Fracture Proof Your Bones: Why Bone Density Isn’t Enough Transcript

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Introduction to calcium and osteoporosis

Everybody needs supplemental calcium. I think that most people are getting way too much. It's that the US RDA for calcium is 1,200 milligrams per day for women and 1,000 milligrams per day for men.

The average American woman gets 800 milligrams in her diet. So maybe getting 400 milligrams as a dietary supplement is sufficient and helpful for most women and safe.

But most men get 1,000 milligrams of calcium in their diet. They really don't need extra. Most men probably don't need extra calcium. Welcome to Healthy Choices with your host, Ray Solano from Austin, Texas.

Now, here's your host, Ray Solano. Hi, this is Ray Salado and welcome to another edition of Healthy Choices, XM as a podcast here on Doctor Talks. And we're tackling always health issues that affect millions of people, but often go unnoticed and too late.

Meet the host and guest expert

And you're really gonna like our topic today is osteoporosis, because it really takes a different twist. And we'll get into that as our show gets into today.

And it's sometimes called the silent, disease, but there are proven strategies that really are important for your bone health. As we're living into our nineties, it is so important to do something today because the risk of problems with bones has never been as important as it is today.

And so our host is John Neustadt. Do I pronounce that correctly, John? Neustadt, Dr. Neustadt, and is the founder and president of Nutritional Biochemistries and is hosting a host of Delivering Health podcasts.

He's authored four books. His newest release, and we're going to talk about that today, is The Fracture Proof of Your Bones. And this is a comprehensive guide to osteoporosis.

And you can get to our website, pdlabsrx.com, and And we can give you a link for that as well. And Dr. Neustadt has written over 100 research reviews and we met at a show and I instantly knew this is one of the smartest guys I've met in this area of medicine.

So we're really great to have him on today. He's one of the top 10 cited authors in the world in bone health. So we're really lucky to have an expert here and to the area of bone health.

Dr. Newstate, welcome to the program today. Thank you. Appreciate it. Please call me John. John. Well, John, you know. Bone health, as a specialty compounding pharmacist and a nutritionist, we have been talking about bone health for years with screening devices.

Why fracture risk matters more than bone density

And of course, early on, it was how much calcium can you ingest? And so it's really kind of changed over time. And maybe some things have fallen out. And so there's many times it's driven for more pharmaceuticals as for bone health.

But the hardest thing that people need to do is maybe some lifestyle changes and some things that they have to occur. So maybe you can give a little bit into a little bit of an overview of what your program is and why it's so critical.

Thank you for the invitation onto your program and to share what I've learned because the research has really evolved over the last several decades. And what we know indisputably is that through an integrative and holistic approach, we can improve bone density.

We can improve bone strength and reduce fracture risk. And it's fractures that are the most dangerous thing with bone loss. And one of the things that What happened to me and how I got involved in this 20 years ago was my mother-in-law had osteoporosis at the time and I was giving her some dietary recommendations and some supplement recommendations.

She was taking Fosamax that her physician had prescribed and her bone density was going up. So I was happy, her physician was happy, and she was happy.

She thought she was protected. And then she tripped on a throw rug in her house and fractured her hip. And I thought, you know, something's wrong with this picture.

So I dove into the research and what I discovered absolutely shocked me that that myopic, you know, almost exclusive approach to treating a number on a test, that bone density test result is completely missing the mark.

Every discussion, every analysis should be focused on fracture risk and reducing fracture risk. So any test is only as helpful as it can predict fractures.

A bone density test that we've known for decades only predicts 44% of women with osteoporosis who will fracture and only 21% of men if you're a Woman with osteoporosis, you break a hip, there's up to a 36% chance that you're going to be dead within a year.

Every 30 seconds, someone, somewhere in the world is fracturing because of poor bone health. And a woman's risk of an osteoporosis fracture, in fact, is equal to her combined risk of breast, uterine, and ovarian cancer.

And these things out there, these shocking statistics, aren't filtering through into conventional medical appointments where they're talking about, okay, what can we do to reduce fractures?

And that is my entire approach. And what we know through looking at diet, lifestyle, supplementation, these integrative approaches, medications may be part of a treatment plan, but they may not.

