

David

Doctor Lee, it is so great to have you here. I love your Instagram feed. It's so information dense. Before we get going, I would love for you to tell our audience a little bit about your background, where you came from and your interest in nutrition.

Dr. William Li

Yeah, well, thanks for having me on. David, I am a scientist. I'm actually a vascular biologist, which means that I study blood vessels for circulation. very important because. And what drew me to study blood vessels is that it's a common denominator for both health and disease. We've got about 60,000 miles worth of blood vessels packed inside our bodies.

Dr. William Li

And these are the highways and byways of health. And when your blood vessels are healthy, you stand a chance to optimize your health. And when your blood vessels are sick, there's not a chance you can actually be optimal in your health. And so I was drawn to study this. I'm also a physician, an MD. I studied internal medicine, and my interest in medicine and internal medicine was really whole person, men and women, young and old, healthy and sick.

Dr. William Li

My own personal orientation, despite the fact that doctors are really trained to diagnose and to chase disease to the degree my orientation does always have been about how to keep people healthy. And when people do get sick, how do you put them back on the pillar of their own health? I also run a nonprofit called the Angiogenesis Foundation.

Dr. William Li

This is a third party group that actually looks at blood vessels. And how can we advance the goals of better disease treatment, better disease prevention, treatment using new biotechnologies, prevention, using food as medicine. I've been leading that for 30 years, and I became an author, you know, late in my career because I really felt actually a an old friend of mine, convinced me that the knowledge I had about food and medicine had such immediacy that it would be sort of part of my duty.

Dr. William Li

And I do feel it's part of my purpose now to be able to get out information that people could translate right after hearing about it into an action that very day that could start to impact on their life in a better way. So I thought, you know, let me go write a book, my two books about disease and need to beat your diet.

Dr. William Li

They I want to becoming New York Times bestsellers. And that's like being put into a cannon and shot out to say that, you know, now I'm really communicating to the public and I really enjoy it. But at the same time, my real background is in science, the real science behind, you know, everything we're talking about, including aging, food is medicine.

Dr. William Li

All the diseases that are countering the health goals that we all have.

David

Wonderful and because you're a vascular biologist and you're an MD, my understanding, I believe three of the top four causes of death cardiovascular disease, there's cancer and dementia and all of these have a vascular component to them. That's right. If you were to advise people on foods to eat to increase their vascular health, what would you say?

Dr. William Li

Well, so everybody always says, you know, give me the top three foods for X, Y and Z. I actually find it much more useful. Rather than give people sort of magic bullets to to try to memorize or have tattooed, you know, on the back of their eyelids, what I would actually tell you that you need to understand is that the reason that blood vessels, vascular problems underlie the top three killers of our aging population is because blood vessels are in the brain, okay?

Dr. William Li

Hence dementia blood vessels are in the heart and our blood vessels are fed by the heart. Hence, heart disease and tumors hijack our blood supply, our blood vessels, in order to feed themselves selfishly so they can grow like parasites in our body. imbibing the oxygen and nutrients that are meant for healthy organs. They steal it from themselves in order to grow.

Dr. William Li

So keeping our blood vessels in a healthy state where you're not getting too many blood vessels, like in tumors, and you're not getting too few blood vessels, such as in the heart or brain, is the beating heart of what I actually study, what I actually do. And the good news is that there are foods that can actually help us achieve that.

Dr. William Li

And to understand how foods can help achieve that, I got to tell you one more thing about blood vessels. Our blood vessels are not just simple tubes. They are tubes, but

they're also tubes with a lining. So think about the inside of your blood vessel as being very, very slip slide. So nothing sticks to the inside wall. The blood vessels.

Dr. William Li

As you can imagine, if blood were to stick inside the blood vessel, you'd form a clot and then came over. Right. And that's exactly what a heart attack is. Or a stroke. The body wants to keep in health of your blood vessels as slippery as possible. And the way it does is, is through a lining. That's kind of like a layer of Saran wrap.

Dr. William Li

Okay. Inside the tube of the blood vessel, it's called the endothelial lining. Endothelial is just a fancy word that means the cells of the blood vessels. And it's slippery. How slippery. Well, think about if you've ever been to an ice skating rink, you know that when the rink is just opening or they've just cleaned the ice, you could take a sweater and throw it onto the ice and it'll slide all the way across the ice.

Dr. William Li

But after a session of ice skating with tons of people scraping up the ice all right, or after a hockey game, if you just throw that sweater down, it'll stick. You wouldn't go anywhere because the ice is so cuffed up. Same deal with the blood vessels and healthy blood vessels are like the ice of an ice skating rink.

