Episode 178 Transcript

00:00:00:00 - 00:00:25:07
Dr. Jaclyn Smeaton
Welcome to the DUTCH podcast, where we dive deep into the science of hormones, wellness and personalized health care. I'm Doctor Jaclyn Smeaton, chief medical officer at DUTCH. Join us every Tuesday as we bring you expert insights, cutting edge research, and practical tips to help you take control of your health from the inside out. Whether you're a health care professional or simply looking to optimize your own well-being, we've got you covered.

00:00:25:09 - 00:00:52:01
Dr. Jaclyn Smeaton
The contents of this podcast are for educational and informational purposes only. This information is not to be interpreted or mistaken for medical advice. Consult your health care provider for medical advice, diagnosis and treatment. Hi there and welcome to this week's episode of the DUTCH podcast. Now, we tend to see that women are underrepresented in most health care arenas, but when we talk about bone health, actually men, it's like one of the only places where they are underrepresented.

00:00:52:01 - 00:01:16:04
Dr. Jaclyn Smeaton
So today we're going to fix that with our guest, Doctor Doug Lucas. He's a double board certified orthopedic surgeon and an osteoporosis specialist, and we have him on to talk today about osteoporosis and just bone health generally in men. There were a lot of things that were really eye opening to me. Like many men have risk factors for poor bone health, and actually many of them are affected by poor bone health.

00:01:16:05 - 00:01:36:12
Dr. Jaclyn Smeaton
Similarly, actually, men tend to fare worse and fragility fractures later in life compared to females. So there's all these things that I didn't know, and I really haven't paid much attention to bone health in men, but I absolutely will. Now, on today's podcast, we go into depth around what are the risk factors? What types of things do men need to be looking for?

00:01:36:15 - 00:02:04:11

Dr. Jaclyn Smeaton
We talk about hormone therapy, which in men, of course centers around testosterone versus estrogen and progesterone and females. And really he walks us through that clinical algorithm of what to look for, how to screen, and what to do. One thing that's really interesting about this is even if you're a woman and you're listening for your own bone health, a lot of the things that Doctor Lucas talks about are really relevant for women, too, particularly around how to test and screen and monitor and see how your therapeutics are maybe helping you or not.

00:02:04:15 - 00:02:30:01
Dr. Jaclyn Smeaton
So I think you're going to get a lot out of this episode. I do want to mention we've had Doctor Lucas on before, so definitely be sure to also check out that previous episode if you're interested. Let me take a minute to introduce Doctor Doug. Like I said, former orthopedic surgeon and osteoporosis specialist who's really retired traditionally from orthopedics to focus on educating the world that osteoporosis is not only preventable, but often reversible.

00:02:30:03 - 00:02:57:07
Dr. Jaclyn Smeaton
His personal health story led him into functional medicine and biohacking, which he really brings into that bone health space. He's the author of two Amazon bestselling books, The Osteoporosis Breakthrough and The Top ten Reasons Why Your Hormones Are Failing You, and he's also founder of the nationwide telehealth practices Optimal Human Health, MD and PMA bioidentical, as well as International osteoporosis community the Osteo Collective, which will provide information for you in the show.

00:02:57:07 - 00:03:03:23
Dr. Jaclyn Smeaton
Notes about Let's Go ahead and get started. Well, Doctor Todd, thank you so much for joining me back on the podcast. It's nice to see you.

00:03:04:04 - 00:03:05:19
Dr. Doug Lucas
Nice to see you.

00:03:05:21 - 00:03:23:06
Dr. Jaclyn Smeaton

And I'm excited today. I mean, we talked so much about bone on the podcast lately, and this is a great time for us to be really diving into the science a little bit more, because I think especially if we look at like hormone therapy applied in a more preventive, proactive way, there's just more and more data coming out around that.

00:03:23:06 - 00:03:26:18
Dr. Jaclyn Smeaton
And I'm excited to just dive in because you're one of the top experts in this area.

00:03:26:23 - 00:03:31:12
Dr. Doug Lucas
All right. Well, thank you for saying that. I'm glad to hear that you're talking about it. That means that we're doing our job.

00:03:31:14 - 00:03:49:19
Dr. Jaclyn Smeaton
I think you are. Yeah. So I want to start before we get into that topic, though, you have a really interesting background because you're trained as a practicing orthopedic surgeon, but you really shifted your career to focus on osteoporosis education and prevention. Now, what was it about kind of your experience clinically or about the conventional model of bone care?