Those conversations to make the best decisions are what I'm passionate about helping people learn. It's a modality, multi-prong approach. It's not just the density of the bones, but it's also so much a big part of hormone levels as well, and also lifestyle and strength training.

unfortunate that we really don't manage their hormone levels as well as we, as we should. So maybe, maybe you can go into a little bit more detail because we get asked that question all the time.

Uh, is it directly fractures of the hip? Is it directly or indirectly related to a proper hormone levels? Oh, absolutely. As you know, hormones control everything in our body.

And when people think about bone health and osteoporosis, most of the time, I believe they're thinking about estrogen, estradiol in women, HRT, but it's much bigger than that.

The picture is much bigger than that.

Hormones, cortisol, and thyroid effects on bone

So, yes, absolutely HRT in women with estradiol, with or without progesterone, depending on the case, has been shown to reduce fractures by about 28%, I believe.

But one thing that is important to also consider in terms of both in men and women is cortisol levels. you know,

chronic stress increases how fast somebody loses bone.

There was a study that was done that did a blood test, looked at blood cortisol level in, you know, quote unquote healthy adults. And what they found is even those adults that were in the normal range of cortisol, if they were on the high end of normal, they were losing bone faster than people who were in the normal or healthier normal range.

And for your listeners, if they're not aware, glucocorticoids like prednisone, those medications that are often used in autoimmune diseases or inflammatory diseases, powerfully anti-inflammatory, it's essentially cortisol.

They're glucocorticoids, same category of molecules. And our own glucocorticoids, our own cortisol, if it's too high, is destroying bone. And so looking at what does that, sleep deprivation, not getting enough sleep, living your life in a way that is too stressful.

Various things are important to evaluate and try to improve when you're looking holistically. Even when you're looking at men with osteoporosis, too often the hormone component is not taken into consideration.

I've seen it over and over again where a man will bring his, you know, come to me for help, show me his DEXA results. And one of the first questions I ask is, did they test your testosterone?

And the answer almost always is no. And this is well supported in the research. This is not anything fringe or anything that's not well documented. As testosterone goes down in men, so does bone density and bone quality.

And one of the big reasons for that is because testosterone is converted to estradiol. Just like in women, men have estradiol, and it's that estradiol in men, just like in women, that maintains bone health and can help produce more bone.

And so, it's not just testing testosterone in men, it's also testing their estradiol and making sure that we're replenishing them. I don't advocate or recommend replenishing estradiol in men.

I recommend replenishing testosterone and then tracking estradiol to make sure that both of those are in the healthy range because they'll be producing their own estradiol unless they have a very rare genetic condition that prevents that.

Likely that would have shown up many, many, many years earlier. You know, it's really unfortunate. The amount of people that are on government subsidized health insurance and there's more people, 40% of the population is going to be on Medicare or Medicaid and the standard of care for men over the age of 80, and it starts to decline at 70, they do not test testosterone.

If they do test it, they won't give prescription medication for patients over a certain age. So it's unfortunate that we put some of these hormones in categories that we find that it really makes risks of bone fractures and bone health and brain health at a higher risk.

On top of it, I love you just recently under the new guidelines that desiccated thyroid, which is a natural thyroid that is made from animal sources, is trying to be restricted as a biological and taken off the market in 12 months.

So we find that we've pushed back and our political action group, we've been able to get a stay to put a fast track for a new drug. But could you imagine what it's like for if thyroid restrictions of natural thyroid and all of those factors that have in concert with the HPA axis, if that was taken away, that calcium magnesium balance, what that does to bones, and just take that out of the equation.

That just makes me even more concerned. Well, thyroid health, I didn't mention thyroid hormone is so important for bone. What we know is that when people have healthy thyroid, it promotes, it's sometimes considered the master hormone and then it controls every system in the body or affects every system in the body.

When people have too much thyroid, hyperthyroid, it causes bone loss. But even if they have a euthyroid condition

where the TSH is a little bit elevated, but the T4 and T3 is normal, that still is now associated with bone loss.

And one of the challenges that occurs if they start restricting the options is there still is synthroid, which is just T4. There's isolated T3, for your listeners, if they're not aware, those are the two main thyroid hormones, and you can supplement with those separately.

But not everybody, that's not a good fit for a lot of people and restricting the options of something that has been used for decades. And there's no, I've never seen any safety problems at all.