Dr. William Li

After the Zamboni cleaned it up, it's ready for a smooth skate. Slippery. All right. But if you actually have atherosclerosis clogging, narrowing, damaging of the blood vessels, which is underlying the most common causes of cardiovascular disease and underlying the causes of vascular dementia, which is the most common cause of dementia, not enough blood loss in the brain. Then you wind up actually having things sticking to the lining that could be cholesterol, they could be lipids, they could be inflammatory cells.

Dr. William Li

And at the very end, before you start to call, game over. All right. It's clots by clots. And stick there. So the name of the game when it comes to food and vascular health is to eat foods that keep that vascular lining that slippery surface smooth. And as healthy as possible. And there's a number of foods that can actually do that.

Dr. William Li

I'll name one food and one beverage and one snack. All right. So one food that actually is really, really good for your blood vessel lining are brassica vegetables broccoli bok choy Swiss chard, radicchio. Those vegetable which you find in this section

contain a natural bioactive called ISO bioscience. Okay. And these actually keep that lining slippery. Nice and smooth.

Dr. William Li

Very very important. Keeps them healthy and slippery and smooth. That's a food a beverage would be green tea. Now there's many different benefits of green tea and the the polyphenols the catechins EGCg in green tea for people go okay well what is a EGCg? I'll pronounce it once, but don't worry about trying to spell it. Ethnic gallo catechin three gallate EGCg is a polyphenol in tea.

Dr. William Li

All right. When you sip t, t does a lot of good things. One of the things it does is keep your blood vessels nice and slippery and smooth and healthy. And a snack that will do the same thing are tree nuts, tree nuts, almonds, walnuts, pistachios, pecans, macadamia pine nuts. The tasty nuts you might have in a trail mix.

Dr. William Li

All right. Those also contribute dietary fiber, which actually helps to feed your gut microbiome. And your gut microbiome actually produces natural substances that keep our blood vessels healthy and lower inflammation which also is critical for vascular health. So these are, you know, I mean, the list goes on. But I think those are three categories of foods, three types of foods.

Dr. William Li

That would be an example of how we can actually try to maintain our vascular health.

David

You mentioned anti-inflammatory. So a lot of us lead a fairly inflammatory lifestyle. I think just being a modern human, there's a lot of stress on us and inflammation. I've had a hard workout this morning. So there's, you know, some inflammation in my body. What would you suggest as far as foods that bring down acute inflammation of the muscles and such?

David

Are there specific foods you think would help with that.

Dr. William Li

Yeah. Well look, you know, one of the biggest myths about inflammation is that it is categorically bad. And that's just not true. And I can tell you this, as a physician, as a doctor, and also as a scientist. Inflammation, thank goodness we've got inflammation

in our body. Inflammation is our nine 1 to 1 first responder system of our body so that if you cut yourself you fall off a cliff.

Dr. William Li

You know, in troglodyte terms, you know, we injured ourselves, cut ourselves. Today's world. You cut yourself in the kitchen, you scrape your knee playing tennis by falling on the court. All right, that calls 911. And your inflammatory cells, the cells that make up inflammation, they race to the site of injury. All right. They're they're first responders. And the thing that those inflammatory cells do is they look for bacteria to attack and kill.

Dr. William Li

They want to make sure that you get injury, that you need that inflammation there to clean up the problem. So it doesn't wind up becoming an infection that grows and gets into your body early. First responders okay. So a little bit of inflammation is good. Where we wound up getting into problems is chronic inflammation. Chronic inflammation is where the little bit of inflammation grows to a lot of inflammation.

Dr. William Li

And instead of coming and going, which is what happens when you cut yourself, inflammation comes, it grows, and it never goes away. Another example I'll give you about inflammation and help makes it easier for people to understand. Inflammation is good. Like a fire, like a campfire is good. When you're going out camping to warm your hands, warm your feet, tell ghost stories.

Dr. William Li

Have your hot toddy. Whatever. Okay. That's good. But what happens at the end of the evening? The fire goes out, or you put it out before you go to bed. And that's fine. It's service role, chronic inflammation is when the campfire comes out of the fire pit and lights the forest on fire, and now the whole place is burning down.

Dr. William Li

There's not a chance you can put that out by yourself. And now everything is destroyed and that's chronic inflammation. So when you ask that question, you know, what types of foods can we eat to actually tamp down chronic inflammation? I think we first need to understand that a little bit of inflammation is fine. We're not trying to get rid of your body's complete ability, but you want to actually lower chronic inflammation.

Dr. William Li

All right. What are some of the foods that have been shown to counter chronic inflammation? Well, it turns out that foods that contain vitamin C, C is and Charlie are really good anti-inflammatory foods. And this has been shown in clinical studies of women with lupus. And in Japan, there's a prefecture called Miyagi Prefecture in Japan, and there's a lupus clinic there.