00:03:49:19 - 00:03:52:05
Dr. Jaclyn Smeaton
That's really pushed you in that direction?

00:03:52:06 - 00:04:10:15
Dr. Doug Lucas
Well, I loved being a surgeon, and technically I'm still a surgeon. I'm still a board certified surgeon, but I haven't operated in seven years, so I am not an employable surgeon. I left the conventional model not because I didn't like what was happening in the operating room. What happens in the operating room is amazing, and I love doing it.

00:04:10:17 - 00:04:34:11
Dr. Doug Lucas
But what I felt in clinical practice is probably what you've seen a lot of, and a lot of the practitioners you talk about share, which is I felt like I was just cleaning up the mess of bad decision making, either by the patient or by their providers, actually.

And I felt like I was really limited to what I could do, even though I had the most powerful tools in the world, I still could only do so much with the body that was presenting in front of me.

00:04:34:13 - 00:05:01:02
Dr. Doug Lucas
So I got very interested in education. And at the same time, where I was starting my clinical practice, my wife, finished her PhD in nutrition and started a company, you know, using nutrition as a tool. And I was blown away by her success in reversing chronic disease, seeing improvements in her patients. And it just really pushed me to continue to look deeper into, you know, how do we actually prevent the surgeries that I'm currently doing every day?

00:05:01:04 - 00:05:17:14
Dr. Doug Lucas
And I was really fortunate to be able to take a step back from a really high paying position because of, you know, it's all household income and smart decision making around finances. And I was able to make that leap where I think a lot of people are golden, handcuffed and unable to make that move.

00:05:17:16 - 00:05:52:23
Dr. Jaclyn Smeaton
I totally think you're right. It can be so hard to kind of leave and be doing that, but what a cool experience. I mean, I talked to so many conventional providers who have either that personal health experience or for you, seeing your wife's success clinically. It's really interesting because I think about the like the storylines that you hear in conventional training around what nutrition can and can't do, and it seems so just understated or even denigrated, you know, as far as the true impact, like you hear so many like classically trained providers who say, oh, nutrition really won't do anything to move the needle for you, but that's not what you've seen.

00:05:53:00 - 00:06:17:18
Dr. Doug Lucas
What's wild? Yeah. I mean, it just it blows my mind when I hear doctors say, oh, you know, nutrition, it's not it's not a very powerful lever. The data is not very good. Now, that part's kind of true. But it's not a very powerful lever in that. Just like, it's so frustrating because it is. And from my perspective, with essentially all chronic disease, it is the most powerful lever what you eat on a day to day basis.

00:06:17:18 - 00:06:24:16
Dr. Doug Lucas
The decisions you make around food at every single meal have probably the biggest impact that you could have on chronic disease.

00:06:24:18 - 00:06:47:06
Dr. Jaclyn Smeaton
Absolutely. It's so interesting to me because you do hear that like, oh, nutrition doesn't really matter. My patients come to me that nutrition doesn't really matter or you don't really know exercise. It doesn't really matter that much as long as you get the baseline. It's just like, how do we even get here? It's mind blowing. Now let's talk specifically about osteoporosis, because one of the things you talk about is that it's not only preventable, which of course that's a really our best approach but actually reversible.

00:06:47:08 - 00:06:53:07
Dr. Jaclyn Smeaton
How does that claim kind of hold up in regards to like how most patients are still told to think about that diagnosis?

00:06:53:09 - 00:07:15:12
Dr. Doug Lucas
Yeah, we we run a masterclass every week. Where through just to a general audience. Right. People that have osteoporosis. And one of the first questions I bring up is, is osteoporosis reversible? And I used to say it really kind of quietly is you kind of like sneak it out there and then like hope that nobody heard because I saw it, I saw it in my practice and I was like, well, this I mean, I can't be the only one.

00:07:15:14 - 00:07:35:03
Dr. Doug Lucas
And over the last several years I've been saying it louder and louder, and now I say it on every podcast, on every stage in front of medical doctors, in front of endocrinologist. I say it very loudly and proudly because it I mean, the evidence is overwhelmingly true that you can see this in people who are doing the right things.