I've used it clinically, in fact, and I've never seen any problems with armor thyroid is what it's called, that natural glandular extract that has the T4 and T3 and its natural ratios and concentrations.

I've never seen even in the research when I've looked any documented problems. So I'm really not sure what their problem is with it, but it's safe and it's been around for many decades.

Well, we have an influence in pharmaceuticals that have direction for health. Unfortunately, the consequences of some of these pharmaceuticals can have a devastating effect.

Just like you mentioned on Fosamax, what that does, it's like a piece of chalk. It's dense, but the bones actually break. to rely on pharmaceuticals to fix something or the side effects is something that I think is troubling to you and to everybody else.

Limits of osteoporosis drugs and testing

And unfortunately, we don't have a number of, to reverse some of these chronic conditions of bone loss, there's not a lot of pharmaceuticals that instantly give on upon injection to the recalcification or the regeneration of bone tissue.

I'm not familiar with any unique cocktails that are injectable that come to my mind that work very quickly. Anything that has come across your research?

No, I mean, one of the challenges is that the bone density test is still the gold standard for testing, isn't sensitive. And so it takes a while for us to be able to determine statistically significant changes in bone density.

So most of the recommendations are not to retest for 18 to 24 months. Some studies, maybe as short of six months, you can start to see changes. But the problem is, what are they evaluating?

that bone density test result, not looking at fractures as the endpoint in the clinical trial. It doesn't matter what the drug is. All drugs for osteoporosis will improve bone density, but only Zometa has been shown to be helpful for the primary prevention of both vertebral and hip fractures.

vertebral and non-vertebral fractures. So, Fosamax, for example, oral Fosamax, which is a lendronate, it does not prevent both primary vertebral and non-vertebral fractures.

And one of the challenges is that even medical associations concede is that the change in bone density that the osteoporosis medications create is not an indicator that somebody is getting their fracture risk is being reduced.

And in fact, even if you break one bone, technically, you still haven't, you know, the patient has not failed therapy. You have to break two or more bones while being on one of these medications, and then it's considered failed therapy failure.

Wow, I didn't know that. Yeah, it's tragic because it's… It is tragic. And then there's stress fractures, and then it goes on from there. Tell us a little bit about your program because you put together a supplement program that works in concert with the body to fix the metabolic dysfunctionality that is occurring because bone remineralization is a slow process.

So my company, as you mentioned at the beginning, is Nutritional Biochemistry Incorporated, which I think is a very straightforward name that indicates one of my passions and interests, and that is how the body uses nutrients in its biochemistry.

And people get PhDs in biochemistry, but very simply it's how the body uses vitamins, minerals, amino acids, and fats to do its job and how things like infections and chronic stress that I mentioned, allergies, nutritional deficiencies, et cetera, and other things can interfere with that proper biochemical function and end up creating problems.

And so what I've done is looked at the research in bone health and with the, under the lens of really looking for what is research support in terms of maintaining bone strength, not just supporting or promoting bone density.

The most sensitive or direct indicator of bone strength is if somebody breaks a bone. So looking at clinical trials and the volunteers or fractures were the end points is how I've, the lens through which I've evaluated all of the data.

And what I found is that the calcium and vitamin D, they've been linked with reducing fractures by about 18 to 23%. Not bad. That's good. That's helpful.

But we can do much better than that. And one of the things I do want to mention is, look, not everybody needs supplemental calcium. I think that most people are getting way too much.

It's that the USRDA for calcium is 1,200 milligrams per day for women and 1,000 milligrams per day for men. The average American woman gets 800 milligrams in her diet.

Evidence-based supplements for bone health

So maybe getting 400 milligrams as a dietary supplement is sufficient and helpful for most women and safe. But most men get 1,000 milligrams of calcium in their diet.

They really don't need extra. Most men probably don't need extra calcium as a dietary supplement. And getting more than the USRDA does not improve bone health any better.

But in the vitamin D, I'm a fan of testing vitamin D levels because the research shows that the maximum hip fracture reduction is when the vitamin D levels between 30 to 44 nanograms per milliliter, which is relatively low compared to what we want to see it for immune health.

But definitely you want to be at least within that range to maximize the bone strength and bone quality. There are only four nutrients that have been shown in clinical trials to reduce fractures.

The calcium and vitamin D I mentioned, a specific form of vitamin K2 called MK4, and then strontium, which I'm not a fan of strontium. I don't recommend it.