Dr. William Li

There was a really amazing research study, important research study looking at women with lupus and trying to figure out, based on diet what they ate, who had more lupus flares, flares of inflammation, and who had fewer flares, less inflammation. It turns out the correlation occurred with lower inflammation, fewer flares with women who ate more foods containing vitamin C.

Dr. William Li

What are foods containing vitamin C? Tomatoes, red bell peppers, broccoli, strawberries, papaya, guava they all contain vitamin C is and Charlie and vitamin C foods actually lower inflammation. And that's a good thing. Now some of those foods also contain a lot of dietary fiber. Broccoli is a great source of dietary fiber that dietary fiber feeds your gut microbiome.

Dr. William Li

And when your gut microbiome is fed. So look here we are, you know, planning our meals, eating our food. I want nutrition. So our food hopefully is feeding our human tissue needs whatever we don't absorb in our stomach. And our gut tumbles down our GI tract, okay, 40ft long down to the bottom into the colon. And that's actually where the gut microbiome is.

Dr. William Li

We feed our gut microbiome with our leftovers, so to speak. And our gut microbiome loves to eat dietary fiber, okay. It is their staple food and it pays us back for feeding them by creating anti-inflammatory substances. They're called short chain fatty acids. They lower inflammation in our body. And so that's another way to actually lower inflammation is eat foods with vitamin C and dietary fiber in order to be able to actually achieve that goal.

Dr. William Li

Another way of actually lowering inflammation is to eat foods containing omega three fatty acids, whether it's seafood or whether it is plant based foods that contain the precursor to omega threes that we eat in our body, then makes our own omega threes. Omega three is also a really powerful way to actually achieve anti-inflammatory status, and not surprisingly, people who eat more omega three containing foods

actually have lower risk of cardiovascular disease and inflammatory chronic conditions as well.

David

Fascinating talk to me a little bit about your thoughts on how to keep our vascular system slippery. I love that, and I love the I'm just thinking of like the Zamboni machine. I like how slippery that is. Cancer is this other thing, right? So some cancers solid tumor cancers and help me I don't know the doctor here hijack our blood supply.

David

Other cancers I'm guessing blood cancers. It's sort of a different thing. How do we think about that okay.

Dr. William Li

So cancer is an interim disease a very important disease in modern society. It's the one disease that probably we fear the most. But ironically, it's also the disease where we fear the treatment for the disease, the most as well. Right. Chemotherapy, although all that's changing. And recently I gave a keynote in London where I talked about the transformation, how we're now moving into a completely different era about cancer, partly because we understand better now how cancer forms.

Dr. William Li

So here's something that might be surprising to your viewers and listeners. But we all have cancer in our body, even children. Everybody has cancer. And here's the reason why. All right. They're like little pimples that form in our body. We all have pimples forming in our backs, and we just don't see them. So we don't pay any attention to them and they go away by themselves.

Dr. William Li

So it the situation with cancer. Here's the deal. Our bodies are made out of 40 trillion cells. All right. That's how many cells are in the human body. Approximately. Those cells have to reproduce themselves, copy and paste themselves. And that's why we're still going to be around tomorrow from today. And that's why we're here today compared to yesterday.

Dr. William Li

Copy paste copy paste copy paste. All right. Every time just copy paste. Get a copy the DNA the center of a cell as well. And copying DNA is a complicated task. How amazing it is that we can copy and paste ourselves, you know, 40 trillion times without making a mistake. Well, the truth is, our body does make mistakes making this copy.

Dr. William Li

So here's an example. David, I gave you a single sentence, and I asked you on a word processor to type it ten times perfectly. You're going to do it perfectly. You're going to be careful. You're going to make sure every punctuation is there to spellings. Correct. All right. You can do it perfectly. I asked you to do it 100 times.

Dr. William Li

Yeah. You might make a mistake or two. It's inevitable. If I asked you to type that sentence 40 trillion times, I guarantee you you're going to make a mistake. All right? And that's exactly what actually happens in the human body. Our body makes mistakes. Every mistake has mistakes in the DNA. A mistake in the DNA. In a copied cell is a mutated cell.

Dr. William Li

A mutated cell is a basis for cancer, and little tiny microscopic cancers form all over our bodies. And they are completely harmless. Harmless. And the reason they're microscopic and harmless is because they don't have a blood supply. They can't grow up. They're tiny, and they sit there until our immune system wings by. So think about our immune systems like cops on the beat patrolling a peaceful neighborhood.

