The Overlooked Link Between Osteoporosis And Alzheimer’s Disease Transcript

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Introduction to the summit and guest

Hello and welcome to another very special interview for the Reversing Alzheimer's Summit. I am your summit co-host, Doctor Christine Burke, and over the last decade, I've helped many patients reverse their cognitive decline.

And that is why I have co-founded Jumeirah Brain Health software designed around preventing and reversing neurodegeneration to help both patients and practitioners be extraordinarily successful in this work.

In this summit, I'm bringing you interviews with thought leaders who can help you understand the pillars of brain health and the root causes of cognitive decline.

I want you to learn what you need to know to prevent and reverse cognitive decline and Alzheimer's for yourself and your loved ones. I am really looking forward to introducing you today to my friend Kevin Ellis, better known as the Bone Coach.

Kevin is a certified health coach, integrative wellness expert, and osteoporosis advocate dedicated to helping people take charge of their bone health.

After being diagnosed with osteoporosis in his early 30s, Kevin turned his own health journey into a mission to educate and empower others with the knowledge and tools to build stronger bones.

Naturally, through his coaching programs and collaborations with leading health experts, he has helped thousands of people worldwide navigate osteoporosis with confidence.

He is here today because Kevin's approach goes far beyond bones. He emphasizes the deep connections between bone health and overall health, including brain function, inflammation, that health and hormone balance, which all should sound familiar to you by now.

In this conversation, Kevin and I are going to explore the shared root causes of osteoporosis and cognitive decline, and how the right nutrition, lifestyle strategies, and functional medicine approaches can support support both strong bones and a sharp mind.

Kevin, I am so grateful to have you here. Thank you so much for being here. Doctor Christine, thank you so much for having me. This is such an important topic.

Bone health and brain health are, are such an important topic, and I'm glad we get the chance to speak about it. Yeah, I really am, too. And I know, I'm sure people look at the Alzheimer's Summit interview lineup and they're like, bone health.

Why are we talking about that? So maybe we open up with making that connection of how bone health can potentially be a reflection of brain health or other systemic health problems.

Yeah. What's interesting is, as you were listing off all the things that the summit attendees should be familiar with already or these people should be familiar with already.

You. I heard inflammation, I heard hormones, I heard gut health. And what's interesting about brain health and bone health is they share many of the same biological pathways.

How bone health connects to brain health

So as I'm going to kind of bucket them, I think, into the biggest ones and some of them you already touched on. But I'll make the very specific connection between each of those.

So let's start with inflammation, right. The connection between inflammation your bones and your brain. Chronic inflammation is a key driver of both bone loss and of neuro neurodegenerative condition.

So in bone loss what can happen is when we have chronic inflammation these cells called asset class that actually chew up the bone. And they can actually get out of control.

They can do a little too much activity. And then we don't have enough bone formation. And then that can lead to bone loss. So inflammation can be a key driver of bone loss.

And also can obviously affect your brain health as you're learning here. The other connection is through hormones. So primary bone loss and osteoporosis occurs typically as a decrease in estrogen in postmenopausal women.

Estrogen has a protective effect on bone. When those levels decrease, as they do during menopause, it causes an increase in the activity level of cells that break down bone.

And then there are other causes of osteoporosis and bone loss. But that's a primary one. So with estrogen though it's important for your cognitive function as well.

So that that's I would say another big connection between the two of those is that that same hormonal regulation piece, a third one is the vitamin D connection.

When we have low vitamin D levels, which we see a lot in osteoporosis, we also see that a lot in people with dementia too. Right? So vitamin D is so important because it's going to help with your calcium absorption, which is crucial for your bone strength.

That is the primary mineral constituent of your bones. It's going to help regulate neurotransmitters, protect neurons in the brain. And then it's just when we have a deficiency of these things, that's when we can go down this path of having bone loss and having cognitive decline, too.

