Introduction and Guest Welcome

Hey, doctor Stone, how are you? Bruce? I'm doing okay. How are you? I'm doing well. Trying to wake up. At the end of the day for me. So, I wish it was, I have three more meetings to go with, and I'm done for four more hours of work, and it's been a long day.

You know, that's your own fault for getting so many great people involved with this. Exactly. No, it's it's been a lot of fun. It really has. I don't know if you.

I think we still need Larry's forms filled out. And I don't have a bio on her, which I usually get when the forms are filled out, but I'm just looking.

It looks like her speaker release form wasn't filled out. So do you have a bio on her, by any chance, handy? Yeah. Let me the speaker release form, I apologize.

Adding forward that to her. You want I. I can't see you. Do you not have your video on. Oh, it should be on my is a B. Sorry. There you go. Hey, is the CC very large?

So, Oh, here she is. Let me let her in. Oh, we're so many. Well, I ladies, welcome back to mass during the menopause transition summit. I'm your host, doctor Sharon Stills, grabbing my pen.

It is beautiful to be here with you all today, and we are in for a special treat. We are going to dive deep into one of the most important topics that I know.

My patients come seeking help about and wanting to learn the truth about and learn alternative ways is all about bone health and usted fluorosis. And one of the sponsors for the summit is Algae Cal, which is a fantastic company, and they were so kind to have my special guest come.

She is one of their medical experts. Her name is Laura Pizarro. She has a master's in divinity and Ma and LMD. She's back and getting another master's.

She's so well educated. She is the bestselling author of Healthy Bones Healthy. You. She is a 25 year member of the American Medical Writers Association.

She is the editor of Longevity Medicine Review. She is the senior medical editor for Integrative Medicine Advisors. She publishes review articles in Integrative Medicine, a clinician's journal covering the latest bone research, which she also shares in online articles, video presentations and lectures at medical conferences worldwide.

She's a member of the American College of Nutrition. She's a contributing author to several textbooks, including The Textbook of Natural Medicine and The Textbook of Functional Medicine, and She's the coauthor of the Encyclopedia of Healing Foods.

She's currently completing her M. S. in clinical nutrition at Maryland University Integrative Health. And as I said, she serves on the LG Cal Scientific Advisory Board.

We have got one educated lady here. I told you I was going to get the best of the best, and we are going to learn a ton today. So welcome to the summit.

I am super excited you're here. Thank you so much for this opportunity. I hope the information will be very helpful. Oh I with your bio I know that it will be.

Laura Pizzorno's Bone Health Journey

I do my best. So, maybe just I mean, I read your impressive bio and maybe just, say hi to the listeners and tell them just how bone health and osteoporosis became one of your your special interests.

Sure. Well, I'm married to Doctor Joe Pisano, who's the founding president of Boston University and a leading, clinician in natural medicine in the world.

And, about when I was in my early 40s, we were at, a medical conference. And typically they have an exhibit hall with medical conferences. And, you know, they used to when when they weren't zoomed in.

And you go into the exhibit hall and look at all the new gadgets that doctors could have in their offices, to evaluate patients. And so we're at this medical conference, I think I was 43 years old or well before menopause.

And they had, a piece of equipment there that doctors could have, that would analyze the the bone density in your ankle, you know, your tibia, your ankle.

And I thought, here I am, married to one of the world's leading doctors, and I do everything right for myself. And I'm so healthy. And I went over there and I already had osteopenia.

I got severe osteopenia. And this was, frightening to me because every woman that I knew about in my family, you know, going back to my great, great great grandmother, had developed severe osteoporosis and died after breaking her.

Yeah. So it was kind of like a message from the universe, you know, figure this out or die. So that was what started me on my very deep dive into all the research about bone health.

And fortunately for me, because of people that we most all our friends are doctors or they're in medical research and we knew people who even back then, we're starting the first genetic testing.

And so they ran me through their genetic tests, and I discovered that I am the poster girl. For us to press this, I have every possible snip, you know, that that is, single nucleotide polymorph ism that makes my enzymes, not work properly.

You know, all the things that are connected that help you build bone. None of mine work. The worst thing that I have is very, very lousy vitamin D receptors.

So there are four different, snips that tell your body how to make your vitamin D receptors. And I have the very worst version of every single one of them.

And so it is extremely hard for my cells to latch on to vitamin D. And if you can't activate, you know, if you can't bind vitamin D, you do not absorb calcium.

Well, for one thing, you need vitamin D to absorb about 85% of the calcium that you can absorb. And so that was a big problem. So that that was kind of the first thing that we tackled.

And then over the, the succeeding, well, I'm 73 now. We did 25 years or so. I have discovered more things that, that my body doesn't do properly, that I've corrected.

And as a result, I have fabulous bones. I mean, I have the bones of a 30 year old, very healthy woman. And so I, I know that anybody can, can deal with this, you know, medically having osteoporosis run in your family is not that doesn't mean that you have to have it.

You just have to figure out what's off for you. And I basically dedicated my life to providing that information, to helping people be able to do that for themselves.

Because I, I lost my mother, I lost my aunts, I lost my grandmother, cousins, you know, I didn't have to lose them. And I don't want anybody else to die from this completely preventable, curable condition.

Well, taking a sad situation and turning it into something where you can help others is always a, a beautiful way to, to contribute and learn. So yes, I'm sure there are so many women listening right now that are saying oh my God, that's me.

That's my family. So right off the bat it's like you heard there is hope. You can reverse it naturally. And we're going to we're going to get into that, that now.

So for someone who is listening, who is like, yes, I have that genetic, it's in my family. What do you recommend they start to do to explore and figure out what's going on?