Dr. William Li

All right. And everything looks good. Let's keep on going to the next street. Everything looks good. Look, you see that microscopic cancer? That's like a cop on a beat in a in a suburban neighborhood. Seeing a drug dealer on the corner. Drug dealer doesn't have to be dealing anything. Just sitting there looking like a drug dealer. You got to put him in a paddy wagon and take him away.

Dr. William Li

And that's what our immune system normally does. So the little pimply, microscopic cancers are forming every single day in our body never are a problem. Okay? This is actually a fundamental re conceptualization of cancer that we all need to understand large diagnosed cancers that are growing as big masses. Those are scary for sure. We need to understand cancer cancers like a natural occurrence in our body.

Dr. William Li

All right. So the key is how does a tiny, microscopic, harmless cancer turn into a deadly cancer. This is actually what we begin understanding. There's a weakness in our body's defense against cancer. When our body fails to be able to prevent cancers from growing blood vessels towards the cancer, then it's a fail of our defenses. Shields down, vulnerabilities go up, blood vessels fight cancer.

Dr. William Li

Cancers grow. I can tell you, I worked, I trained in a lab that pioneered this type of work, and what was found is that if you have a cancer first, what happens is that the body's defenses go down. So when a tumor is able to figure out how to dodge or get around the body's failsafe mechanism that prevents blood vessels from growing into cancer, a tumor grows blood vessels into a cell.

Dr. William Li

It will grow explosively. Now, I worked in a laboratory where this was figured out, and we were able to grow tumors in a way, in a system that where blood vessels couldn't reach the tumor and it would stay microscopic more or less forever, we could never grow up. The biggest it would grow is about 2 or 3mm in diameter.

Dr. William Li

That's the size of the tip of a ballpoint pen. Okay, harmless. Now then, we could actually allow blood vessels to grow into the tumor. And the moment that the first blood vessel started feeding the cancer, other blood vessels would follow along. And that tumor would grow 16,000 times in volume in just two weeks. Explosive growth, once angiogenesis is hijacked by the cancer, in order to be able to allow blood vessels to grow.

Dr. William Li

Andrew. Blood blood vessel Genesis how they grow tumor genesis is actually hijacking the normal system of maintaining our circulation. So that's one of the things that can actually happen to cancers can grow. Another thing that makes cancer dangerous is when our immune system goes down. Now we know people, for example, who are on immunosuppressants. If you have a transplanted organ, a transplant, a kidney, or transfer the liver, you're on these super immune suppressors so that your body doesn't reject organs.

Dr. William Li

Man, those people are really, really vulnerable to developing cancer. So are people with HIV immunosuppressed. They also pop up cancers as well. And so anything that actually lowers our immune shields, remember I told you your immune system is like cops, a bee cruising around your body looking for little cancer cells to throw in the paddy wagon and take them away.

Dr. William Li

When that system goes down, it's like all the cops are on strike or off duty, or you don't have enough staff to to patrol the neighborhood. Watch out, that drug dealer is

going to actually start to round up, and now you're going to get more of them in the corner. Oops, there goes the neighborhood. And that's exactly one of the things.

Dr. William Li

Oh, and by the way, and the other thing that actually triggers cancers to grow vigorously aggressively is inflammation. Cancer loves thrives in it. In an environment of inflammation, if you take a group of tumor cells and you allow inflammation to gather around them, it is like pouring gasoline onto the embers of a fire. All right. You get this gigantic antic flare of growth.

Dr. William Li

And that's why if you think about those three things angiogenesis, growing into tumors, tumors, figuring out how to do that, all right. Immune system is going down, making you much more vulnerable. You can't clean them up. You can't get rid of them now. Inflammation. That's like putting that gasoline on fire. You got a real problem. And this all happens very early on, long before we actually wind up diagnosing breast cancer with a mammogram or with a colonoscopy or a chest x ray, for example.

Dr. William Li

The reason a diet comes back into this, all right is that there's an opportunity to prevent cancer to begin with, and that's the best solution to cancer of all. If we can just keep it from turning into a problem. Right. So how do we do this? Well, we eat foods that store up our body's ability to be able to cut off the blood supply the tumors might want to grow to hijack.

Dr. William Li

No hijacking. It's like putting TSA into your body now. Antiangiogenic foods. All right, number one. Number two, you want to boost your immune system. How can you raise your shields, your immune shields, so that if there is a cancer, you got plenty of those cops and a B to take out those bad guys? They're ready to rock. Okay, you've got super soldiers ready to take out all the bad guys.

Dr. William Li

That is immune enhancing, immune boosting foods. And then the third thing you want to do is eat anti-inflammatory foods, foods that lower inflammation. So you're putting that those jerry cans of gasoline far away from the campfire so you don't want. I've actually accidentally starting a forest fire. There are foods that can actually lower inflammation, boost immunity, and cut off the blood supply.

