want to do? You want to eat foods that actually help your gut health? What gets your microbiomes? A health defense system, right?

So you want to eat the fiber fiber containing foods. I told you even a pair can actually do it. The broccoli does it. Kale, great source of dietary fiber.

Kiwi gives you fiber as well. I mean, there's so many foods that can actually give dietary fiber. All you got to do is to look up on Google, you know, fruits and vegetables with dietary fiber.

And you'll actually be able to get a long list that you can take with you as a shopping list, number one. Number two, your gut microbiome also loves polyphenols.

Three, but they're called prebiotics because they're kind of like the fish food for your gut microbiome. If you have a

pet pet dog, catfish, bird, what are you doing?

You are feeding it every day and you're hoping that you're going to give it good food. You don't feed it. It's going to die if you feed it. Crap. Not going to live very long.

If you take the time to care for your pet, you're going to feed good quality food and you're going to be very conscientious about it. That's what we need to do.

That's what every cancer patient needs to think about, is that they've got pets inside their gut and the pet gut bacteria actually has a really important function which helps our body do the drier racing, the immune system, dry racing cancer is super simple to think about and the things that can support that gut health are in the grocery store.

So what are the foods with lots of polyphenols, green tea, coffee, colorful fruits and vegetables in the rainbow should take on a completely different meaning.

If you are worrying about cancer in your gut like you want to eat those colorful rainbows, not only do they brighten your mood on your from your plate, but they also help your gut bacteria improve.

Now, those polyphenols, by the way, not only activate and help feed your healthy gut bacteria, they can also activate your other health defense systems as well, like your DNA to help your DNA minimize the damage that can occur with chemotherapy.

That's important to protect your DNA by the way, here's something interesting. We should be eating the stuff colorful fruits and vegetables, dietary fiber every day, no matter what.

Whether you have cancer, you want or you had cancer or whether you want to avoid cancer, which now we're talking, everyone should write. Every 8 billion. People avoid cancer.

A billion people like this is a common goal. There's, you know, in a world that has so many differences, this is the one thing that I can guarantee unifies everyone.

Yet we're all linking arms and not wanting to get cancer. For sure. The answer to cancer actually lies in the kitchen, in the pantry and the grocery store and the farmer's market.

All right. Don't wait until you know, you have to go to the oncologist's office. You can everyone can actually take charge right here, right now to make those moves.

So how do some of these polyphenols activate our health effects as well? One of our health there's five health effects is one of them is our circulation, our angiogenesis.

And if we can eat foods that help our body keep blood vessels where they need to be and prevent blood vessels from being growing towards cancer. So prevent cancer from hijacking of blood vessels.

Hey, we have another way of controlling and preventing cancer from growing. If we can actually eat foods that kill the little baby cancer cells, stem cells that grow cancers, we can actually control recurrence that will come back as as likely to come back and then we'll start if we can get our gut microbiome going.

We talked about this already, protect our DNA and then there are foods that actually directly boost our immune system, boost our immune cells that we need, the T cells, dendritic cells, the things that pharmaceutical companies are spending billions of dollars trying to figure out how to deliver them to patients.

All right. We can do it ourselves and with with the choices that we make.

Myths About Cancer Foods and Sugar

And so our body health defense systems are incredibly important to activate with food. This is empowerment at the level of the patient, the caregiver, the family, the friend.

You know, these are things that that that are not done in the doctor's office and are not done in the infusion clinic. These are things that you do yourself at home for sure.

And that's where health happens, right? Health happens at home. And it can't happen unless you are fostering a healthy home and a healthy environment.

So with that in mind, are there foods that you think of that actually trigger cancer? Well, we do know that there are I mean, I'm a cancer researcher, so we've actually looked really deeply into this and different foods substances are well known, recognized to trigger cancer in the lab, and it's correlated in population studies to be correlated with the development of cancer in large populations.

One of the best studies that people should know about, even if you're not a researcher, you should just know that all is food. Is medicine studied? Well, it's studied in a lab. It's study in the clinic.

It's studied in real world populations. And the one that I want to all out right now that we're world population is a study called Epic. All right. It's the European perspective.

Investigation on cancer involves half a million people, over 14 countries all across Europe, over 20, 25 plus years. And they just track what people are eating and see what the connection is between patterns of eating across all European countries and the development of cancer.

And what they are finding out are some incredibly important connections of both foods that you should avoid and foods that you should eat, foods to avoid, to prevent cancer, foods you should eat.