And I want to say something about specifically about nutrients and bone. And because we're talking about calcium here. So vitamin D helps helps take in and absorb that calcium when we don't get enough.

And we're not able to absorb that calcium, your body is still needing it for those daily functions muscle contractions, nerve impulses, all those things.

And if it's not getting it and you're not absorbing it, your body's going to go to the largest reserve of minerals you have, which are your bones, and it's going to pull from there.

And it's not just selectively plucking out that calcium, it's going to go in and tear down that entire protein matrix structure. So a lot of the things that you're doing to support your brain health are also going to be supportive of your bone health, too.

And then the last big piece I want to touch on with the connection between bone and brain would be the gut microbiome. And that gut bone brain axis. Your bones, they're not a lot of people.

When they think of your bones, you think of them as just these static things that hold you up, right? And carry you through life. Right. And they do that.

They do a really good job of it. But they're living tissue. They're endocrine organs. Stem cells are produced within the bone marrow. Bone marrow is a soft blood cell.

95% of the blood cells in your body are produced in the bone marrow. So bone marrow is a soft, spongy material,

and it produces those blood cells or stem cells.

And with the the blood cells, you could be if you're producing, if you need help with preventing bleeding or clotting, that's where platelets are going to help.

If you need help with carrying oxygen to the body's tissues or carrying carbon dioxide away from the tissues back to the lungs, red blood cells are going to help with that.

And if you need help with fighting infection, healing wounds, anything related to the immune system, that's where white blood cells come in. Well, the cells that break down bone are a form of white blood cell.

So anything that is stimulating the immune system is speaking in the same language as the cells that break down bone. Where is 70% of your immune system reside in your gut, right.

So if you have chronic digestive issues, it's not just a matter of nutrient absorption like we were just talking about. Right? Which is so important. It's are those gut issues stimulating the immune system, causing issues with your brain health, but also speaking in the same language as the cells that break down bone, right.

So it's really important to understand that oftentimes when you're doing something to support your brain health or you're doing something to support your gut health, you're not just targeting that one specific thing.

It's going to have implications for the rest of your body. And most likely, if you're doing it right in a positive way. Yeah. That's such an important connection to make.

And your analogy just holds so well because the same thing is happening in the brain. It's the specialized immune cells in the brain, the microglia and the astro glia that are the brain breakdown cells if you will, when they're activated by inflammation and all these other things that we've talked about.

So it is even though it seems super disparate, it's super tightly connected. And I think, you know, that gut health connection and maybe, you know, that can kind of take us into your, your story, your journey, which which I know, but would love for you to share with our viewers.

Like, how did you, as a 30 something year old man, end up with osteoporosis? Yeah, because it's not usually that the 30 year old male talking about bone health or osteoporosis.

It's usually usually when you think of bone loss and osteoporosis, you think of, you know, somebody that you saw later in life. Maybe it was your grandmother or somebody like that who had a fracture and that impacted their quality of life.

Right. That's usually what you think of, I'm going to circle back. There is one other thing. I'm going to tell my story in just a second. There is one other thing I actually forgot to mention, which with the connection to brain health and bone health, I do want to touch on this real quick because it is kind of important.

There was a meta analysis of of nine studies that looked at, and the results basically indicated that Alzheimer's disease patients were at higher risk for hip fracture, and that Alzheimer's disease patients have a lower hip, bone mineral density than healthy control.

So, there's one other connection there. There are some studies around bone health, brain health, Alzheimer's, dementia. So there is that some of that research out there.

So again, just another connection piece there. Yeah. Back to my story. I would say, yeah, for me, my journey started when I was much younger, when my mother was five months pregnant with me.

My father was told he had cancer. Two months after I was born, he passed away. He was 35 years old at that time. My entire life, I had this fear that I was going to follow down his footsteps to an early grave, not be there to

experience the joys of being a father like he didn't have the opportunity to.

And, then I had I went in the Marines to kind of follow in his footsteps. And when I came out of the Marines, I had a lot of different health issues. I had high stress or sleep.