Dr. William Li

Feeding cancers. And all of these things are found in our grocery stores or our farmers markets and in our pantries. And so this is really where this is the true science of food is medicine. There is a type of definition which is about prescription foods for people with diabetes, etc. for medically tailored meals that that make sense. It's a it's an interesting dimension.

Dr. William Li

It's a long, long and coming solution for people in the hospital. If you're eating hospital food. And I can tell you that what I'm talking about, this is a food as medicine approach. It is an every person approach. You could be at any age. You could be healthy. You could be sick. This is something that's going to actually be in your best interest, to be able to optimize your health at any point in your lifespan, as definitely as you age.

Dr. William Li

You want to actually do this even better.

David

Talk to me about glucose load and cancer growth.

Dr. William Li

Okay. Complicated topic. I'm going to try to break it down. Really simply. The common belief is and I'm going to state what people have already heard. Sugar feeds cancer. If you have cancer, stay away from all sugar. If you eat a lot of sugar is going to increase your risk of cancer. All kind of false. All right. And I'll tell you why.

Dr. William Li

It's kind of false. And by the way, I have a real passion for myth busting. So I'll take out Thor's hammer and I'll smash apart the things that are actually just not true. Most of these urban legends come from well-intentioned people that don't have medical or scientific knowledge. But here, certain facts and put the facts together in a way that is understandable how you put them together, but in fact is not how we're really apples.

Dr. William Li

Okay, so let me back up to tell you sugar is absolutely critical for life. Our bodies run on sugar, our brains run on sugar. If candy were outlawed, we would actually still need sugar as soda or outlawed, we'd still need sugar to live. Sugar is found in our foods. I mean, the juicy, sweet summer peach. The juicy pear in the fall, you know, a nice juicy orange pineapple, you name it.

Dr. William Li

How much sweeter can you get than a ripe mango? All right, those don't cause cancer. They don't make cancer to get worse. So you need to understand that our body needs sugar. Your brain is more sugar than any other organ in your body. It is absolutely critically dependent on sugar. You don't want brain fog, you know. You don't want to actually, like, really be stunned, unable to think you need to power it up with sugar and think it's so important that your body will produce alternates to sugar if it can't get it from diet.

Dr. William Li

Okay, so that's the general truth. Now, some people do have difficulty with sugar and that's like, you know, processing sugar, insulin insensitivity, glucose intolerance, type two by diabetes, metabolic syndrome. All right. Those people are having difficulty managing regular blood sugar. So sugar rises like the water level in your bathtub. It's dangerously close to overfilling a bathtub. All right.

Dr. William Li

That's what happens in metabolic syndrome. That's what happens with type two diabetes. That's a dangerous situation, right. Like you're about to have a spill over a flood into your bathroom. In that case, you want to actually make sure you lower your water level in the bathtub or lower your glucose. And that's pretty important to do for your overall health and your long term health.

Dr. William Li

But what about for cancer? Where did this whole idea, the trigger for cancer even come from? Well, in the 80s there was a amazing technology advancement where they invented Pet scans, Pet positron emission tomography. Now this is the scan where you put the body in there and you're looking for areas where there might be cancer. And the way that it picks it up is that you have to inject into the bloodstream some sugar.

Dr. William Li

And it's called FDG fluoro deoxy glucose glucose. All right. And it's radio labeled as the radioactive. All right. And when you inject that in there because cancer is metabolically faster than every other organ in your body, except maybe your brain, your cancer is really metabolically active. Whenever there's sugar in there, the cancer is going to take it up and it's going to process it.

Dr. William Li

And under the Pet scan, you're going to see where those tumors light up, where they're processing this radioactive sugar. So under a Pet scan, you do see tumors gobbling up the sugar and lighting up. And that's how we discover where the tumor is.

I have a Pet scan. So the well intentioned person said, well, look, this is how it's working in the Pet scan.

Dr. William Li

So if you eat a piece of birthday cake, you're going to be feeding your cancer. No cancer patient should be anywhere near sugar. All right. Well, that actually doesn't that doesn't really take place. I mean, we need sugar normally. And if you're able to process sugar normally when you eat any kind of food, even a healthy food, even broccoli, it's got some sugar in it.

Dr. William Li

Okay. Your blood sugar is going to rise okay. And then your insulin and all your cells are going to muscles and body fat going to take in that sugar, that energy. And you're going to go up and you're going to go down. It's going to be a sign curve okay. Gentle wave. All right. Go up and down and up and down.