Well, you know, vitamin D, is one of the most common ones. Like I said, there's four different snips that can cause you to have problems with that. There are also enzymes that activate deactivate vitamin D, and there are snips for those, so you can easily find out if you have those by running, you know, something like 23 and me, it will check.

And there are many doctors now that will run genomic tests for people. And and look at these snips. You can even do it yourself online. It's not even that complicated anymore.

But, for vitamin D, you know, you don't even have to do that.

Vitamin D Testing and Optimal Levels

All you have to do is have a blood test, one which actually shouldn't even be covered by your insurance to check your levels of 25. Oh, HD, which is the form in which vitamin D circulates in your bloodstream.

So that's the form that's chat. And you want to see what your levels are. You want optimal levels. So they tell people that your, you know, the optimal level, or an okay level is 30 nanograms per ML, 29 nanograms per now is deficient.

So 30 nanograms per ML is not optimal. And what we've discovered, particularly over the last couple of years with Covid, is that some one of the things that vitamin D does for us is it's really important for our immunity and immune function and for good immune function.

You need to be in the 60 to 80 nanograms per ML range. So you get the blood test run. If you're not in that range, then you want to increase your intake of vitamin D3.

And you can do that, you know, with the help of your doctor. Most people need, around 5000 IU daily of D3. And people who are overweight can need 2 to 3 times more than that because vitamin D will be sequestered in fat.

So it's easy to track and you just, you know, alter what you're taking until you're in that optimal range. Very, very important. And yes, a good, good point about the optimum range, because I see patients all the time come in there.

Like I always told, my vitamin D is fine. And I say, let me take a look at it. And it's like 42 and like, no, no, no, that is not fine. You're not going to die from rickets.

But on the other hand, a few other things may be a problem. Exactly, exactly. So so we think vitamin D and we think calcium. Could you speak about calcium and even algae? Cal.

And what's so specific about their support? And, you know, just like let's lay the, the, the foundation of, like, what nutrients women should be thinking about for basic support.

Well, certainly you need calcium for bone and the average intake, you know, from the diet for women in the US of calcium is about 650mg per day, and we need 1200 milligrams per day.

And as we get older, some digestive function isn't quite as good. And there are various things that interfere. So, post as we enter post menopause, we can need up to 1500 milligrams per day of calcium.

So that and vitamin D will help you absorb calcium. That's one of the primary things it does. Active absorption of calcium is, made possible by vitamin D, and it accounts for about 85% of the calcium that you'll absorb, that you consume.

However, on after you've absorbed that calcium, you have to do something with it. And there are a bunch of other nutrients involved in you taking that calcium that you've absorbed and getting it into your bones and keeping it out of your arteries, your kidneys, your breasts and your brain.

And probably the most important nutrient, for that is one called vitamin K2, which is really not available, in the, in the United States diet. And the only food it's really, really well provided by is natto, which is a, fermented soybean product that smells like dirty gym socks.

And it's kind of this stringy, slimy stuff that, trust me, I try to, you know, I really like to go the natural route. I tried it, you need a supplement and you unless you unless that appeals to you, you need a supplement for vitamin K2.

There are a couple of different forms of that that are available. The Mk7 form is the is the most potent form, and you need to take it in the smallest amount.

I don't know how much how much detail you want me to get into here, but, essentially you you have to have vitamin K2 after the vitamin D helps you absorb calcium, you have to have vitamin K2 to activate the proteins that poke calcium into your bones.

That one's called osteo calcium. And also to activate the proteins that prevent calcium from depositing in your blood vessels. You know, you you really don't want it to deposit there.

That one is called matrix protein. And vitamin K2 is the cofactor for those proteins. And if you don't have enough vitamin K2 around you will not activate them.

Calcium, K2, and Core Bone Nutrients

So that that's the next kind of I think if you are, if you're only going to look at three things in terms of your bone health, those are the top three, vitamin D, calcium and K2.

Yeah. I'm so glad you brought up the K2, because I, I think a lot of women know about vitamin D, but I find myself educating and adding K2 in so frequently because they're not taking it and you're missing the boat and potentially causing harm. So.

So we've got calcium, we've got vitamin D, we've got K2. What else? Well there are, there are magnesium. K is really, really important. After calcium in your bones, magnesium is the next most important mineral that's involved.

And, the diet in the US is very deficient in magnesium most. I think it's one of the most deficient nutrients in this in the Standard American diet is magnesium.

And here's a newsflash for people stress depletes magnesium, okay. And the last few years have been pretty stressful for most of us. So and if you exercise, you know when you're sweating and everything you you are losing magnesium.

And when you get your period, you are losing estrogen as and before your period. Estrogen levels go up and estrogen pulls magnesium into bone, which is really good for us.

But it also takes magnesium away from everything else. If you didn't have a lot of magnesium, you know, you get headaches, you get cramps, you get a massive craving for chocolate, which, by the way, is rich in magnesium.

So it's it's you have now you have one more reason to eat more chocolate. So magnesium is is incredibly important. Vitamin C, you know, you can't make collagen properly without vitamin C, so we we need that for our skin.

We need we have collagen in our bones. We need so we need vitamin C, vitamin A, which gets a really bad rap. People, you know, people think it causes osteoporosis.

Know when it is in balance with vitamin D, it actually promotes, bone renewal very effectively. And very few people are getting enough vitamin K. We do not produce vitamin K.

Most of us, about 85% of us. Back to the genetic stuff again. Do not have versions of the enzymes that are supposed to convert beta carotene, you know, which is then, orange plant foods, you know, carrots.