To be able to enhance your improve your outcomes or lower your risk of developing cancer. So what are some of the ones that are clearly harmful alcohol and too much alcohol?

There's nothing you know, they talk about the proverbial glass of red wine. You know, it's the stuff in that makes red wine red has nothing to do with the alcohol.

Too much alcohol. Alcohol is a toxin. It's clearly associated with increased risk of all kinds of cancer, especially breast cancer. Processed meats also associate with many types of cancer, including breast cancer.

What are the processed meats now? Again, this is where I think it's important to be specific there. There's a whole history of processed meats, you know, where you're carrying the meat or drying the meat, putting, you know, treating them in different ways.

I think when we talk about processed meats, it's stuff that probably you and I grew up with. Dr. Jenn, you know, in the school cafeteria, right? The sliced baloney, the deli sandwiches.

We all the stuff that, you know, that you see on TV advertised that the lunch lady used to give us maybe our moms packed into a bag, you know, into our into our school lunch.

Maybe your mom. Well, you know, I'm saying that the idea is that the idea is that it's so common that we've grown accustomed to this staple in our diet.

Those factory. Created. Convenient sliced meat, cheap, tasty, salty, manufactured. Those are the processed meats that the World Health Organization has identified as a carcinogen.

It's known to be increased to increase the risk of cancer, especially colorectal cancer, but other cancers as well, including breast cancer. So processed meats is a is really kind of like a dangerous factor.

I think that, you know, we're beginning to recognize that other chemicals that are out there, artificial colorings and flavorings, many of which are banned in Europe but still permitted in the United States.

And other food additives that you cannot sell foods in Europe, in many European countries because they're connected to higher cancer risk, are still available in the United States.

You know, it's anybody who's interested is just type into Google food additives banned in Europe, cancer risk and you'll see this long list of foods and then identify one of those things, the banned foods and see if it's available to us.

Sometimes it is in sodas and food colorings for sodas. I never pronounce this right, but carrot, tarragon, gum. Oh, well. So yeah. There's carrageenan and phantom gum. There's.

These are all food additives. Yeah, but carrageenan, I think, is directly linked to cancer. Not allowed to be used in Europe. And yet it's still I see it all the time on labels here.

Yeah, exactly. And by the way, they're they are found in if you go to a bakery, a commercial bakery, they are using all of these additives as part of the prepackaged ingredients that they use.

So, you know, this whole idea of trying to live a clean life becomes the most important thing that you can do yourself if you've been diagnosed with cancer as have a reset.

And to say I want to actually make sure everything that I have in my kitchen everything I put in my body, the temple of my body to improve my health defenses has got to be good.

Now, that said, you know, there's a there's a lot of things that should avoid cut down or cut out red meat, you know, also excessive red meat, which is also something that has been correlated with higher risk of some types of cancer.

Those are some of the I would say the clearest offenders. On the other hand, you know, so much about food and health is about what. You should ask about. Yeah, yeah.

Can I ask about sugar? Okay. So sugar is also very confusing for most people because the easy mantra is cut down or cut out all sugar, because sugar free cancer, as a cancer researcher and as a as a medical doctor, I can tell you that is both true and not as worrisome as a lot of people think.

First, our body needs sugar. Our brain especially needs sugar. If you didn't have sugar, your body's going to make the sugar. All right. And if you if you cut out all sugar from your life, you're still getting sugar from eating the foods that are actually good for you.

So vegetables contain sugar, you know, fructose. And that doesn't feed the cancer. This is where the other stuff actually is really important. I want to say I want to this, but on the other hand, you don't want to be having added sugar like you have nine teaspoons of cane sugar in a glass of soda.

You know, the the red can or the blue can. It doesn't matter which soda you choose. If I gave you a whole empty glass for your dinner table and I just started a loaded nine teaspoons full of sugar, and I said, Here, Dr.

Jenn, eat this. Put it down your throat. You go as it's gusting. I'm not going to do that. And yet that's what we do when we drink a can of soda. Right?

That is not only bad for our metabolism, it overwhelms our our our, our, our ability to process. And here are people that are drinking, you know, a six pack every day or multiple six packs a day.

You know, you can kind of see what they're doing. They're overwhelming their system. And and, by the way, excess sugar also poisons our gut bacteria, which then increases inflammation and lowers our immunity.