Dr. William Li

And that's perfectly normal. And the cancer look it's growing all right. It's going to try to get some of it as well. But you're not going to be feeding it to make it get a lot worse. I mean that's not how you starve cancer by cutting off sugar in your body. That's a cutting off your nose to spite your face doesn't work that way.

Dr. William Li

All right. And so this idea that cancer patients shouldn't eat fruit wrong, shouldn't eat vegetables with sugar and fructose wrong. Should cancer patients be drinking soda and eating as much candy as I can't? Probably not. Okay. I mean, that's that's just not metabolically not good for you anyway. That's pro-inflammatory. And what did we say about inflammation and cancer.

Dr. William Li

That's gasoline on the fire. That's the real reason. Not because you're feeding the cancer. Now the topic of glucose spikes and glucose crashes I think has been way overblown in social media. I'm saying this as a scientist. I know other scientists are talking into it. I think they're just buying right into this whole thing that using the terms glucose spike sounds scary.

Dr. William Li

Sounds like you don't want it. Okay. Glucose crash, it sounds like that's a bad thing, too. Nobody wants to crash. But really, in healthy physiology, we're aiming for health. It's a steady rise and a steady fall. Steady rise for it should be just fine if you aren't metabolically healthy, you might not be able to process the sugar in the right way.

Dr. William Li

And I'm I climb a little higher. And if your metabolism is unstable, which people with metabolic syndrome might be, you know, the glucose by fall a little bit quicker, but you're not bottoming out. You're not crashing through the ceiling and bottoming out. I, I actually find it not helpful to the general public or to patients to hear words that are use, you know, like these are loaded words that evoke a sense of crisis.

Dr. William Li

I think it's perfectly fine for cancer patients to be able to eat plant based foods that contain natural sugars, including fruits and vegetables, all right, that have sugar in them. Not to be worried about that, but like every other situation, but especially if you've got cancer, you don't want to be eating foods that promote inflammation and eating a lot of added sugar foods will promote inflammation, and that's not what you want to do.

Dr. William Li

So I hope I put that into a little bit of context for you. That might be helpful for your viewers and listeners.

David

Talk to me about protein intake, kinds of protein. What do we need?

Dr. William Li

Okay. So first of all, the protein that we eat, it could be animal or plant. They contain amino acids. And amino acids are the building blocks of life. We didn't have protein. We didn't have amino acids in our body. We die. All right. I mean, think about it. When you go look at these planets in our solar system that appear to have no life, I mean, we don't know, maybe they do have life, but we haven't been able to find any yet.

Dr. William Li

Okay. There's no protein on there. There's no amino acids. In fact, the origin of life on Earth required amino acids somehow to be around, to mix together, to be able to create other proteins. Right. And proteins is what the building blocks of life. So we need proteins in order to support life. Now, when we are young, let's say under the age of 50, this arbitrary cut point, you know, we generally are more active, we have enough protein.

Dr. William Li

Hopefully eating a balanced nutritional meal. You don't want to overeat your protein. So this is sort of like the young NFL players like downing as much steak as they can. Look, you know they're going to pay for that later. And they're getting protein way more protein than they probably need. They will need more than the average person because they're athletically, they're trying to build themselves all the time.

Dr. William Li

But that's not a habit you should be doing all the time when you are younger, when you get older. Okay. And I say this is sort of like over the age of 50 ish. Okay. We go into a more catabolic state where our protein, protein, our body starts to be broken down and we build it up a little bit less.

Dr. William Li

and our life changes. And so this is where I would say people in the second half of their lives should really try to focus on eating more protein. Okay. Let's say 5055 and above, try to eat more protein. All right. And the protein that you want to eat really can be coming from a variety of sources. It could be from plants.

Dr. William Li

It could be from animals. And I think that, you know, you got to realize, we do know that people who eat a heavy red meat based diet, they tend to be at a higher risk for many different types of diseases. This is just epidemiology. The correlation of eat A if you eat a race of red meat, high risk of cardiovascular disease, higher risk of cancer, higher risk of dementia.

Dr. William Li

All right. It's an association. But it holds true. We also know that people who eat plant based foods have lower risk of cardiovascular disease, lower risk of cancer and lower risk of dementia as well. All right. And metabolic disease. So completely in the opposite direction, both sources can provide protein. But it doesn't mean that you have to only eat plants or only be a vegan.

Dr. William Li

in order to be healthy, you can pick and choose from different sides, but just know you can have approaches with eyes wide open. Primarily, getting protein from red meat is not an overall long term strategy that's going to be healthy. Plant based proteins are going to be healthy, but you got to be kind of deliberate about choosing plant based proteins so that you know what you're actually getting.