And we're supposed to be able to just convert that into vitamin A? About 85% of us do not do that effectively. I've written several review articles on that there on Longevity Medicine Review, which is free access, a free access medical journal.

If people want to look at that. So, we don't people are not getting enough vitamin D, when they've looked at pregnant women like in Boston area, they've done some big studies there.

And most of them were deficient in vitamin K. You have to have enough vitamin A for your for an infant's brain to develop properly. So it's quite important.

And many people are deficient that pretty much the only good food source of vitamin A is liver. And how many of us are eating liver frequently? And for heaven's sake, if you do eat liver, please let it be organic liver.

Okay. The liver is the garbage disposal, you know, reclamation center of the body. And so you really want the liver, you. If you're going to eat liver, you know, please make it organic.

Exactly. So going back to food sources, do you think food sources of vitamin D are the ones you recommend? Do you? I mean, I just find everyone is deficient in vitamin D, whether they're eating the sources or not.

But I'm just curious what your thoughts are on for Food Source. Yeah, there are mushrooms that are irradiated so that they're supposedly higher, you know, have a decent amount of vitamin D.

Unfortunately, the vitamin D they contain is ergo from cancer for all, which is vitamin D to. And you really need vitamin D3. D3, vitamin D3 is the form that's that we produce in our skin from sunlight and that, fish, you know, cold water fish have vitamin D.

I don't think you can get enough vitamin D just from food. Even if you, you know, interestingly, I used to think, people who live in, in the southern latitudes could make enough vitamin D by getting and a half an hour to an hour's sun exposure.

You know, most days in the summer without sunscreen, without being totally covered up. However, the research that I've seen that was done on young people in Hawaii who were outside, you know, 30 hours a week or working at skateboard jobs and things like that, and not never wore sunscreen.

Most of them were not able to produce, adequate vitamin D, so I'm not sure. You know, I think there are a bunch of different snips that interfere with vitamin D production.

I don't know. I mean, you know, maybe we weren't supposed to live until we were 120. I don't know about you, but I'm. I'm planning on it. I don't even have, you know, I I'm still waiting for my son to get married and produce grandchildren.

So, you know, I want to hang hang around here for a while. And, I want to make sure I have enough vitamin D, so I,

I recommend just taking a supplement, you know, run your 2500 HD, see how much you need, and supplement till you get where you optimal.

We want optimal, right? We don't just want. Okay. Absolutely. We are all about optimal here. And I. I always said I was going to live to 120 because I think we really, if we take good care of that, were biologically designed to.

But then I started doing prolonged and some intermittent fasting and really inducing autophagy. And then I was like, you know what? I'm going 130 now that I've had a great.

And what did that I think calcium, that's such a hot topic. So I'm really curious to know your thoughts on forms of calcium. And what do you think about dairy products and what are your favorite forms of calcium and that that whole conversation?

Well, for people who, you know, are not, well, even if you're lactose intolerant, you can have cheeses and things because the lactose has been used up by the bacteria that that make the cheese.

I do not think it's a good idea to have more than one eight ounce glass of cow's milk daily. And the reason for that is what is lactose?

Protein, Vegan Nutrition, and Bone Support

Okay, so lactose is composed of two sugars, glucose and galactose. So when you when you consume lactose, your digestive system is going to break it down into unless you're lactose intolerant and you can't break it down at all.

But for most people, you'll break it down into glucose and galactose. And galactose is the world's most pro-inflammatory sugar. They actually use it in research studies to prematurely age the animals like very rapidly, so that they don't have to wait around to look at aging problems.

And, you can get the comparable for a human to the amount of galactose that they use in these studies to prematurely age the animals. You can get that from two glasses of Cosmo with that has lactose in it.

So and when they do the lactose, free, you know, lactose reduced cow's milk, you know what's in that? They digest the lactose for you. So they put the glucose and the galactose there for you.

So you don't want that either. So just, you know, if you're going to drink milk, eight ounces is great. And then you can have yogurt and cheeses and cottage cheese and kefir and all these things where there's, there's not very much lactose.

And then milk, I think is a fabulous source of many minerals. It's a great source of calcium. If you don't want to have, you know, if you're vegan or you don't want to have, dairy products, there are many vegetables that that are really excellent sources of calcium.

And, can I pitch my book here? Because I have my so my latest book. Okay. So this is my latest book. And for every nutrient, that your bones need, there is a table at there, there's a workup of it.

What it is, what it does for you, how much you need, what kind of lab tests? You need to find out if you're getting what you need. And then I also have, well, this is the one on omega threes, but I have a table in the book.

I'm not sure what the pages for calcium. But I have a page in the book where I have a table that shows how much you know, the best food sources of that nutrient, and I can't find calcium.

But here's an example. This is the best food sources of vitamin K2. So I have a table like this for every nutrient. And it's in like real life serving sizes.

Awesome. You know like the kind of amount of food that you'd actually really eat. And and what the calories are and how much of the nutrient it gives you.

And so you can easily look, there's a pretty long list of, you know, tofu is a good source of calcium. Some nuts and seeds have calcium. Many leafy greens have calcium.

So it's and certainly things like if you eat fish, you know, you can get, sardines with their bones that are really great source of calcium. So it's not that hard to get to get the calcium.

I think people are just eating the standard American diet, which is all these little prepared, you know, highly refined, food products in little plastic boxes.

And those don't have a lot of, you know, by the time they get done with them, they're not really good sources of calcium. Oh, you can also get calcium in my favorite thing, one of my favorite things I'll agree know or other mineral water is highly bioavailable in mineral water.