Really? I'm happy to tell you why. You're not a fan of strontium. We've used it for years. We always understood, we were trained that it actually helps calcium be absorbed.

So I've never seen any clinical trial showing that it helps calcium be absorbed. What the understanding is is that it may compete with calcium absorption and so we want to take those at separate times if somebody is going to be taking it.

Here's my understanding of strontium and why I don't like it. So first of all, all of the research on strontium was done on a form of strontium in Europe called strontium ranilate.

It's approved as a medication in some European countries, and it has been shown to reduce fractures. There are five or six large clinical trials in postmenopausal women with osteoporosis taking strontium ranilate.

In all but one of those clinical trials, There was only a reduction in vertebral fractures, not hip fractures. One of them, only one showed also hip fracture reduction.

So it's doubtful that it reduces hip fractures as well, which is the most dangerous type of fracture. There are no clinical trials on strontium citrate.

And that's the form of strontium that's available in the United States as a dietary supplement. Zero, no clinical trials on its efficacy or safety. So, companies that are marketing strontium products, they're taking the strontium ranilate research, and they're applying it to their product and to support it.

So, if you want to do that, then we also, I think, to be fair, have to recognize there are no clinical trials on strontium citrate. But also, to be fair, we have to say, okay, if you're going to assume that it's equally as effective as strontium ranilate, then I think it's important to assume that it's equally as safe.

You can't cherry pick the data. And what we know with strontium ranilate is that it was taken off the market in Europe for a while because what they discovered in post-marketing surveillance is that for every one fracture that was prevented, it created a blood clot that could kill somebody.

that could cause a deep vein thrombosis, pulmonary embolism, or a stroke. And also, so for that reason, I'm not a fan of strontium using it. Also, because if you are going to use it, yes, it will improve bone density.

because that's been shown, but what it also does is it gives a false bone density test result. So the bone density test result that you're looking at is not accurate.

Despite the limitations of the bone density test, I do want the test to be as accurate as possible. In Europe, where it's a medication, the radiologist can correct for that.

The machine can correct for it, but it's not a drug here. And so the radiologist can't correct for that. So whatever bone density test results you're looking at are not accurate.

So for all those reasons, I'm just not a fan because we can actually do better even than that. Where the clinical trials with strontium ranolate in postmenopausal women with osteoporosis showed about a 43, 45% reduction, relative risk reduction for vertebral fractures, which is no better than the oral bisphosphonates, Fosamax.

When you look at the research on vitamin K2, and there are two forms of vitamin K2 commercially used, MK7 and MK4. The MK4 form, and only that form, the MK4 form has been shown not only to promote healthy bone density, but maintain strong bones as indicated by over 70% fewer fractures in clinical trial volunteers.

And the fracture reduction in clinical trials showed both vertebral and non-vertebral fracture reduction. And there have been three meta-analyses also been conducted that supported those conclusions.

So it's MK4. MK4, 45 milligrams per day. 45 milligrams a day? Yeah, in divided doses. Okay. And the MK7 form that's very popular in dietary supplements, if you look at the clinical trials, and I just did it recently because I did a CE talk on vitamin K, just reviewed the research again.

If you go to PubMed and you do a search looking for MK7 and also the technical name it's known by and bone health or fractures and look at clinical trials, Every clinical trial that's been done on MK7 in every dose, up to 360 micrograms per day, has shown that at best, the best result people get is it only slows down how fast somebody loses bone density.

It doesn't stop it, it doesn't reverse it. And in one clinical trial, the women taking it had faster bone loss in the hip than the control group. And there are no studies on bone strength, meaning fractures as the outcome.

There's zero studies showing that MK7 reduces fractures. So you like MK4? It's the only one supported by the research. Yes, I like MK4. And when I started looking at this 20 years ago, I discovered the research came out of

Japan.

It's actually been approved in Japan by the Ministry of Health since the 1990s for bone health. So it's been incredibly well studied, both in terms of efficacy and safety mechanisms, action, how it's pushing the biochemistry safely in the direction of bone formation, healthy bone physiology, promoting collagen production, promoting bone strength and supporting that healthy bone mineralization.

So it's vitamin D3 plus NK4 plus A2. Well, MK4 is a form of K2. So you just specify specifically the MK4 with vitamin D. Correct. So vitamin K2 is a category.