Some days I could barely even get out of bed. My energy was non-existent. And then I was told I had celiac disease. Celiac disease. For those who are not familiar, autoimmune condition where when you ingest gluten, these tiny little nutrient absorption centers in your small intestine, they're called villi, and they're responsible for absorbing nutrients from the food you eat.

When you have celiac disease, if you eat gluten, it can damage and blunt those villi to where they can't do their job. So my body, my. If you imagine your body and your bones is being like a plant, the villi are like roots in the soil.

Kevin Ellisu2019s osteoporosis journey

So my roots were effectively damaged and I couldn't take in these really important minerals and nutrients for my bones. So my body was going to the bones and pulling from there, and that led to bone loss.

So a lot of people, even if they're younger, they might not get diagnosed with osteoporosis because you had to have a bone density scan to know, but they may have that bone loss taking place if they have celiac disease, if they have autoimmune conditions, or if there's some other secondary causes of bone loss taking place.

And we could talk about those in a minute. But, that's kind of how the bone loss took place for me. And when I was told that osteoporosis, I just said, you know, I'm not going to I'm not going to I know the pain of going the path of not being there for my kids, because I experience that with my father, and I wasn't going to put them through that.

So I had a pretty strong impetus for change. And I, I grew our community basically, from 200 people about five years ago, to now, 270,000 people. And, we've got over 11,000 people come through our stronger bones programs.

We got a team of 43 people, and we're just helping people build stronger bones, prevent bone loss, and just get the right plan in place for their future and saving brains along the way.

Saving brains. You know, that's of all the things I talk to audience about. Second to bone health, brain health, I think is actually the second most important.

Not surprised by that at all. And I've seen this over the years, too. It's it's the, the thing that garners the most attention and interest from, from our community.

Yeah, absolutely. Well, because your brain is you. Right? Without your brain health, then you literally disappear from your own body. It's a terrible, terrible process.

You know, I think, I know we're not going, you know, fully down the entire bone. Road, but I think it would be helpful, maybe if you could define for our audience the difference between osteopenia and osteoporosis, just so they kind of have an understanding because it's similar to, like, mild cognitive decline versus Alzheimer's disease.

Yeah. Of course. So let's start with what it is. So osteoporosis it literally means porous bone. It's a conditions characterized by either not enough bone formation excessive bone loss or it's a combination of those things.

So an osteo process, both your bone density and your bone quality are reduced. And that's going to increase your risk of fracture. So the way that you find out you have osteoporosis is through what's called a bone density scan or a Dexa scan.

And it's a painless task, kind of like an X-ray. Very low levels of radiation you lay down on the machine, does a scan, tells you your bone mineral density, then it generates a score.

If that score is plus 1 or -1, that's considered normal and healthy. If it's -1 to -2.5, that's considered osteopenia. We would call that low bone mass, which is like a precursor to osteoporosis.

And if it's -2.5 or lower, so -2.6, -2.7, so on and so forth, that's considered osteoporosis. And the greater the negative number becomes, the more severe the osteoporosis.

Most people are not getting these scans until they're 65. Right. And insurance is going to cover it. Their doctor says, you know, we should probably do this now.

I would encourage people to get them much sooner than that. So 90% of your bone mass is put on by the time you turn age 18. The remaining 10% fills in by the time you turn 30.

So you're at peak bone mass. What we would call what I would call a full bucket right around 30 years old. That is a great time to get a baseline of your bone density to understand where you're at.

Now, if you're listening to this, you're like, I'm way past that and I still haven't had one. Don't worry, if you didn't get one, then now is the next best time, right?

Get your baseline from which to monitor future changes. So that's the most important part is getting the baseline. Now, I mentioned bone density scan or Dexa as the it's kind of the gold standard in the medical system.

There's another test now that is available or becoming more available in the US called Rems. And this test also looks at bone density and bone quality.