Dr. William Li

By the way, plant based proteins got to be a little careful because there's this whole other mythology that, you know, anything that's plant based is going to be healthy. You know, there's a lot of plant based, ultra processed foods that are out there, including these fake burgers. And if I got dogs and all that kind of stuff, you know, that's ultra processed food.

Dr. William Li

We also know that ultra processed foods are not going to be healthy for you. So the answer to your question is in a simple yes no, do this or not do that, but to choose wisely. And this is where individual, you know, personalized nutrition matters. What is your age? Where are you in your life? How active are you?

Dr. William Li

Do you feel like you're able to actually switch to a mostly plant based diet? That's a good thing to do. Get your proteins from there. Where do you get your proteins in that situation? Beans are great and legumes are a great source of protein. Soybeans, lentils are great source of plant based protein. You should go for it. All right.

Dr. William Li

They also have dietary fiber. Now you're not only getting the protein, but you're also getting the stuff. The future microbiome. Now you're getting anti inflammation. So you know you're getting additional thing beside the protein in plant based foods red meat. You know you do get a lot of protein. You get iron you get a lot of minerals that you can't very easily get enough of from just eating only plants.

Dr. William Li

Well that's okay if you're eating plants, you can take vitamins and supplements, but if you're eating meat, that's okay. But there's a lot of saturated fats in there. So you're getting some bad things along with the protein, right? So plants, you get the protein and you get other good things like dietary fiber and polyphenols for meats, you get protein, but you also get saturated fats.

Dr. William Li

And sometimes you actually get other metabolites that are not so good. So one of them is tmao. This is actually a domino effect of your body processing the components of meat based proteins. And it turns into a basically a toxin. And you can find it in your poop of meat eaters. You know, you eat a steak, you know, you're going to be forming it in your poop and you're going to poop it out a little bit.

Dr. William Li

Probably not a big deal. But if you're you're a heavy meat base eater and that's all you're eating, you know, think about the people that are eating barbecue all day long. Now you're adding the other stuff in the barbecue. Think about it. Protein is pretty elemental. It's amino acids eat proteins that have other good things for you. You're going to actually you get a twofer.

Dr. William Li

All right. You mean proteins that have some negative things associated with it? Now, you know, you've taken one step forward, but maybe two steps back. And this is really, I think, the personal choice you're going to be making. Right. So we live in a free society. You get to choose your own destiny. You want protein. You know, start focusing on protein over the age of 50 or 55.

Dr. William Li

Choose wisely. You know, if it were me, I'd choose the plant based protein every single time. All right. But, you know, hey, I'm not a vegan. I'm an omnivore. And I'm a foodie too. I like to sample different types of foods. I respect different genres of food. And so when I say people say, well, like, what side are you on in the food wars and in the food religions?

Dr. William Li

And I basically said, listen, I try to make my food choices by protein choices based on practicality, based on preference and based on reasonableness. And I think I practice the reasonable form of diet because we can't all live in this idealistic world that's based on, you know, kind of like principles. Only we live real lives, you know, same thing as fasting.

Dr. William Li

When people talk about intermittent fasting, do I do differently fast? Sure I do. Do I do it all the time? Do I go 16 eight? You know what? It's not practical for me to do that kind of thing. So I try to do as much as I can in a reasonable way. You got to be mindful about it.

Dr. William Li

And that's as true for protein selection as well.

David

I find that these questions, as you mentioned, it's really about personalization and sort of figuring out what works when for me, fasting doesn't work because I wake up in the middle of the night and I'm hungry. It messes up my sleep. So I'll have like, you know, a few spoonfuls of cottage cheese before I go to bed, and then it'll wake up in the night.

David

I know some people have their last meal at 2 or 3 in the afternoon, and they're fine. I find that the question around protein is one of the more divisive ones. Figuring out how much and where it comes from. I weigh about 170 pounds. Some people have said I need about 170g of protein a day. That's work. I you know, to me it strikes me as a I'm a very active, athletic guy.

David

That's still like a huge amount of protein to me.

Dr. William Li

Well, this is why, you know, I've been careful in in trying to frame this conversation or not around hard and fast numbers. You know, it depends on your body size. It depends on what else is going on in terms of your health. It depends on your activity level, depends on your stress level. And that's why, you know, when we come up with numbers, you know, what should my blood pressure be?

Dr. William Li

You know, should I be 120 over 70? Well, you know, it depends. And people don't like that kind of answer. But I think that the, the, the reality is, is it's got to work for you. It's got to be tailored and personalized to you. And anybody who looks at what's happening in modern medicine realizes that the cookbook approach to treating disease is now being ripped out of the textbook and thrown out the window.

Dr. William Li

And we're really moving towards personalization of cancer, heart disease, you know, obesity, diabetes. And why would that be any different for for nutrition?