00:07:35:05 - 00:08:01:05
Dr. Doug Lucas
So yeah, I what I see in our community is reversal of osteoporosis. Meeting T-Square arises. What I hear patients talk about, though, is when they go to their doctor,

they're in their canal district. Whoever diagnosed them, their doctor always says it's not reversible. Our only our best hope is to slow this down with a pharmaceutical genetics drive. Most of it.

00:08:01:10 - 00:08:04:21
Dr. Doug Lucas
There's nothing you can do. And that couldn't be further from the truth.

00:08:04:23 - 00:08:07:12
Dr. Jaclyn Smeaton
Like any of those individual pieces.

00:08:07:14 - 00:08:08:22
Dr. Doug Lucas
Each one right to.

00:08:09:00 - 00:08:25:19
Dr. Jaclyn Smeaton
Each individual piece. Well, I want to talk about this like really in that whole context. And I want to start by talking about men's health, too, because this is something that we really haven't talked a lot about. And I think bone health is kind of a blind spot in men's health. But osteoporosis actually does affect a substantial share of men.

00:08:25:19 - 00:08:48:00
Dr. Jaclyn Smeaton
But this long standing association of it being a woman's condition, particularly postmenopausal women, continues to shape kind of how we evaluate patients who doesn't get an evaluation. And of course, that gap in perception has real clinical consequences because men don't get screened, they get diagnosed later, treated less often, and they don't really have, great outcomes after fractures compared to women.

00:08:48:00 - 00:08:58:13
Dr. Jaclyn Smeaton
So what do you think this like women's disease framing around osteoporosis. Why is it so hard to shake even like. Well, we've had more and more data come out on men.

00:08:58:15 - 00:09:23:15
Dr. Doug Lucas
Well, I think there's a lot of reasons. I mean, I'm actually happy about the shaping of it around women, honestly. And I want to get to men, but just because women have so long been ignored and the things that are the biggest risks for them are sometimes understated. And so we get really, really tripped up around some of the, like the red flag, things like breast cancer awareness, yes, we should be aware of that.

00:09:23:17 - 00:09:43:21
Dr. Doug Lucas
But osteoporosis and fragility fractures will kill many, many more women every year than will breast cancer and yet not talked about, not screened for. And so I am happy that it's sort of riding the coattails of the menopause conversation. And women are getting screened earlier. So I would put that in the the biggest wind bucket I can find.

00:09:43:23 - 00:10:06:10
Dr. Doug Lucas
And then we also have to take a look and say, okay, well, where else are we missing this conversation? And absolutely, we're missing it with men. The thing about men with osteoporosis is that historically, and I think this is shifting, but historically men start with a higher bone density. They are less likely to see a bone loss as early in midlife or as they age, as are women, because of the difference between menopause and Andra.

00:10:06:10 - 00:10:27:12
Dr. Doug Lucas
Pause. So it really isn't an issue for most men until they're relatively old. So even if you look at the Uspstf recommendations on screening, right, this is women at 65 and then men at 70 if they have risk factors. So they're not even saying to screen men unless they have risk factors, which they all do.

00:10:27:14 - 00:10:29:19
Dr. Jaclyn Smeaton
What would the risk factors be that would jump out to you?

00:10:29:21 - 00:10:43:22
Dr. Doug Lucas

Oh, it's the same as the same as women. Right. So is there anything that is there potentially causing bone loss. So this would be everything from lifestyle, diet, sedentary lifestyle, smoking, alcohol abuse. I mean just go down the list and then all the, you know, the medications, the over-the-counter medications.

00:10:43:22 - 00:10:46:04
Dr. Jaclyn Smeaton
That is hard because you're right, it's everyone. So how do you view.

00:10:46:04 - 00:11:03:17
Dr. Doug Lucas
It is it's everyone. And this is why like if you have risk factors like I don't know anybody that doesn't have risk factors for bone loss somewhere along the way. But the thing that is important to remember about men, though, is that when men are affected with osteoporosis, they have a higher rate of mortality with a fracture.

00:11:03:19 - 00:11:24:21
Dr. Doug Lucas
So men actually do worse when they have fragility fractures than do women, partially because they're older when it happens. But when they get to that point, they are, I think, more frail, more fragile, and they're less likely to do well after a fracture, whereas women are more likely to do better, although it's still a big deal, loss of independence and of course, mortality too.