So that's another option that people are going to have. And but the important thing to understand is that just because you get one bone density scan this, you still don't have the full picture.

And a lot of times if you get a bone density scan, the doctor is going to have 15 minutes to sit down with you and say you have osteopenia, osteoporosis, take calcium, take vitamin D, go for a walk.

Don't lift anything heavy. Here's this bone drug. We'll see you in two years for your next bone density scan. There is so much more that needs to be done besides that.

So you as the educated, empowered patient, after watching this and what I'm going to tell you in just a second is you're going to be able to say I, you know, thank you so much.

I'm not saying no, I'm just saying not yet. Can you help me get a little more information? That's how you create a dialog between you and your physician.

Instead of just saying, I'm not taking the drugs, that puts a wall, right? So open the dialog with that. I'm not saying no. I'm just saying, can you help me get a little more information?

And then the information you need to ask for is you need to say, I understand I have low bone density, but do we know if I'm actively losing bone right now, present day.

And that that is a leading indicator, real time indicator of what's going on inside your bones right now. So what we do is we look at these, markers called bone turnover markers, and they look at the activity level of cells that are breaking down bone.

So if there's a most sensitive marker for bone resorption or breakdown is called CTCs. And that is going to look at your bone loss level. So if that is off or elevated or even really high, that can be an indicator of active bone loss and a root cause issue that needs to be addressed right now.

And then if we look at bone loss we also want to look at bone formation. So there's P-1, NP that is the most sensitive marker for bone formation. And again you look at that and those those become near-term targets for you

to improve.

So just think of it as the bone density scan is a snapshot of the past. Your bone turnover is what's going on now and going to happen in the future. Yeah. Wow.

That is such a great way to lay that out. That makes it so accessible for people, because those are really straightforward tests that you can get. And even if your doctor hasn't suggested them, they're available readily available at the big national labs.

So it's not difficult to get access to that like some of our functional medicine, testing sometimes can be more challenging to get, but this absolutely not super easy.

Yeah, if they try to go through, like if you're trying to go through your primary care, you might run into some challenges.

Understanding osteopenia, osteoporosis, and testing

Sometimes, you know a doctor won't order a test if they don't understand it or, you know, it could create a liability for them. So they'll refer you out to an endocrinologist or a rheumatologist if you're still in the conventional side and even then, they may or may not actually order the test for you.

So sometimes you have to go outside. There are services that you can. There's a service called Astic. You can use and go to some of the bigger labs. And you can get those tests and you would look at them every three months or six months or 12 months, depending on what's going on inside your bone.

So let's say you find out you have really high levels of bone loss. So it means there's probably multiple root cause issues, maybe lots of inflammation, maybe some gut health issues, other things that are need to be addressed.

You would want to, you know, figure out what those causes are and then do something to address the underlying issue and then retest those markers and maybe six weeks or three months and see, did we actually bring that bone resorption, that bone loss down.

Did that intervention actually work. And that's that's how you can actually move the needle and make progress as you track the leading indicators. Yeah, exactly. Because then you know what's going on.

It's all about the knowledge that we get from the data rather than just waiting for things to get worse, which is which is often what we do with chronic diseases in conventional medicine.

I mean, I know it's what I used to do for 17 years before I found my way into functional and integrative medicine. And you're really now looking upstream, looking at the root causes.

So we touched on some of the some of the root causes with chronic inflammation and with gut health. Maybe we can unpack the gut piece a little bit more just because, you know, we have the the leaky gut, leaky brain.

We know that having intestinal permeability, which is also called leaky gut, can increase our risk of, autoimmune conditions and be the gateway for autoimmunity to develop.

So in that context, like what are the pillars that you want the people doing that you're working with. Yeah, that well, if we're zooming out and looking at the bigger picture of bone health, gut health is absolutely a critical piece of that.