Which also has some other minerals in it. Then you can get I like the fizzy kind, which is you put a little lemon or orange juice in it, and it's delicious.

If you buy, milk products like alternative milk products, like soy milk or, orange juice that's been fortified with calcium and often vitamin D, you just want to make sure that you shake the container up really well before you pour out a glass for yourself, because what happens is the calcium precipitates out.

And when you get to the bottom, have you ever had a box of, milk like, you know, so I know whatever you get to that more oat milk or whatever it is that has calcium added and you get to the bottom of the box box and there is this sludge down there that's made.

All this calcium will even precipitate out of cows milk. So even if you're drinking calcium, it's a good idea. Just shake up the container a little bit and you'll disperse it back into the solution.

So what about and I love those tables you have. That's very helpful. What about protein just in general, how much does protein contribute? And I know a lot of I see it all the time.

Patients are eating protein but they're not absorbing their protein. And how does that relate to calcium and bone health? Well, in part it depends how old you are, because as people age, they actually need a little more protein.

I'm not sure you know, the general age of our audience, but, until you get into your late 30s or early 40s, you only need about, 0.8g of protein per kilogram of your body weight.

But as you get older, our bodies develop what's called anabolic resistance to being able to use protein to build muscle. And that's really how protein is involved.

In with bone. Get it? Muscles, pull against bone. Bone. Our bones are served as levers for muscles. And when when the muscles contract, they pull against the bone.

And that signals that turns on these, cells in your bone called osteocytes, which are actually the predominant type of cell in your bone. And those orchestrate the bone renewal process.

So when you exercise or you contract your muscles, you they contract, they pull against the bone that wakes up osteocytes and they start your new bone formation for you.

So you have to have protein to build muscle. And we're constantly breaking down muscle. And if you, you know that sarcopenia, that's a term that means, it's it's muscle wasting.

Environmental Toxins and Bone Loss

It's when muscle gets replaced by fat, which is a really nasty outcome. You do not want to replace your muscle with fat, okay? You want to keep your muscle and to keep your muscle, you have to have protein.

So, as people age, they need elders need, 1.2 to 1.5 grams of protein per kilogram of body weight. And what that translates to, and something that's sort of remotely understandable.

English, is about 25 to 35g of protein per meal for most people. And what about for the the vegans in the audience and protein intake? Do you have any.

Yeah. You can still you can still get plenty of protein as a vegan. You know, vegetables do have protein. Beans and legumes are really great sources of protein.

Tofu is very high in protein. Tempeh is very high in protein. So, I mean, you can totally do it. You do have to be more careful. I think we're vegans.

The worst, concerns for vegans are vitamin B12. Because you're not going to get. You just have to take a supplement for vitamin B12 and then also, zinc, for, vegans need.

So the, the foods that vegans are going to get their protein from like the beans and legumes and the and even some grains, they have compounds in them called fight Aids that bind to minerals.

And, and they make like calcium, for example, and make and insoluble complex that varies its way through your intestines and you poop it out. You do not absorb it.

And so vegans have to have like one and a half times as much zinc as someone who is, and omnivore or even a vegetarian. Can vegans listen up? Okay. This is a very healthy vegan now.

And the last thing is omega threes. And that you can get omega three is now, you know directly from algae without without the fish in the middle. So. Right. Exactly.

So all right let's talk about something that we don't often. We're talking about calcium and vitamin D and vitamin. These are the things we always think about with bones.

But what about environmental toxins. And how do they play a role in to bone health or non-health. When I think about environmental toxins, this well, there's heavy metals, okay.

And there's like three of those that are that are biggies, lead which everybody it's lead mercury and cadmium. So lead everybody thinks, well, that's not a problem anymore because we have unleaded gasoline.

Unfortunately, when we were all driving around with leaded gasoline that lead spewed everywhere into the atmosphere and into the fields and into the soil.

And so it's still around. And then there's lead in paints and there's still a lot of lead around. If, if and anybody who is my age certainly, you know, when I was growing up, lead was in gasoline.

Okay. And what we did was our bodies took that lead, and we stuffed it away inside our bones to protect ourselves. Right. And as we go through menopause, it starts coming out, and, and it's really nasty stuff.

So that it is an issue for many people. You know, I guess I have a list of labs that I run on people to see why, you know, they're losing bone when we can't figure out why someone is sitting down.

One of the things I always look at is heavy metal toxicity. And you can have labs. It's easy to run them there or, you know, urine tests. You can have lab, and there's a couple of really good labs that do this.

You can have that done to see if one of these heavy metals is a problem for you. Mercury. You know, mercury

amalgams, those silver dental fillings. Every time you two, you shoot a little mercury into your body, you know, that's not good for you.

We all know about the fish. You know, we don't. There's certain fish that we want to avoid, and there's lists of fish that you can safely eat. And then there's lists of fish that you really don't want to eat very often.

And if you're pregnant, you really never want to eat them at all while you're pregnant or breastfeeding. And then, the last one, cadmium, which I think most people don't know much about, but it's a real problem for bone, is it's in cigaret smoke, you know, which everybody knows that's bad, but it's also, in the high phosphate fertilizers that they use to grow conventionally.

Grown, you know, plants and then the animals that eat that, plants get the cadmium, and then we eat the plants or the animals and we get it. So and cadmium is incredibly hard on bone.

It destroys your kidneys. And they did a big study here in Seattle, which is, you know, we I, I've lived in Seattle for 45 or 50 years now, and it's considered a very beautiful way to some beautiful part of the country.

And it's considered very clean, you know, guess what? The women that were checked, they had really high. You know, there's a lot of farming in Washington state and there's a lot of cadmium here.