00:11:24:23 - 00:11:43:23
Dr. Doug Lucas
But so for men, this is a it's a really catastrophic thing. The other thing that's really important to understand about what's happening with men right now, and I'm sure you've talked about this, is the average decline of testosterone that that is happening in the population of men across the board. That average decline of testosterone is also resulting in an average decline of estradiol.

00:11:44:00 - 00:12:05:13
Dr. Doug Lucas
And for men, estradiol is just as responsible for bone health as it is in women. We just only get it from the most part from our testosterone. So as our testosterone levels decline, so does our estradiol, and likely therefore so does our bone health. So I'm really concerned that we actually have a bigger issue with osteoporosis and low bone density in men than we know because we're not screening.

00:12:05:15 - 00:12:16:12
Dr. Doug Lucas
And then you compound that with putting a bunch of men on on GLP one drugs, losing weight rapidly, you know, losing lean mass, including bone mass. And I think this is a recipe for a big problem.

00:12:16:14 - 00:12:37:02
Dr. Jaclyn Smeaton
Tell me more about that. I mean, I think that's one thing that we are we are seeing people that are going on GLP ones. There's we've talked about that on the podcast quite a bit because I think there is this need to and thankfully, like a lot of the doctors in our community are doing this better where they're slowing down the rate of weight loss or making sure people are weight training and getting adequate nutrition to try to minimize that lean mass.

00:12:37:02 - 00:12:48:03
Dr. Jaclyn Smeaton
But I think a lot of people think lean mass loss of lean mass is just muscle, but it actually is bone as well, right? Can you talk more about that and the impact of DLP ones that you've seen or that you've seen in research?

00:12:48:05 - 00:13:05:03
Dr. Doug Lucas
Yeah, I mean, I think this is a huge problem that we're going to deal with in the coming years to decades. You know, if you look at the way that most people are using GLP one is they are not paying attention to diet because they don't have to. Right? Like it is the easy button you literally just forces you to stop eating.

00:13:05:03 - 00:13:23:19
Dr. Doug Lucas
If you're taking a dose that's large enough to do that, and so they're not paying attention to what they're consuming, they didn't understand macronutrient composition in the first place. Right. So the average consumer is just using these things and eating less. And then when they are eating, they're probably eating similar foods that they used to eat before. Right?

00:13:23:19 - 00:13:43:05
Dr. Doug Lucas

So they're eating a crappy diet now. They're just eating less of it. It was already protein deficient and now it's more protein deficient. And when you look at the phase three trials for semaglutide, in particular, you do see those numbers, right? 40% of weight lost from lean mass. But remember that was that average. Right. So like that bell curve went over the 50% mark.

00:13:43:06 - 00:14:08:02
Dr. Doug Lucas
And what I love to point out to people is that if you are not paying attention and you're losing most of your muscle from lean mass, you're not actually losing fat. You're just getting lighter. But you're getting fatter by composition. And this is a huge problem with maintaining weight loss because you're like, you're you are going to have a very difficult time maintaining this new weight because you have less lean mass, lower that basal metabolic rate, etc..

00:14:08:04 - 00:14:25:15
Dr. Doug Lucas
So I think it's a huge problem. And then we're not screening people going through. If you're starting on the journey with their bones, we're not screening them. We don't know if their starting point is. So they were going to start seeing a lot of fractures happening in younger individuals, both women and men, and finding osteoporosis diagnoses in a much younger age group than it would have otherwise.

00:14:25:17 - 00:14:44:22
Dr. Jaclyn Smeaton
I mean, that's really scary. And, it's interesting because I think GLP one use does give an opportunity for people who've had stubborn weight to know that they're trying to lose, to actually think of it more like a recom strategy. But, you know, you really because there is you're going to get fat loss. It's just you have to actively focus on how you can minimize that lean body mass.

00:14:45:00 - 00:15:07:12
Dr. Doug Lucas
And I was just talking to a patient yesterday and she was doing such a great job. So she was using a, you know, a body composition scale at home. She tracked her food not all the time, but tracked enough. And so she had enough data to understand what was happening. And if you look at what had happened to her over the last six months, I think she'd only lost like 20 pounds, which is not, you know, incredible weight loss, although she's a very small woman, so that's significant for her.