If we're zooming out and look at the bigger picture, I would break it down into three kind of buckets. The first one is identifying. So identify and address the root cause, issues of bone loss.

Figure out if you're actively losing bone right now. If you are what's causing it. Address those underlying issues. Retest the markers and actually see did that intervention make some improvements or not.

If it didn't adjust and started all over again, right. That's the first kind of bucket or pillar you have to focus on. The second one is the diet digestion absorption piece.

So you got to take in the right nutrients, in the right amounts. You got to actually absorb those nutrients. And those nutrients have to make it to the cell level.

All three of those things have to line up. Even if somebody is eating healthy. Sometimes, though, you might not be hitting layer one right, taking in the right nutrients and right amount.

And then the second layer is for absorption. This is where gut health comes in, is even if you if you have overt digestive issues. So think chronic bloating and belching, burping, gas, constipation, diarrhea, IBS, loose stools if that's a chronic thing and it's gone on for a long period of time, there might be something going on with absorption there that has to be addressed.

So we'd go in, we'd do some kind of functional test to actually understand what what the issue is going on. And then there would probably be a protocol or something put together to help you address that underlying issue.

Sometimes it doesn't even have to be that complicated, right? Sometimes we could just shift more in the direction of just not even doing the testing and just make better choices or make some minor tweaks or adjustments, right?

So it doesn't have to be a big thing. And the other thing I would say though, is even if you don't have those overt digestive issues, you could still have a problem with absorption.

Not everybody who has celiac disease has the the gut health, like the pain and the gut health and the loose stools and all that stuff. You might not have that.

So you could be having issues with absorption but not know it. So that's really important. And then the other part, if we're talking about gut health, I talked about at the beginning, is these villi, these roots in your soil.

But we think if we carry that analogy forward and just talk about your gut as like the soil and you've got these roots there, well, you could have, you could have, bad bugs in your soil, right?

So you could have a gut infection, you could have a parasites or some other thing there that has to be addressed. You could have good bugs in the wrong place.

Small intestinal bacterial overgrowth. Right. So when you have those things, those can also be contributors to issues with absorption or maybe those nutrients being gobbled up and utilized before they actually make their way to you.

So it's there could be multiple things there. Again sometimes testing can be really beneficial for that. And the last piece related to gut health that we could talk about is stomach acid.

Now a lot of people I see this in Doctor Christine, I'm sure you see this to a lot of people is they're taking PPI. And if somebody were to take these, they're only supposed to be used for a very short period of time, if at all. Ever.

And I've seen people on these for decades, ten, 20, 30 years been taking these. They will contribute to bone loss. There are studies behind that. And these drugs, these antacid medications, proton pump inhibitors, H2 receptor antagonist drugs, they're designed to, reduce the production of or increase the suppression of your stomach acid.

And the reason that's a problem is you need stomach acid to properly break down and extract nutrients from your food, like amino acids, the building blocks of your bone.

Your bones are 50% protein by volume, so you need amino acids. If you don't have good stomach acid, you're not going to have those amino acids, calcium, magnesium, iron, B12.

You need good, healthy stomach acid levels to take in and absorb these nutrients. The challenges a lot of people you know, that think they have too much stomach acid actually have too little, so you have too little.

You go to your doctor, you say, hey, I've got some reflux or I've got some issues here. And then they go and start taking an acid medications without really understand sending the root cause.

And now you've suppressed that even more. Right. And that becomes an issue because it's going to have a lot of health effects that that come from that too.

Yeah. That's always such a conundrum. The acid blocker medications because people will feel better if their acid production gets reduced further. But really the problem is there's not enough acid to trigger the bottom of the esophagus to close off and keep all the acid in your stomach instead of letting it wash up into your esophagus.

And so whether you have, you know, normal super acidic stomach acid, like a pH of 1 or 2 or you have a pH of four, that's still going to feel bad in your esophagus.