So within that, it's the MK4 form of vitamin K2. So yes, so it's MK4. with D3 and then additionally adding on the calcium when people need it. So that's why when I was doing the research and creating solutions for my patients at the time, because these didn't exist out there, I created a version with calcium, with lower amount of calcium, and now with no calcium for people who don't need it.

So we can be very specific and customize the nutritional regimens for people to help support their bone health. Tell me about your opinion of pH. urinary and saliva pH.

So I think that it's a surrogate, commonly, most commonly it's a surrogate for a bad diet or a good diet, depending on what the pH is. First of all, there's no real strong research that I am convinced concludes that eating, that the pH of if you do a pH strip of your urine, for example, is going to create osteoporosis if it's too acidic.

What we do know is the overall dietary pattern that people are following is linked to higher risk of osteoporosis fractures or lower risk of osteoporosis fractures.

The higher risk of osteoporosis and fractures is caused by the standard American diet, high in processed foods, high in red meat. You know, those are very acidic.

low in vegetables, vegetables tend to be quite alkaline. And it's that Mediterranean style dietary pattern, the complete opposite of the American diet.

It is more alkaline in general that is associated with over 20% reduction in osteoporosis risk and about a 21% reduction in hip fracture risk. I think there is a connection there.

I don't know if somebody wants to measure their pH and that's how they want to monitor it. I think that's great. But I think overall, it's the overall dietary pattern that's very important, which will also determine the pH.

Well, that's a good indicator that they're out of range, whether it's saliva or urinary. But by adding the mineralization, the calcium and magnesium to be able to adjust those pHs.

Do you feel that's beneficial in addition to dietary changes? So the way that I, again, look at the research is I ask myself, are there clinical trials showing in volunteers that it's reduced fractures?

So what we do know is that the more somebody adheres to that Mediterranean style of diet, dietary pattern, the greater the benefits and the lower their risk of osteoporosis and fractures.

When it comes then to supplementation for adjusting pH, there are no clinical trials supporting that. Maybe it works, maybe it doesn't. The data's just not there.

What we didn't know with magnesium as a dietary supplement in bone health, there's only one clinical trial with magnesium that was done in the 1990s.

Diet, pH, magnesium, and Mediterranean eating

It was magnesium oxide for bone health, specifically. Magnesium oxide, and it was a study that did show that bone

density improved, but it did not look at fractures.

There are no clinical trials that have concluded that magnesium as a dietary supplement reduces fractures in people with osteoporosis. And don't get me wrong, I'm a huge fan of magnesium.

It's used for hundreds of steps in our biochemistry and enzymatic reactions in our body. A lot of people aren't getting enough through their diet. It's very, very important.

But when you look at serum magnesium, you look at intracellular RBC magnesium, there are associations with low RBC magnesium, for example, and increased osteoporosis risk.

So there is some support for that. But when you look at epidemiological data in terms of magnesium intake from food, they've determined many studies have shown there's not an association.

between the magnesium and the food. Now, those are very difficult studies to conduct. Their accuracy can be questioned. There's a lot of limitations when you're looking at food frequency questionnaires.

looking at dietary intake, but the bottom line with the magnesium for me is where I've landed in terms of the research is I think it's great. It should be in a great multivitamin.

If somebody determined they're not getting enough, they should be supplemented with extra or if they have other indications of low magnesium or other clinical reasons why they should be getting extra.

then I'm all for that. But specifically for bone health, it's not something that I advocate as something for bone supplementing for fractures and maintaining strong bones.

Well, that's great. I think we touched on all the The looking for evidence-based, and that's what's great about your company, John, is you look at the data, you look at the clinical trials, you look at what's been published in bone health research.

So your program puts together a fail-safe fractional proof for your bones. Specifically, maybe you can just review again the particular supplements in addition to a Mediterranean diet that you recommend.

So, what I recommend first line in terms of bone health and supporting healthy bone density and maintaining strong bones are one of my three osteo products.

So, Osteo-K, Osteo-K minis, or Osteo-MK4. They all have the clinical trial dose of MK4 in them plus D3. The only difference is the amount of calcium because as I mentioned before, we want to customize how much calcium they get.