And you say, well, what about diet soda? Diet soda actually does even worse because that the data is now showing that the artificial sweeteners in many of those new sodas actually kill, assassinate our gut microbiome.

And when you change that ecosystem of healthy gut bacteria, all of a sudden your inflammation levels go up and it actually wrecks your metabolism, which then causes body fat to grow, which causes inflammation terrible.

So I think that sugar itself, you know, so I want to answer your question. I think it's very important for us to, especially as doctors, to be very frame.

Our answer is to say, look, sugar itself, is it bad our body needs sugar, the kind of sugar that our body makes us healthy for us. It's kind of for energy.

The kind of sugar we get from plant based foods, actually really important because. Not only do we use that sugar for our metabolism, that energy, so we can think in our hearts and beats and we have enough muscle strength.

But we also are benefiting from the other nutrients the micronutrients, the bioactive, the polyphenols found in these foods as well. But the candy bar, the soda, you know, the cotton candy, all that other stuff that we.

Table sugar. The table sugar. Sirup that. Yeah, not so much. All right. Not so much. That is overwhelming. Flooding our body. And so the source and the amount makes the difference.

Now, I do think it's important and I don't know if you've explained this to your viewers, but where did this myth of of our concept of sugar or feeding cancer come from?

All right. Now, I looked at this myself as a researcher. So I'm telling you, like I. I was curious, too, because when I heard sugar feeds cancer, like, you know, I put down that that that meant that somebody offered me at a medical conference.

I'm like, Oh, or the candy. I'm not going to have that. But then I looked into it and I realized that, okay, there is a for every urban legend, every myth that's out there that gets propagated by the Internet or word of mouth, there's usually an origin story.

And this origin story actually started in the 1980s when a special kind of scan that we use in oncology for for cancer patients called the PET scan was developed.

The PET scan is different than an X-ray, different than a CAT scan. PET scan actually detects the metabolism, the energy of a tumor. And you don't get a lot of detail, but you can kind of see the tumor lighting up.

All right. It's like it's like using an infrared light to take a look at what's lighting up. You know, if you look at a fireplace with an infrared light boom, like where the fire is, it's really glowing.

And that's basically what happens when we're using a PET scan for cancer patients. We're looking for the areas that a tumor might be lurking or that we know a tumor is lurking to light up.

And that gives us a lot of information as doctors that we can use to identify where we might want to remove the tumor, where we might want to treat or inject the tumor, and also to follow the treatment down the line.

All right. Now, what is it that we use to light up the tumor? We give them an injection. The injection we give them is a kind of radioactive sugar radio labeled sugar.

You know, for those of you who are into the techie, you know, biohacking stuff, it's called FDA. All right. Fluoro deoxy glucose is actually a radio labeled a form of glucose.

You inject it, it goes throughout the body. The tumors, because they're so metabolic active immediately up the sugar. Okay. So does it feed the cancer?

It's got high uptake. All right. But then it gets washed out very quickly. But in that moment, you can do the scan. And man, that thing lights up like fireworks so you can actually see it.

But that's different than saying that. That's an injected right into the vein. That's different than saying that eating a strawberry is actually going to do the same thing.

So I think it's very, very important to realize the origin story had to do with this injection using radioactive sugar to be able to light up cancers.

There's truth in it. Okay. So that's where a a, a, a well intentioned person started to do the interpretation. But I think to confuse that by saying you shouldn't eat any food containing sugar, especially in the natural sugars, is an overstatement and it can make this really confusing.

Yeah, but I do think that we need to be clear about the fact that what you're talking about are naturally occurring sugars that are part of a whole food.

So you're talking about eating fruit and you're talking about eating vegetables and that's one thing. But to I don't want to dissociate the sugar cancer thing entirely in that process. Sugar is not good for you.

And if you have a lot of processed sugar in your diet, you will not be metabolically healthy. And it's those people that lack metabolic health that actually have more of a cancer progression because tumors certainly are more metabolically active than than normal tissue.

And you can change your diet to benefit normal tissue. And I don't want to say starve cancer, but give it less opportunity to grow by establishing your metabolic health.

Well, let's, let's, let's, let's dove into that a little bit more, because I'm not saying that people should eat sugar. What I'm saying is that there's a different explanation of sugar feeding cancer.

I, I will tell you what what what added sugar can do. You're putting a lot of calories in your body. You're taking your overwhelming your metabolism. When you overwhelming the metabolism.