David

That's right. You know, my background was as a mechanical engineer. And the physical sciences are wonderful. Simple. There's so there's some simple biological sciences very different animal. The world that I'm keying on that you said doctor Lee, is reasonableness. And I think that that is really the watchword for all of this is reasonableness. And and what works for you.

David

What do you essentially what do you feel good with?

Dr. William Li

Well, and I and I think about the fact that, you know, there's a there is a mindset that I am I think is really great, which is that as a society that more and more people are waking up to the fact that we have agency over our own health, our health isn't up to the doctor or up to the hospital, but it's up to us.

Dr. William Li

And health care isn't what actually happens in the medical clinic. Medical clinics are used for disease care. Sick care. Health care is what actually happens at home. We're doing it every single day. You know, we are prescribing ourselves something useful. Food is medicine three times a day. Breakfast, lunch and dinner. We're eating three meals a day. And we're I think that our society as a whole is beginning to wake up to that fact, and that's a really a good thing.

Dr. William Li

But you can take that to an extreme. And I love the idea that we can measure our blood glucose, we can measure our pulse, we can measure oxygenation. I mean, health fantastic is that we have wearables. However, if you take that to an extreme where you're not going to make a move until you actually check your continuous glucose monitor levels on your phone, all right.

Dr. William Li

Or if you only are going to eat certain, like rigidly, I'm only going to eat organic this or organic that, and it can't be GMO. And you know, you wind up actually pinning yourself into this really, really narrow vertical canyon. You know, that true story got turned into a movie. I think it was called \$120, where the dude got his arm stuck in a cliff, right.

Dr. William Li

And he couldn't get out. Well, I think that's actually what happens. You know, we have to be careful. If you're not reasonable, you wind up getting your brain stuck in this. It's not just orthorexia where you know you're addicted, you're OCD to healthy foods, but really, you know, you wind up actually rigidly pinning your life into unreasonable situations.

Dr. William Li

You know, what that does are the stress you want. Stress causes, causes, inflammation. Now, whatever it is that you were trying to do with your glucose level or your pulse rate or your oxygenation status or your mitochondrial health, you've pretty much undone just because you've been overly focused and anxious about 1 or 2 numbers. This is why reasonableness is so important.

Dr. William Li

And by the way, in my most recent book, *To Beat Your Diet*, I wrote a whole chapter that I thought my publisher was going to get freaked out. I wrote about it. I wrote, I wrote a chapter about Bruce Lee, the martial artist. All right. And and and so like, so what does a doctor writing about nutrition and food, like, talk about Bruce Lee?

Dr. William Li

Well, I did that because Bruce Lee was a hero of mine when I was a teenager. But as I got older and I started to really figure out what his contribution were, I'm going aficionados, but I'm not like, obsessed. All right. But what he did was really quite amazing. He created a new form of martial arts that was not rigid, that was flexible and reasonable, and his form of martial arts was, hey, look, take the best elements of all the other styles that are out there karate, jiu jitsu, aikido, whatever it is, boxing, fencing, whatever you can have fine.

Dr. William Li

Learn all those skills and learn how to read your environment and adapt those skills to the situation you happen to be in. That's the most effective way to actually move forward. And so I wrote about it because it would be your diet isn't a diet book, it's an anti diet book that talks about how do you navigate with reasonableness, how do you use the science to navigate with reinforced.

Dr. William Li

And I put that section in there because look if you are actually confident in your knowledge on how to adapt to different situations, you don't have to stick to the black and white. I think black and white gets people in trouble when it comes to nutrition.

David

I believe Bruce Lee said, be like water.

Dr. William Li

Exactly, exactly.

David

Doctor Lee, this has been fascinating. I love that you are reasonable. Yeah. Such if if someone wants to get in contact with you, if they want to see what you're up to, where would they go?

Dr. William Li

Well, I got a website. The people are welcome to come. Doctor William Lee, Dr. William Lee Lee. I'm super excited that I actually have been supercharging my YouTube channel. Doctor William Lee, Dr. William Lee Lee, and I'm I'm on social my handles ads. Doctor William Lee I'm on TikTok Instagram. But you know my YouTube is like my thing where I'm actually answering the questions and having conversations about the topics that people are sending me emails and text messages about all the time.

Dr. William Li

On the information you need to know. I'm like, you know what? I'm just going to go out there and put it out there. My mission is to really help give people information that can help empower them so they can make better decisions.

David

Absolutely. It is a delight, doctor Lee, to have you on here. I've really enjoyed this conversation. I'm wishing you a wonderful, healthy, well Fed Week.

Dr. William Li

Thank you very much. A real pleasure to be on. All right.

David

Take care now. Bye bye.