And it's also in the food. So that but conventionally grown foods are the primary source of cadmium in the United States in the diet for most people. So it's making my pitch for please eat organically grown food, you know, don't put that stuff in your body, the conventionally grown foods in your body, they're bad for you for many ways, but that's one of them.

So that was one environmental toxin group. Then the next year, things like the phenols and I think most people are pretty are aware of this, you know a not being a good thing.

It was you know, it's in all the plastic water bottles and they put it in plates and it's a, it's a plasticizer. So it makes plastics, more pliable, smoother.

One place that I think people may not be aware that BPA is present is in those, you know, all the receipts, you get the thermal paper and then the the stores that I go to, where they're where I go every week, you know, to get my groceries or whatever.

I'm in there mothering the people at the checkout, stand in cans. I like them, you know. Please. Like if you have to touch a thousand of these receipts every day, would you please wear gloves?

I mean, this stuff goes into your skin. I never take a receipt unless I absolutely have to have it anymore. I mean, I used to take lots of receipts, for one thing.

Now we charge everything. You know, it all goes through Amazon or it's on a visa card. Somehow or some other card. And you don't need the receipt though.

Email it to you, you know, so you don't have to take all those pieces of paper and put a final thing on just on this, you know, you'll see many places now that are saying, because the awareness of this, you know, a and it's endocrine disrupting activities is pretty widespread. Now.

So you'll see companies saying we don't use this phenol a anymore. We don't use it in the lining of our cans. We don't use it in our, you know, soda, our plastic water bottles and all that.

They have replaced it with other bisphenol that are worse. The to the studies that have come out in the last year are showing that like this, you know, F is phenol DB it's like a whole list of them.

And every single one that they have checked is an even more effective endocrine disruptors than this phenol. A so

you really just just avoid plastic, like get a stainless steel water bottle or, you know, glass or something else.

Just don't drink out of plastic. Don't stress. All right, girl, don't store your food in plastic. You know, as I mentioned, my husband is one of the world's leading experts on environmental toxins.

He lectures all over the world. He's written several textbooks on it. And after he finished, the last big one, about two years ago, we went through our house and we threw out everything that contained plastic.

I mean, I took, you know, those great big, huge trash bags, like several of them to the to recycling, unfortunately, you know, but I don't know what else to do with them.

But I have no plastic in my house for Christmas that year, I was given Pyrex glass storage issues with glass tops that you can get them with glass tops and a silicone seal around the edge.

And that's what I use for everything. Now, I, we don't have plastic in our house. Yeah. Plastic free. Yes, absolutely. I am plastic free. Although, you know, they've now found plastic in all of us.

Like the fish. Get the plant. Microplastic in the ocean. And then when you eat the fish, you get that, you know, but you can minimize your exposure. You do everything you can to minimize your exposure.

And because plasticizers are endocrine disruptors, and when you sow the endocrine system, you know, it's hard to kind of make this connection you hear and it can disrupt your work.

What's that? You know? Well, you're endocrine system is stuff like your thyroid, you know, your thyroid hormones, your sex hormones, things that you need like to run your body properly.

And, the plasticizers disrupt that function. They contribute to hypothyroidism. They contribute to Cushing's disease and adrenal malfunctions and all kinds of nasty things.

So yes, my rant and plastic 100% agree. Yes, the more you can get plastic out of your life, the better.

Bone Testing and Lab Markers

And I'm glad you brought up the, receipts, because that's not a commonly known one. And and it's a big one. Yeah. I, I always, I always feel because I was like, do you want the receipt?

And I'm like, no, it's toxic. Right. And you shouldn't be touching it either. Yeah, I know, I think the next time I go to the grocery, I'm going to bring a little box of gloves.

I love. But the people that work there, I like them. They're young people. They're going to want to have children. Exactly, exactly. And what about pesticides?

How do they and know pesticides are also, well, they they really destroy your nervous system. They're carcinogenic, and they cause a lot of inflammation in the body.

And, you know, one way to think about bone health is anything that causes chronic inflammation. Like, all the time. Your body, your body isn't supposed to be inflamed all the time.

It's supposed to get inflamed when you have to nuke something, you know, and then your immune system nukes it and clears it out, and then you stop being inflamed.

But in our modern world, we're exposed to stuff that's constantly triggering inflammation. And when inflammation gets triggered, one of the things that gets activated is this, ligand in your cells called the rank ligand wrinkle and wrinkle activates osteoclasts, which are the cells that break down your bones.

And sometimes we need to have wrinkle, but we don't want wrinkle, you know, going crazy on us. And when you're inflamed, when you're exposed to things that are constantly causing inflammation, pesticides being an important one, that wrinkle gets activated too much and you're when you renew your bones, it only takes a couple of weeks for your osteoclasts that break down old crummy bone or, you know, bone that needs to be replaced.

It only takes them a couple of weeks to come in as a demolition crew and clear it out. It takes several months for your osteoblasts to rebuild. I mean, you can think about that just like, you know, a house.

So you want to you have a house that that's really all that it needs to be broken down, you know, and the demolition crew comes in and the house is gone in an afternoon.

Well, it takes months for the new house to be rebuilt. It's the same kind of thing in your bones. And when there's there's chronic inflammation, you know, your osteoblasts just can't.

They can't keep up. And so you don't. Good point. So I want it. You mentioned lab testing and I think that could you just kind of go through for the listeners what they what tests are good and what they should be asking their physicians for.