What that means many things. But one thing it means is that we're actually growing. We're using the sugar and we're storing that energy into body fat and we're using our fat cells in our body because the trigger has got to go someplace.

It gets stored at the energy gets stored in fat, and we've got a lot of fat naturally in our body that can be healthy. We need to store that energy. It's kind of like the gas tank in our car.

When we're at, we're running on empty. We actually go to the gas station to fill up. But sugar empty out, you know, added sugar is a lot of empty calories that you just load into your fat cells the more you grow your fat cells.

All right. Not only can you see that in the shape of your body, but more importantly, the the kind of fat cell accumulation, the growth of fat mass effect that you can't see is the most dangerous kind.

It's called visceral fat that when you load up on lots of sugar, added sugar, and you're growing, you're storing that into your fuel tanks. And that fuel tank, which is your body fat, is growing in the middle, inside the tube of your body, visceral, that means gut.

It's all the stuff that's around your organs and that grows. You could be a skinny person and this could be happening to. All right. Yeah, that increased visceral fat driven by excess sugar consumption.

The excess fat outstrips its blood supply and becomes inflammatory. And so when you have more inflammation, now you've got not only the cancer being inflammatory, now you're actually feeding the fat cells.

And so your fat cells become inflammatory, making more inflammation in your body. That's another different kind of connection between how sugars are actually flaming the fuel of through inflammation by wrecking your metabolism and growing body fat.

So, you know, it's and what I'm trying to say is that research is showing that yes. Added sugar definitely not good for for cancer and frankly for preventing cancer.

You want to lower cut down or cut out your sugar anyway or not cut out, but lower dramatically lower your added sugar. But the but the explanation is not simply that, you know, you're it's like feeding the tiger at the zoo.

It's not it's not that. Yeah, there's we don't. We don't want to create fear around real food because real food comes along with a lot of nutrients, polyphenols and all the things that you talked about are so beneficial to our health and to our gut microbiome.

But when we isolate that out, when we highly process it, when we when we are just taking in the sugar without the fiber or without the nutrient, it has very different implications for our health.

That's right. Exactly. And so, you know, to keep things simple, because we just talk to a lot of complicated things. If you eat whole foods, mostly plant based use healthy oils like extra virgin olive oil or avocado oil, and you stay away from ultra processed foods that contain artificial things chemicals, coloring, preservatives, etc., etc., things you can't pronounce.

You're going to be doing pretty good. And if you actually use traditional recipes to prepare the food, the Whole Foods, you're more likely to actually get something that tastes great.

New Research and Practical Takeaways

And it's also good for your health defenses, which helps your body naturally fight cancer and helps the treatment that you're having more likely to work and so you can actually enjoy your food while they're actually fighting cancer as opposed to deprive yourself of of of tasty food.

And that's what I want people to orient on, is that eat whole foods that you're using prepared, using recipes that you actually enjoy. And I suppose one additional thing, because we talked about, you know, growing body fat metabolism.

Another thing that cancer patients should really just realize is that the choices you make, you know, you do need energy, you do need nutrition, but you also don't want to overeat because overeating, overwhelming your metabolism is going to lead to more inflammation in your body.

And so, you know, eating modestly is fine, actually, honestly, people don't realize this, but skipping a meal every now and then, which I'm sure you and I did frequently in medical school and in training.

Right. You're laughing. I know. I was. I was preparing for my intermittent fasting later in life. Exactly. You know, you know, it's okay. And it might even be beneficial if you take a look at some of the studies with intermittent fasting and cancer, you can see that, you know, there seems to be some benefit to not overloading your body with calories.

And that's probably pretty important. That's as important as putting those good whole foods in your system as well as not overloading your system. Yeah.

So I want to finish by talking about what you think are the most astounding new advances that you've seen in cancer research that everyone here needs to know about.

Okay, I'm like, I'm like, fresh out of the lab with some smoking hot experience, what you guys should know about it. So we talk. We started this conversation talking a little bit about gut health and how your gut health can actually

be important for response for your immune system that can help dry erase the cancer out of your body.

Well, we now actually have the ability to identify healthy bacteria. That seems to be important for having a better outcome from cancer. Early days yet.

But it's exciting enough where I want people to understand, like really underscore how researchers like me are really beginning to pile on this evidence that we must have good, healthy guts.

All right. So there was a major cancer conference that took place just in May of this year, in the spring. It's called the American Society for Clinical Oncology.