Gut health, absorption, and root causes

And but the problem is we need to get it more acidic so that that sphincter will close. And of course, there's some caveats to that. If people have damage to the lining of the of the esophagus, that it has changed into something called Barrett's esophagus, then they, you know, they're at higher risk for cancer and they have to suppress their acid.

But that happens because too many years have gone by of allowing that low acid stomach contents to wash up into that esophagus. That's part of the mechanism.

And I think your point is super important about the absorption and the protein absorption, because people I often find have a have a perception that because I'm eating it, I'm getting it.

And that's so not the case when we have all of these different components happening within the gut environment, that could be impairing our absorption, impairing our breakdown, impairing the availability of those amino acids for us to use as building blocks.

Yeah, you are not what you eat. You are what you absorb. It's actually so it's that is such an important point. So that that's kind of the second bucket.

Right. Identify is the first nourish is kind of the second bucket. The third one is build. So building strength of body, mind and bone in a way that prevents fracture and injury.

So this is where we get into stress reduction sleep improvement, hormone optimization, exercise. And then some other nuanced areas as it relates to bone health or all the complementary technologies that people, you know, usually bring to me and say, hey, I'm doing this thing.

And I'm like, well, are you losing bone? Did we figure out if you have root cause issues? Do we have an exercise plan in place? So oftentimes people get ahead of themselves and they'll go and buy these vibration plates and these all these other devices, but they don't even have the foundational stuff.

So, in terms of stress reduction, there's a major connection between stress, stress, hormones, brain health, but also with bone health. So we need to cultivate a healthy practice.

There. I'm sure many other people have talked about stress reduction here, so I won't I won't tap into that one. But, just know it's important sleep. Good quality sleep is also important.

It is pretty well documented that, if you have poor sleep, it will reduce your bone quality. Okay, so the difference there is there's bone density, there's bone quality.

There's then those things combined to create bone strength. So density is the actual mineral content in your bone quality is the structural integrity of the bone.

The microarchitecture, how the bonus organized those two things combine to create bone strength. So if you've if you have poor sleep your quality is going to come down too.

So just keep that in mind and then exercise. This is such an important part. You have to not just figure out if you're losing bone and prevent the loss and then provide your body with the building blocks to get stronger and to mean to to maintain, but also get stronger.

You then have to apply the stimulus and the proper stimulus, and you want to do it in the right way. Most people are just told do some walking, don't lift heavy, and that's the advice they get.

And I would say for the majority of people that I see, that is that's almost negligent advice to tell somebody not to lift something heavy, especially if you have good form, you have good bone quality, you haven't fractured multiple times or you haven't had like low trauma or no trauma fractures.

There's good reason for you to go and be applying a stimulus properly to your bones. So the the stimulus that we need to apply, you need a couple of different types of exercise.

You need impact. You need that stimuli. And you need muscle pulling on bone. When you have muscle pulling on bone, there's this mechanical signal that sends a chemical signal to tell the bones to become stronger.

You also, just from a walking perspective, people, so many people are told, just do some walking. That's not enough. And if you think about it, it makes sense.

When you're walking, you're only walking in one direction. Pat, pat, pat, pat. And you're doing that for really long distances. So there's no varied stimulus.

We're not surprising the bones or anything like that. And you're also only working your lower half. Where do a lot of people fracture? A lot of people fracture in their forearms or other areas in their body, and those aren't even being worked when you're actually doing walking.

So that is absolutely not enough. It's important you should do it for your health, but just know that's not going to be the only thing you do if rebounds.

So you got to do weight bearing exercise, muscle strengthening and resistance training exercise, weight bearing exercises where your body and your bones, they work against gravity to keep you upright.

These are things you do on your feet. They place good, healthy stress on the bones. This would be your walking so it is included and you should do that.

Your jogging, your hiking, your gardening, your playing pickleball, playing with the kids or the grandkids out in the yard. Yoga, Pilates, Tai chi, qigong, all of those things are weight bearing.