And what is your thought on the standard Dex? Because Dexa scan is this. Yeah. Okay. Well, okay. Let me talk about Texas first, and then I will tell you, the labs that I always run to get, like, a systems overview guide to kind of see where what's driving bone loss performance I want, because any system that's not working properly can promote bone loss.

And so you have to figure out, you know, what's off and then you correct it. But for the Dexa, Dex's are extremely helpful. They tell you about your bone mineral density, which is the quantity of bone mineral that that is present in your body.

Okay. By themselves, they're not optimal because you, you can have a bunch of stuff, and it can be crummy. So, like, you can have a lot of bone mineral and it can be brittle.

Dexa isn't going to tell you what what the health is of your bone marrow. It's just going to tell you you have X amount. So you really need to also have there's another side.

My nose is itchy. You also really need to have another type of bone scan done that's called a trabecular bone scan or a TBS. And I, I wrote about both in the book.

There's no pictures of that of the reports that you get. And it's blends what they mean. But essentially the trabecular trabecular bone is the bone that's the interior of your bones.

And it's held together by all these rods and struts. And if the rods and struts are well connected and you have bone that is resistant to fracture, you know, it's flexible, but it's resistant to fracture.

The exterior part of your bone is called cortical bone. And that's the more brittle, hard, dense stuff. Okay. So the Dexa pretty much measures the hard dense stuff.

It measures that some of what the interior to as well. But it doesn't tell you if it's connected or not. And you need to know if it's connected. And that's what it to a particular bone score tells you.

What is the health of the interior of your bones, and the interior of your bones is where, you know, all this stuff is happening. Like you're producing your blood cells, and your immune cells and immune cells get produced there.

And probably the most important thing, in chemo stem cells are in inside your bone marrow, your trabecular bone. And those, are developed depending upon the information they get from from your environment and what you're eating and what's going on in your body, they will develop into osteoblasts for you.

Or if things aren't going well and you're not being good to yourself, they will become fat cells. And we don't want fat cells, want osteoblasts. So there's a bunch of things that contribute to that.

I, you know, explain it all in the book. That's like an hour lecture. But, but anyway, for your trabecular bone, you need to know what's going on with that.

So you really need not just a Dexa, you need a Dexa and a TBS. And there are quite a few facilities across the US now that often it's approved. You may have a hard time, you know, locating it, but, can I say if people, there's a company, the company that that created trabecular bone score, it's called media maps.

And you can they have a website where you can, you know, write them and they can tell you, where the centers are in your state to regular bone, or you can contact me somehow and I can look it up for you because I have all that information.

I get a lot of requests for information about that. So after those two tests that I used to, and these should be covered easily by your insurance, and they're easy to get.

Our blood tests know serum tests for two compounds. One is called CTCs. It's a marker that appears in your blood. A bone breakdown, and then the other one is called P1NP.

And that's a marker of new bone formation. So you can get a blood draw. And you can see, you know how much how much, bone breakdown and how much bone formation is showing up in my blood, you know, for some of these markers, and you want them to be in balance, you know, the CT should be, 350 to 450.

And, for most people, most postmenopausal women with osteoporosis, CT is at least 500. And sometimes, you know, a thousand. And one of the great things about running CT and P and P is after your you've evaluated, you know, your life and you have your protocol.

That's for rebuilding your bones. You can check to see if you are because these markers will balance out and it'll happen within 3 to 6 months. You don't have to wait for.

Yeah, I think it's two years now to get another Dexa approved by your insurance. So, this is just a blood draw. It's easy to do. You can check within 3 to 6 months if what you're doing is working.

And for the other, the range for the pin P what what do you like varies from lab to lab. It's why I didn't give you a specific number. You always have to know what lab you're dealing with, and they should provide the reference range you wanted in the middle of the range.

Gotcha. Okay. And what about, like, running things like an and tell a peptide in the urine. Do you think those are worthwhile. So. And tell what peptide is not.

It is not nearly as accurate as CTS. And urine is the worst. If you're going to do a urine test, you better run it 3 or 4 times and average the results because it can fluctuate so much from day to day that that the result is essentially meaningless.

So just does it's, it's it's that's the marker that internationally is now being used by all the researchers there. And it's valid. You only have to run it once, you know.

And you can you can trust the results that you got. Perfect. So anything so we talked about vitamin D levels. We've got these levels the right kind of scan.

Anything else that the listeners should know about. Well if you want a list of the you know of what things I look at. Because any area that's off, okay, that that's putting you in a state of chronic inflammation is going it will cause problems for your bones.

So you really have to look at your report. You mean you want. That's what the end of this book is. Healthy bones. Healthy you. Because to have healthy bones, if you have healthy bones, you're going to have a healthy body.

Because all your systems interact. You know, we're not like I know doctors are still trained to do, and they have to be. There's just too much information to just focus on one thing like your, you know, your your digestive tract or something, you're or you're an endocrinologist or whatever.

But unfortunately, the human body is all one thing and it's all interacting all the time. And so I always look at some videos, we do the list, I look at vitamin D, of course, I look at the lipid profile, you know, it.

Does somebody have a lot of, really high levels of, of, oxidized cholesterol, you know, LDL, are there, is there HDL really low? Is there triglycerides really high?

These things indicate in things that cause inflammation in the cardiovascular system is being inflamed. So that's something I look at. I look at homocysteine.

That's a that's a blood draw. But for that it's a marker of inflammation that's related to, problems with B vitamin. You know, the using B by methylation and B vitamins.

And can be easily, you know, pretty easily corrected you. If you need a supplement, you can just take a supplement of activated vitamins and lower your homocysteine levels.