We call it ASCO. For those of us who are in the know, it's a big conference with thousands of people coming together, 30,000 people coming together to talk about the latest cancer discoveries.

That session about gut health and cancer five years ago would have been an almost empty room. They might have been, you know, five or ten people sitting in it.

This past spring, it was standing room only with easily over a thousand people that came in. And guess what was presented in there? One bacteria after another, bacteria after another, bacteria after another.

Bacteria from the guts that is correlated with better cancer treatment outcomes. More likely to survive, more likely to respond, less side effects. And we're also beginning to identify bacteria that are harmful for cancer as well.

So, you know, coming stepping out to deliver fresh information to you and this is going to change. But so far I've, you know, like we've identified in the Medical Community Medical Research Committee, nine bacteria that can be from the gut that are associated with how well you're going to do with immunotherapy for cancer.

Eight of them you want to have because the more you have, the better you're going to be. One of them called romance. The Mucin, a filler. You can actually grow, grow it yourself in your gut by drinking pomegranates or eating pomegranates.

Drinking pomegranate juice or cranberry juice or concord grape juice. Now or cranberries. So here's a little word of caution. Cranberry juice, commercial is very bitter, so they put a ton of added sugar into it.

So somebody asked me yesterday at a at an office hours, I teach an online course. I had people from all around the world last night and their office hours.

They're like, Thanksgiving is coming up. I'm going to make some cranberry sauce. How do I avoid putting a ton of added sugar? And so I like to cook. So I told them, this is how I do it.

I take whole cranberries, you know, I wash them really, really well, all right. And I cook them down and I'll add a little bit of maple sirup, which is a natural sweetener.

And the stuff in the maple sirup takes the edge off the bitterness. I use orange zest, get a organic orange so that you don't cause you can't and zest and and now you brightens the flavor.

Okay? And I've got plenty of polyphenols. And it also makes the bitterness actually something brighter and more appealing to, to your taste buds and then squeeze half an orange into it.

And now you've got natural sugars plus a dietary fiber from it. You haven't put a single teaspoonful of white cane sugar into that cranberry sauce. So be very careful about these commercial juices that you buy.

Read the instructions because many of them, they put sugar after water before cranberries. But even pomegranate juice is very, very sweet. So, you know, apropos what we were talking about before of not overloading your metabolism, I tell people if you want to grow akkermansia just have the evidence shows you only need one eight

ounce glass.

That's a couple of shot glasses of pomegranate juice if you're. Using pomegranate and put it. Or just eat it all it. Exactly. Now you've got seeds and it's absolutely delicious cranberries.

You can have dried as well. And now you're getting the skin, which also has dietary fiber, which also helps as well. So again, there's bacteria that we're beginning to identify that are beneficial for us to be able to get a better response.

That's one thing that I think people need to know. We're also beginning and this is this is a beginning of a new era. A second thing that people need to know is that we're beginning to actually be able to identify whether you have those bacteria in your poop, in your gut.

And although oncologists are just starting to think about it now, in ten years, I guarantee you we're going to be all of us are going to be doing this routinely in every patient where cancer, which is due to a fecal microbiome test, where you basically do a little swab of poop on a Q-Tip, put it into a little tube and send it off in the mail to a lab.

And they see whether you have these good bacteria or whether you have bad bacteria that can help, you know, where you're standing. Do you need any more fiber or do you need to cut down your bacteria like there's nothing that is more empowering than to know where you stand?

So I think that's something that you might want to do. People should start thinking about as well and bring it to your doctor. Can I get my gut microbiome tested?

And then would say that the other thing is to just recognize that. I'm actually really looking forward to that time because I'll be able to retire. At.

The medical oncologist, start to do the work. I'm going to retire well. But listen, I mean, all transformations occur with one person at a time, one patient at a time.

And so I'm like you. I'm very impatient for change. But because I've been involved sort of as a change maker, I know that, you know, there's different pressure points to actually get things.

So, you know, this this discussion we're having on this podcast is so important because it allows us to get the message out so that people can bring the conversation to their doctor that may be so busy they can't keep up with it.

And now the patient is going to you know, you, the listener are going to prompt your doctor to look into it further, not only to help you, but to help other patients.

So you're we're all doing everyone a favor by creating the ripple effect. And by the way, that doctor, that oncologist is going to be on to help himself or herself and their family members and their their their community, their colleagues as well.