00:15:07:14 - 00:15:25:22
Dr. Doug Lucas
But if you look at what happened, you could actually look on the body composition scale. Like, yes, she lost the lean mass, but around 10% of her weight lost was from lean mass. Like, hey, that's really good. Actually. You know, now she still didn't have a starting Dexa. Encourage her to do that, but she's doing it right. But she is doing the work.

00:15:25:22 - 00:15:45:16
Dr. Doug Lucas
I mean, she's focusing on on protein. She's doing resistance training on it, on a really intense scale, actually. I told her to back off a little bit, but she's but she's working really hard to do that. And I think that GLP one can be used as these fantastic tools, but have to be done so in a way that is really cautious of what your risk factors are.

00:15:45:16 - 00:15:49:02
Dr. Doug Lucas
And for for a lot of these women and men, it's going to be bone and muscle.

00:15:49:04 - 00:16:10:00
Dr. Jaclyn Smeaton
I think this is a really important conversation, and we've talked a lot about GLP ones, but predominantly focused on muscle loss, muscle mass like muscle as a metabolic organ, muscle as, you know, strength. And, you know, just being able to have proper body composition. We haven't really explored the fact that bone is so affected as well, but it will be really interesting to see.

00:16:10:02 - 00:16:21:09
Dr. Jaclyn Smeaton
And I think we are the right types of providers to be prepared to help patients do it right. But then also think about how we can work with those patients who maybe didn't, who are going to need additional support in 5 or 10 years.

00:16:21:14 - 00:16:47:03
Dr. Doug Lucas
And I wanted to say one other thing about this, too, because I've worked with many different providers and different types of systems, and I see the majority of providers are just ramping up based off of weight loss reported by the patient.

Right. So just rent, keep going up the up the dose, up the dose, up the dose. But when you have a patient who is doing the work, doing the lifestyle, the dose required to see results is much, much lower than you would expect otherwise.

00:16:47:05 - 00:17:07:13
Dr. Doug Lucas
So really focusing. I encourage providers to really focus on keeping that dose as low as possible. And I mean, most of my patients never go off of what even the lowest available dose, right? So that 2.5mg of two is appetite. That's what most of them need. And some of them are doing compounded and doing, you know, less than that from a dosing perspective.

00:17:07:13 - 00:17:13:10
Dr. Doug Lucas
But if you're going commercial, like the lowest dose is, it's what most people can start with and stay on.

00:17:13:12 - 00:17:24:15
Dr. Jaclyn Smeaton
I don't need to be like ramping up according to the schedule, which I think is how most providers are onboarding it, which is like every time there's an update, you're going up to from 2.5 to 5 to 7 by ten, 12, 15.

00:17:24:15 - 00:17:27:16
Dr. Doug Lucas
As if you have to get to 15, but you do not get to 15.

00:17:27:16 - 00:17:46:10
Dr. Jaclyn Smeaton
Yeah, the goal is not 15. The goal is like what can be adequate to get you at a good rate of loss, you know, balancing and all the other benefits you can get to metabolically and with inflammation and things like that. A lot of them are being at a lower dose. That's a really great point. Well, I want to talk a little bit about testosterone.

00:17:46:10 - 00:18:05:12
Dr. Jaclyn Smeaton
And of course this is related to men but also to women. Super important from a bone perspective. We know testosterone supports bone activity because it

stimulates osteoblasts. And then indirectly, like you talked about, it's conversion to estradiol. Can in play in terms like what does testosterone do at the level of bone cells.

00:18:05:14 - 00:18:27:17
Dr. Doug Lucas
Yeah. Well I mean, you said it right. So the anabolic hormones like testosterone, DHEA as well as actually progesterone a little bit too. But these hormones work on the building side to the osteoblasts side. And they're going to encourage not only the function of the osteoblasts, so increasing function of these cells, but also from their stem cell origins, increasing more of them.

00:18:27:17 - 00:18:52:20
Dr. Doug Lucas
Right. So we now have more osteoblasts doing more. So we see more building. This is in contrast then to estradiol which is working mostly on the osteoclasts side on the breakdown side. And so estradiol is is slowing down breakdown. And testosterone is helping to build up. And in women also a progesterone helping to build up. So mechanistically these things work synergistically as sex hormones always do.

00:18:52:22 - 00:18:55:05
Dr. Doug Lucas
But you can really see it in bone.