But almost just, you know, slightly inflammatory, when your methylation cycle isn't working properly, for whatever reason, homocysteine will build up in your cells, and then it spills out into your bloodstream.

Then it goes everywhere, and it's like a terrorist with an acid spray gun. I mean, everything it comes into contact with gets destroyed, including bones.

It causes a lot of inflammation. You want to look at kidney function, okay. And that's a standard test. Your estimated, glomerular filtration rate, EGFR.

If your kidneys are where vitamin D is finally activated into its hormonal form. And so if your kidneys aren't working, you can't activate vitamin D. And if you can't activate vitamin D, you can take hundreds of thousands of IU vitamin D, and it is not going to help you.

So your kidneys have to be functional. Then there is another, very standard blood test just to check like overall inflammation level CRP, you know, C-reactive protein.

That will just give you an indication, hey, inflammation is going on. I got a fit. You know, I need my doctor's help to let me figure out what's what's causing this, thyroid.

You know, there's a lot of people have. So the test for that, you want you run to see. You know, if I was, I would stimulating hormone. You want to see what your free T4 is?

And your free T3 is to see if you're producing the hormones, you know, T4, and then you're converting it to T3, which is the form that's really active and runs your metabolism if you are, hypothyroid.

Okay. Everything's going to speed up, including breaking down bone, and your osteoblasts really won't be able to keep up. It's a huge factor for bone loss.

On the other hand, if you're hypothyroid, nothing's going to happen quickly enough.

AlgaeCal, Product Benefits, and Community

So you know, that also contributes to bone loss. And many people get put on, thyroid hormone replacement and

they never talk again like for years. And we our bodies are hummingbird's, you know, we're constantly fluctuating and you should be checked like once a year to see if your thyroid dosage is correct because they when they've looked at it, they've seen that, probably a quarter of the prescriptions are wrong.

They're either too high or too low, and either one is going to contribute to bone mass. Plus, you won't feel good. You know, you need that to have to be right.

Omega threes. You know, omega threes are highly anti-inflammatory. We don't unless you eat fish. You know, pretty much once a day, of the cold water fish that are really high in omega threes, you're not going to have enough omega threes to balance the amount of omega six that's in the diet.

Particularly people who eat meat. You know, there's a lot of omega six in meat. And furthermore, it's omega six in the form of arachidonic acid, which is highly inflammatory.

That's fine if you're getting enough omega threes to balance it. It's just when you don't have enough, then you know there's too much inflammation. So I check and you can check your omega three status with a fingerprint test.

It's very easy. You want to check your serum calcium level. And if it's, you know, if it's too high or too low, then you want to try to figure out why.

You know, why is that? One reason for that is, problems with your parathyroid glands. And so you want to run, your they typically want serum calcium and, ionized together and, surprisingly, hypoparathyroidism is pretty common.

It's, in hypoparathyroidism often it's the, you have it, you've developed a benign growth on your parathyroid glands, and it's making them overactive.

And that will cause bone loss. So you check for that. And then the last thing I check is magnesium. You know, as I said, we're we're pretty stressed out around here.

And, you know, I like there's some that you can only eat so much chocolate, no matter how wonderful it is, you people's magnesium often needs a boost.

But the way to check for that is to run in a red blood cell. Magnesium. Not just a serum magnesium, which is often what they run. And the reason you need a red blood cell one is about 1% of the magnesium in your body is in serum, and by the time that's low, you're pretty much ready to go to the emergency room.

Okay, so it's not going to tell you anything. Red blood cell magnesium tells you what's what's in your cells, what's been going on in your cells for like the last three months.

And do you have enough magnesium? So those are the that's the list that I, I always I pretty much always run all of these on somebody and often they'll already have had that done.

Like I'm sure you run these on your patients. Yeah. Yes. And about 700 other levels. Yeah. Right. But yeah I mean that's a great comprehensive list. It's a start. Yeah. It's definitely okay.

So I guess my last question is, you know, you're obviously bone savvy. So why logical. And what made you want to be on their advisory board. And you know, could you just tell us a little bit and yeah you and why you love them and what makes them different and just kind of give this a quick little toolkit. Yeah.

Thank you for the opportunity because I really I really value outbound to go. So what happened for me was after I wrote my first book on bone health, and I read the first two hours of every day, I subscribed to, you know, hundreds of medical journals.

We have lots of subscription things. And so every morning I go through in my inbox, I get the breaking papers on bone health, and I scan them and back in.

I think it was about 2009 or so. I saw two really interesting studies that grabbed me and they were on what became to count. The first one was an in vitro study, which is just a cell study where they used, algae called basically, they put it in, petri dishes with osteoblasts and the osteoblasts went nuts.

I mean, they just did so much better. They built so much more. They were so much more activated. So that was one. Then after that, they ran, a six month study.

I, a human study to see what would happen when they gave people algae, cow. So and they developed a couple of different kinds of versions of it. And the version that was the and so I saw those and then both of them did something I had never seen before, with any kind of bone health support supplement, which was they actually improved bone mass.

So what you see in the studies, typically you'll see that you, you lose less bone than you would have lost otherwise, but you're still losing. Okay. So without a cow, these people not only stopped losing bone, they added new bone.

In addition, you know, far beyond what they would have lost. Like we're supposed to lose 1 to 2% of our bone mass every year after a certain age, like age 50 or so.

It starts in the 50s. And for some people, it starts in the 40s, like yours truly. But then, you know, through menopause, it's about 2% a year. And then, and then it drops back to about 1% a year.

But every year you're supposed to lose bone. So most of the studies just say the the rate of bone loss was slowed down. And that's all you get. You don't get I added new bone I don't count added new mom.