So very important what we're talking about, Dr. Jenn, is like this is a spread the word kind of message, gut health, strong immunity, good health defenses, whole foods avoiding ultra processed foods, added sugars.

You know, there's some take home points here that are quite practical. Whether you want to prevent cancer, whether you want to prevent it from coming back, whether you want to take the odds in your favor to respond to cancer treatment.

And I'm glad that we are moving from our time of training, which is, do as I say, not I do to do as I do. Right. Because we're we're we're now walking our talk and that reason that people are listening to us is because they see that we're walking our talk, right?

Yeah. Like I remember the, you know, the days where your cardiologist would be £40 overweight, smoking a cigaret and telling you to, like, eat less and move more.

Right, right, right. And so I'm. I'm glad that those days are behind us. I'm glad that we now are really living in an exemplary way so that our patients are inspired to live in an exemplary way and certainly to pay it forward, because we know that when we help that one woman, her family gets healthier.

Her friends get healthier, her community gets healthier. And that's what we need. We need it right bread in that way. So when you leave us with is one food that you think that we should all be eating or drinking, you know.

I'll give you my personal preference, but I think that the data, all the research supports this is that green tea actually is beneficial in so many ways.

It's hydrating, it provides the polyphenols that our bodies defense systems need, improves our immune system, lowers inflammation, helps our body starve cancers naturally.

Green tea also helps to lower our blood pressure, which is good for cardiovascular health as well. And believe it or not, there's fiber that we actually swallow.

When you brew tea leaves, some of that fiber comes up and we swallow it. If you want a lot of drink matcha, which is a special kind of Japanese green tea where that's a whole leaf with all the fiber and all the polyphenols ground up and you can sip that and drink that.

My great uncle, by the way, lived to 104 years old, completely mentally intact, independently, and he attributed his longevity to drinking green tea all day long.

His entire life he lived at the base of a mountain and he would get up in the morning and walk up and just supply all day long. So people go. Some people go, Oh, man, I don't know.

I don't know how I would drink 3 to 4 cups of Green Tea Day, which is what most of the evidence is circling around. You want three or four cups of green tea for your ultimate benefits.

But I would tell you, in Asia, they drink a lot more than that in Japan and China, Vietnam and Thailand. Okay. And the reason is think about it. When you go to one of those Chinese restaurants or Vietnamese restaurants, somebody is pouring and refilling your tea the entire meal.

And what what happens in Asia is that they they use whole leaf tea and they just brew a pot or brew cup and they just kept filling up with hot water and they carry it around with them just like, you know how people these days carry a thermos, a water, water bottle.

Yeah. And they're just swimming in it. So if you if you really wanted to do one thing that could make a big difference in your life, try having a water bottle filled with green tea, cold iced tea.

All fine. Do not add sugar to it. Do not buy the commercial versions of these tea. Make it yourself. That's even tea. It's best to have a whole food version of it.

When you brew it yourself and you're going to be doing yourself a world of of a benefit, you can also cook with tea. By the way, there's a lots of recipes now.

People go, you know, because I like to cook people. I don't know how to cook with tea type, green tea recipe video and search and just watch somebody else show you with passion and with joy.

What an amazing meal can actually make. Yeah, amazing. Absolutely amazing. This has been speaking of amazing and amazing talk. We covered so many things.

I love that your research is finding that food is every bit as successful at reversing disease and herbs as as the pharmaceuticals that that are being worked on.

We talked about some of the myths about food and cancer. We talked about how important it was to have a diet rich in fiber. And that fiber is coming from your whole plants, your whole vegetables, whole fruits, not to be afraid of the sugar and fruit because it is bound to so much goodness and has such health benefits for us.

We talked about the foods to avoid being sure, avoid processed sugar, alcohol, processed meats colorings, flavorings, food additives go easy on red meat and and then we we finished up with oh we did talk about the breakthroughs the bacteria that are associated with better outcomes.

You said there was one that was associated with a worse outcome. So we're going to continue to follow this story because we want to know. But the thing is, you can't so much control those individual bacteria without taking control of your diet.

And so that's what it comes down to at the end of the day, having a rich, diverse diet filled with lots of plants, lots of colorful plants, lots of polyphenols, so that you can enhance the strength of your microbiome, enhance the strength of your immune system and have the health that you want.

So make sure you're drinking your four cups of green tea every day. Thank you so much, Dr. Li, for being here. I love talking to you. I could listen to you forever, but we're out of time, so it's Dr.

Jenn. Bye for now.