And that 2,000 I use of vitamin D3 per day that's in each one of those products. The research shows it's sufficient to get most people into that 30 to 44 nanogram per milliliter range for vitamin D3 and you know so convinced by the research with the MK4 and these nutrients that we started the strong bones guarantee that within six months of starting any of the products to guarantee that bone density will stabilize or improve at one or more areas but more importantly that it will maintain strong bones and the best indicator.

And the way do you like to measure that? In terms of the bone strength? Yes. I wish there were a great test for it. There's just not. The best indicator of somebody breaks a bone.

So if somebody breaks a bone, we will refund their money for all qualifying purchases. So we put them through a torture chamber in the back and see if we hit their arms and see if they break.

If you're skydiving or you have blunt trauma from a car accident, I mean, those are things that are a little outside of the norm. But in general, in terms of promoting and supporting bone physiology and bone health, you know, the guarantee is there because I don't expect people to go through the research and the amount of detail and become

a subject matter expert that I have.

And there's a lot of noise out there in the dietary supplement world in terms of these fantastical claims that are being made and even misrepresenting the data as I've already talked about with strontium.

And so I wanted people to very simply be able to understand that I can educate you through my book, my blogs, interviews like this. But at the end of the day, I want to give people comfort in knowing that we stand behind the quality of these formulas, our manufacturing, our production, and the benefits that they can have for people's health.

It's not a medication. It doesn't prevent or cure or reverse disease. These products powerfully promote bone physiology and push that in the direction of health.

Protein needs, GLP-1s, and muscle loss

And they can be taken with the medications if somebody is wanting to do both. That's my first line in terms of supplements. I don't like to oversupplement people.

It's a bit of a pet peeve of mine. I've had people come into my clinic literally with bags or a duffel bag of supplements. And it's unfortunate. What I'd like to focus on, and when I'm talking specifically about bone health, are those clinical outcomes.

Like, what are we trying to do clinically, give a very targeted approach, and then yes, a multivitamin, maybe like my supreme multivitamin or extra magnesium if they need magnesium, or if they want to be a little more aggressive, or there's a case for it adding on the MBI's hydrolyzed collagen, which has been shown to, collagen peptides have been shown to reduce like CTX, you know, molecular markers that are associated with healthier bone.

But I would prefer people spend their money on healthy food. And yeah, and it's important and, you know, and, you know, as we talked to food, you know, we're one of the things that we, we talked offline is that.

the habits of what people are eating is changing drastically. There's never been a shift this large in eating habits since the 60s when they started to increase the levels of diet drinks.

So we're seeing the awareness of bad food dies, but we also have a category of drugs that have been introduced into the marketplace that dramatically affect people's appetite.

And these GLP sensors cause tremendous changes in the way gastric emptying and people's appetite control. And what's happening is people or portion sizes are drastically changing.

And then also their OCD foods that they would just gorge on is changing as well. They just not They're not as compulsive eating as they used to. So everything is changing now.

But in some, unfortunately, we're having incorrect dosing that are being done for these medications. And we're having almost a paralysis of gastroparesis almost.

And so what is happening, people are not eating enough proper food. They may not get, they're not getting enough protein. So what we have is, the effects of low caloric intake and causes a negative effect on bones.

And also we're seeing problems with dental health as well because there's just such a loss of muscle mass in these areas. So we're seeing a lot of, like you said, we don't know about the drugs until they've been on the market for 20 years.

Well, we're seeing a lot of data that's very troubling. When people lose drastic amounts of weight, the body does things to protect itself. I think we can all know that.

But when you're actually retrying to get your body to keep your pH, it drops calcium from bones. And so all this is going on. People are just not eating as much.

So proper protein, going back to what you said, a diet. So osteoporosis is probably even more important now because we got what, 30 million doses of…

I'm glad you mentioned that because what happens in general with people and weight loss if they're obese is that their bone density can go down because they're on a calorically restricted diet.

And then when they get to their ideal weight or whatever weight they then start eating, it's an isocaloric diet, and they're just maintaining that weight.

The bone density tends to go back up. The problem with the GLP-1s is we just don't know if that's also going to be the case. Mechanistically, that GLP-1 enzyme is itself affecting that is not expected to affect bone in a negative way.

However, like you mentioned, that protein, that muscle wasting that occurs, the sarcopenia is deadly, not just for people, but for bone specifically. So there are 180 to 200 proteins in bone.