So I was blown away by this. And I contacted, denials. Who's the owner of Algae Gal? And I said, hey, this is really great research. You know, I want to learn more about this and what you're doing.

And he said, oh, we're coming to Seattle. Which is where I live, because we are running a we are running another study on about 2000 postmenopausal women, with osteoporosis.

And we're coming up to do Docsis on everybody. And so I got to meet him, and I was very interested in what they were doing. And then they developed, you know, the, the formulation that they now use for algae called products, which has every key nutrient necessary for healthy events, you know, at in the amounts that are, that are beneficial, like, for example, the calcium, you take it twice a day and you take the amount of calcium that you get is about 350mg each time you take it.

And that's the optimal amount for fractional calcium absorption. So if you take a huge bolus of calcium all at once, you're just, you know, most of it or most of it away.

But if you take about 350, you absorb the most of the calcium that you possibly can when you take it. So that was one thing. Then it has vitamin D3, which is the better form of vitamin D.

You don't want vitamin D to, they have, magnesium in an amount that balances calcium. You should be consuming approximately half as much magnesium as calcium.

So if you're if you want to get 1200 milligrams of calcium in every day, you need 600mg of magnesium to balance that. The, the logical supplement balances it properly so it's half as much magnesium as calcium.

They added boron, which is my favorite trace mineral. I've written, I've written many medical journal articles. My article on boron is entitled Nothing Boring About Boron, and it's on PubMed, and it has now been read by over 6000 clinicians.

I get letters from people from all over the world about that article. Boron is so cool. It does so many things for you. And one of the things that it does is it it's it's fabulous for bone.

I mean, there's 15 different mechanisms through which one helps us build and renew healthy bone. So they have Van Boron in it. And, and then all the trace minerals, which are a big problem.

We do not have trace minerals in our food supply anymore. I mean, one example, do I have time to talk about all this or we run out of time? What was manganese?

So, you know, roundup, glyphosate, the pesticide glyphosate, it works by by. It kills things. One of the things that it kills is plants ability to absorb manganese.

So meant you have to have. And it causes the plants to die. And if humans have absolutely no manganese, they're not going to be very happy. They you need manganese to produce, mitochondria, an enzyme that prevents you from being killed by your own production of of energy, among other things.

So, at any rate, Algae Cow has it naturally. It's a ground up algae. Looks like a little piece of coral, and it has all the trace minerals in it naturally present to build that bony coral structure.

And they just grind it up and standardize it so that you get the same amount, you know, throughout. So it has all these trace minerals, silicon, you know, we need we need silicon for men don't need extra silicon.

They drink it in beer. But women don't usually drink that much beer. So we need all these trace minerals and they're not in the soil anymore because of the way our foods are grown.

So, so that was the next thing. And I started, learning more and I, I offered to write some articles for them about various things that were important for bone health.

And I'm now on their scientific advisory board. And I know, I asked them because I was doing this, this interview with you see if I can find the lecture.

Yeah. The note. Okay. So I asked them, since I serve on their Algae health advisory board, would they agree to, to people who are listening to this, going to the Mastering Menopause Summit, if they purchase some magical product, they will get they will get sent a free copy of my book along along with him.

Yeah. I'm not I think that offer is do is good through October 31st, and all they have to do is when they place the order for the Alta cow. They, they put the word summit in the, you know, when you fill out the form.

But when I have to tell you about Alta Cow about two and a half years ago now, we started a group called the Algae Cow Community. It's a Facebook group, and there are now close to 20,000 people on it.

They write in with questions for me. And there are other staff now who can support people with their questions, and they just have to be using algae to be a member of this.

I'm writing it down. I'm not a member of well, if you then if you use any LDL product, you know, triple power, which is the omega threes. Do your human analysis Ambien or Alta cow plus and strontium boost.

They only have three products. If you use any of them, you can become a member. And I have seen over the last two years, literally hundreds of women who have sent me their before taxes and they're after taxes.

I mean, just I get these notes, you know, I, I cried when I got my Dexa, you know, I, I gained 14% of them. I mean, really just astounding, results. And I think the reason for it is our diet isn't providing these nutrients for us anymore, and our bones have to have them.

And so algae counting works. I guess I've learned about algae cal from a male patient of mine. Oh, interesting. Yeah. Because, you know, men get osteoporosis.

I certainly do, and that's how I got turned on to it. And, you know, he just had phenomenal results like that. And I

was like, oh, I need to learn about this.

And so and if you want to live to 130, you better be taking it. That's right. That is right. Well, this has just been amazing and wonderful and Ferro and a total master class on bones.

I hope so, and I'm going to sign up. I want a copy of your book. Absolutely. I didn't send you one already. They should have. I made one. Yeah. So I've heard it's I've heard it's a fun read.

I tried to make osteoporosis fun. And you. Well, you, are doing so much good in the world, and I'm so impressed that you wake up and for two hours, read studies every morning.

I wish that I had space in my life to do that. But that's why we have researchers and clinicians and we all work together to, you know, bring it to to you, to those of you listening so you can get the best support for your health, for your bones.

In this case, I'm the one that you're the one on the front lines reading that you. But we really rely we rely on people like you readings. We get the data. So thank you so much.

And you know thank you to LG cal for for the generous offer and for being a part of the summit because this is such an important piece in mastering your menopause transition.

We want to grow old gracefully and have healthy bones to support us. So thank you for being here. Thank you everyone for listening. You're going to want to listen to this one again.

There was like data in the air probably never too much information, but you didn't want to take notes. So thank you. And you well everyone it's lovely to meet.

You need to be well.