If you're doing them or you got good form, keep doing them okay? And you should also be aware of what's not weight bearing. So non weight bearing especially would be swimming.

Cycling also but mostly swimming. And when it comes to swimming you're not applying. Your body's not working against gravity to keep you upright. You're not placing good healthy stress on the bones.

So it's not to say you shouldn't swim, especially if you enjoy it. It reduces your stress. It makes you happy. You do with your family. Keep doing it, but don't get in the pool five, six, seven days a week.

Do a couple laps, get out and say, I've done my exercise. You haven't because now we have to apply this last

piece, which is muscle strengthening and resistance training exercise.

And this is where you can have significant benefit for your your brain health too is we're actually, helping support building muscle and bone at the same time.

And this is where we bring in the resistance band, the barbells, the dumbbells. Maybe it's the machines at the gym if that's where your comfort level is at, or kettlebells.

And we're incorporating some of the bigger movements, too. And now when I say these, if you are familiar with them, great. Keep doing them. If you're not familiar with them, don't let them intimidate you because you can work your way up slowly to where you've got good form and you're doing them right.

So squats, deadlifts, overhead presses. As long as you don't have, you know, vertebral fractures already. That those can be really great movements to be incorporating into your plan.

Okay. So, that's just yeah, I would just say make sure if you're going to apply the stimulus, do it properly with good form and safely start with lower weight.

If you're not familiar, get it a trainer. Get something to look at your body mechanics. And then help build up from there. And that's, that's really the way you got to approaches.

Yeah. And it's just beautifully laid out in such an accessible way.

Exercise, bone remodeling, and treatment cautions

And I think your point is, is so important that it is really a lot about the form. Doing it incorrectly can be almost as bad or sometimes worse than not doing it at all.

And I think, you know, the other the other point that I just want to bring up, that I know you, that I know you talk about. So I'm going to tee it up for you, but that, you know, you mentioned that our bone isn't really static, but the but the reality is, right?

We replace our skeleton about four times in our lifetime. So it's a very dynamic process because I feel like sometimes people think like their brain, like I have what I have and, you know, maybe I can fill in some holes, but I can't really change it.

And that's not true in brain health. And it's really, really not true in bone health. Yeah, absolutely. So there are different cells involved in this process that takes place throughout our lives called bone remodeling.

You have asset class osteoblasts, osteocytes. There are other cells that obviously take place in this, but those are the those are the primary ones. So I see a class.

These are the cells that chew up and break down old, old bone okay. Damaged weakened bone. The osteoblasts are the cells that build. So blast builds stronger healthier new bone.

That is a coupled process. We need both of them. So it's not like, oh, the osteo class are bad. And, the osteoblasts are good. Now we need both of them because in order to as you're going about your daily life, doing your daily activities around the house, doing your chores, going to the gym, having an intense workout, you're starting to get these tiny little micro cracks and micro fractures in your bones.

That's normal for everybody. And then what happens is you have these cells called osteocytes within the bone that sense that damage. And they send out a signal and say, hey, we need to become stronger.

And the osteo class will pick up that signal and come and scoop out that damaged bone and right behind it. It's a coupled process to the osteoblasts that come fill in stronger, healthier new bone.

So that's normal. We want that to take place. Different lifestyle factors. Sometimes if people are taking bone medications, that can impact that process pretty significantly, right.

So we can actually have situations where that bone turnover is lower, where you can start to accumulate some of that old worn damage weaken bone. So we want to get it to where it's optimal.

Right. So that's that's a big part of what we focus on helping people with. Exactly. Because keep it just keeping your bone. Your damaged brittle bone is not what you want to do.

You want to remodel it and replace it with healthier bone by doing all of these things that we've talked about. Yeah. And that's actually a challenge with the, the some of the primary medications that are prescribed for people when they're told they have osteoporosis, they take bisphosphonates, and bisphosphonates are anterior supportive drugs.