It's highly protein dependent. The amount of protein that somebody eats can account for two to 4% of bone mineral density. People don't realize that. They think of bones, they think of calcium, but we don't think of it as protein, do we?

No, and one of the things that I like to educate people about is what is that tissue like? How does it function? Because if it were all just calcium or minerals and that's all it was, it'd be brittle like a column of chalk.

But it's that extracellular matrix, the proteins and the collagen in there that the minerals bind to, it's the collagen that gives bone its ultimate strength and flexibility.

If you were to take a chicken bone and soak it in vinegar, which my histology professor did, and I've done it since then, you soak it in vinegar, you keep changing the vinegar out, it demineralizes the bone in about four or five days.

All the minerals will be lost in the bone. What you're left with is that collagen and all those other proteins. And it's indestructible. It's like a rubber chicken bone.

You can bend it. It will not break. But if you did the opposite and you pulled all the collagen out and the proteins out, it'd be brittle and it would break easily.

And that's the challenge we've got when people are not getting enough protein. And as we get older, you actually need more protein to maintain healthy muscle and healthy bone.

There's a phenomenon called anabolic resistance. So the amount of protein that you needed at a younger age is insufficient. In fact, the USRDA for protein as people age is insufficient to help them maintain healthy bone and muscle mass.

And so I recommend people at a minimum, at a minimum, people take their body weight in pounds and multiply it by 0.6. That'll give you the number of grams of protein minimum you should be eating.

And the range that I see supported in the research in clinical trials and studies is 0.6 to 0.73. And I've seen recommendations go all the way up to one, but I've never, you know, gram of protein per pound of body weight per day, but I've never seen any clinical trials on that.

But 0.6 for me is the absolute grams of protein per pound of body weight per day is the absolute minimum. And that can be a lot for people. It could be a lot.

Over 90 pounds. They don't have the enzyme structure to digest those proteins. And that's where supplementation, I think, becomes really essential and one of the big missing pieces, not just with GLP-1s, but also with gastric bypass surgery, RU&Y procedures, some of these sleeve procedures for stomach weight loss and obesity.

Book, website, and closing resources

most of the time in the patients that I talk to, their physicians who are doing these procedures or prescribing these drugs with them are not properly counseling them on diet and giving them a proper supplementation regimen to protect them from these dangerous side effects.

That's exactly, dangerous side effects. Well, we've reached the coast to the end of our very informative. This has just been one of the greatest podcasts that we've done.

And I'm going to make sure our staff was able to, this is kind of a continued education. If you could, Dr. Moustad, if you can give us your contact information and as well as your program so we can get the word out.

I would love that. Thank you. So my book is called Fracture Proof Your Bones, and it walks people through creating a holistic bone health program that makes sense for themselves, educates them on a lot of these issues we discuss, gives them questions to ask their doctors to make sure they're getting the best possible care.

They can make the best informed decisions for their own health. It's Fracture Proof Your Bones is the name of the book. You can find that and more information about me and resources and my supplement line at nbihelth.com.

And if you want to contact me, feel free to contact me through the contact form on that website, nbihelth.com. Do you do telehealth consults? So I do occasionally as people request, I will set up a pro bono.

It's all for free and help people. They will send me their test results. I'll review them, give them my perspective. I'm not diagnosing or treating. I'm giving them education and information.

for them to make more informed choices for their own health. It may tell them that tests that they want to maybe ask their doctor about that I think they might be missing.

I'll do medication reviews with people and point some things out to them that they might be concerns for bone health. But there's also a blog on my website.

And it's in my book as well, but blog on free resource on the website, a comprehensive list of medications that cause osteoporosis. And that lists a lot of those medications, the most commonly prescribed medications are destroying bones and people and doctors are unaware of that.

Great information. This has been an incredibly informative conversation. And we know our listeners are always looking for practical steps. They can protect their health.

Thank you again, Dr. Neustadt, for John, for joining us today and sharing your expertise. And for our listeners, if you'd like to learn more, you can visit nbihelps.com.

It's nbihelps.com. And I encourage you to pick up a copy of his book, Fracture Proof Your Bones. a comprehensive guide to osteoporosis, especially now anybody over 65 and anybody that's on the government healthcare program.

Thank you. I look forward to it as well. Thanks. Bye.