They're designed to slow down the activity level of cells that break down bone. The associate class. And they do that and they can do a good job of it.

There are risks and side effects that come with that, too. But the other biggest piece is that the safety and efficacy of bisphosphonates is not really well known beyond five years.

So people that go on these drugs and stay on them for a long time, and especially if you just put all your faith into it and you don't do anything else, what's going to happen is you will start to accumulate that old, worn, damaged, weaken bone.

So even if your bone density scores are showing as stable or even slightly increasing the quality, the structural integrity of that bone is not. So you just have to be aware of that, that, you can never just put your face.

Same thing with brain health. You can't just put your faith in a medication there. There's this whole group of other things, whether you're doing the medication or not.

There's this whole group of other things that doctor Christine talks about that I talk about, that you have to be doing these things no matter what. It's not an either.

So I just encourage you, and I love that you're here listening, doing this because this means you're you're invested in your health, and you're you're in the right place.

Yeah, I agree, I think it's just so it's so, exciting, really. Just to be able to share all these different ways that we have control over our health destiny.

You know, I think, like you and I have talked about before in the health care system, often the message that we hear is that things like osteoporosis or cognitive decline are just a natural part of aging, and that it happens to just about everyone.

But we know that that isn't true, and that there's all of these things we can do to change that course and to alter that trajectory. Absolutely, absolutely agree with that.

Do you feel like there's anything else that you want to make sure that people take away from our conversation today? You know, more just something I've learned as somebody who's been on a health journey myself and, who's now helped a lot of people on their health journeys is, you know, you're going to go down this path of learning and trying new things and seeing if this thing works and putting a lot of hope and prayers and faith and, whatever it is and sometimes, sometimes not every single thing that you try is going to work the first time or it's not going to work perfectly, and that if you put a lot of expectation behind each of those things, it can lead to disappointment and it can make your journey a lot harder.

So I always tell people, approach things with curiosity instead of expectation, and your disappointment will

disappear. So instead of saying, this is this thing, this is going to do, I know this is going to do it.

Say, you know, I'm curious. I'm curious to see what impact this is going to have, right?

Mindset, key takeaways, and where to find Bone Coach

Approach it with curiosity, because when you do that, you're more likely to extract lessons. You're going to have less disappointment, and your journey is going to be a lot better for you in the long run.

Yeah, that's some serious wisdom you just dropped right there, my friend. That's great. This has been such an amazing and informative discussion. I really appreciate you sharing everything that you've shared today on the summit.

I know, you know, I think my key takeaway that we've kind of already covered is just we need to be aware that, like many things, the bones give us clues to the breakdowns that can be or are occurring elsewhere in the body.

And so just to take that information, you get your bone density scan. And it's not where it should be. That's not the only thing that's affected. And there's a whole host of things that you need to be paying attention to which you've laid out.

So beautifully. Yeah. Thanks so much. Yeah. So I know you have a really active bone coach community, and if people would like to know how to get in touch with you or how they might be able to work with you and your team on their bone health, and now they know it will also help their brain health.

Where can they find you? Thanks so much. Yeah, you can always find me at bone coach.com. That's the best place. We have lots of free resources there. We've got podcast episodes, exercise is recipes.

If you have osteoporosis or know somebody who has osteoporosis, we have a kickstart guide that walks you through that. It's a free kickstart guide that tells you exactly what you're supposed to be doing to get started and make improvements.

Or if you're just like, you know what, I want to work with the team and get some help. You can apply for programs there too. So Bone coach.com is is the best place.

And then Chrissy, if we should do a podcast together, we should have you come on the Bone Coach podcast and yeah. And then all the social channels at Bone Coach and Bone coach.

Kevin. Awesome, awesome. Thank you so much, Kevin, for joining us today. And if you, my viewers have enjoyed this discussion today on the summit, please join some of our other sessions where we continue to dive into my passion solving the root causes of cognitive decline and leading you to better brain health.

Thanks for joining us today.