00:18:55:07 - 00:19:12:10
Dr. Jaclyn Smeaton
It's really interesting because you're right, there is that kind of duality of those two itself. Like as far as bone health, how much of testosterone is effect on bone health comes through the direct, activity on osteoblasts, activity versus conversion to estradiol. Do we know or really, just.

00:19:12:10 - 00:19:35:16
Dr. Doug Lucas
As we don't know. I mean, this is where like research it's frustrating with testosterone. It's it's so under-researched for so many reasons, most of them silly. But we only have a few studies looking at bone mineral density and testosterone, and these are all in men, right? There's very little research in women. There's like one tiny randomized control trial for women, in some observational trials.

00:19:35:16 - 00:19:53:17
Dr. Doug Lucas
So we just really don't have great data. What we can say about the research is that testosterone use, even if it's subpar, in my opinion, according to the protocols, still showed an increase in blood mineral density in men. So we know that it's doing something. And this is intuitive, right? We know that it well, the question is like how much.

00:19:53:17 - 00:19:59:01
Dr. Doug Lucas
And then the question that isn't answered is at what dose. And we really don't know the answer to that.

00:19:59:03 - 00:20:19:07
Dr. Jaclyn Smeaton
Yeah. What's the right way to think about that? I mean, do you see let's talk about just endogenous natural production of testosterone. First. Is there a testosterone level in men where you start to get concerned about bone health, where you think, okay, I mean, obviously there's a lot of different reasons you might put a man on a testosterone therapy, but from a bone, how specifically do we know?

00:20:19:07 - 00:20:22:01
Dr. Jaclyn Smeaton
Is there a threshold where you're like, okay, we're really worried about this now?

00:20:22:01 - 00:20:37:12
Dr. Doug Lucas
Yeah, I mean, there's a couple ways to look at this. So one is just testosterone in general. If you say, well, what's the threshold of testosterone? And we really don't know. But I don't know that it's the testosterone level that's as important as the estradiol level. And that conversion, that aromatase ation is going to vary from person to person.

00:20:37:12 - 00:21:01:23
Dr. Doug Lucas
So, you know, I look at estradiol levels when I'm considering testosterone replacement or something, some, you know, some kind of therapy for men. And a lot of times you will see a man that have, you know, what would be considered

adequate, you know, for hundreds, five hundreds, testosterone. Not bad. Total testosterone. But they'll have a really low estradiol like estradiol under 20, which is going to be, you know, slow, even according to the reference range.

00:21:02:04 - 00:21:20:21
Dr. Doug Lucas
So that's a low level of estradiol, which you, I would think would lead to bone loss. But again, this isn't really well studied. I can't say that for sure. You know, so that's frustrating. And then you could also look at free testosterone and say, well, if it's in, you know, whatever the lower tertile of the reference range, then probably this is low and going to have a negative impact on bone.

00:21:20:21 - 00:21:22:23
Dr. Doug Lucas
But again, we don't really know.

00:21:23:00 - 00:21:44:13
Dr. Jaclyn Smeaton
Yeah. The studies that I've seen have had kind of mixed results on like testosterone, astrobiology and even sex hormone binding globulin levels that can influence bone health. But what you said is so interesting to me because I think most, even most providers would see normal testosterone with low estradiol as a positive thing, meaning men are over aromatase and or diol.

00:21:44:13 - 00:22:01:20
Dr. Jaclyn Smeaton
And I think that's the concern I hear about more is like, well, yeah, your testosterone looks adequate, but look how much you're aromatase. And this is probably why you're not feeling so good because you know, you want that 10 to 1 ratio of testosterone to diol. And if SPL is too high yeah it might counter the impact or the feeling.

00:22:01:22 - 00:22:05:03
Dr. Jaclyn Smeaton
And that's from your testosterone I mean and it's true. So it gets confusing.

00:22:05:03 - 00:22:24:12
Dr. Doug Lucas

Yeah. But yeah. And that is and that is true. Right. And that it is a balance. I've always been hesitant to, to block anybody's conversion to estradiol, honestly. Now I don't have a large obese population. Most of my patients are underweight. So, you know, I'm not dealing with men that have a lot of visceral and subcutaneous fat that are, you know, massively converting into higher levels of estradiol.

00:22:24:12 - 00:22:44:13
Dr. Doug Lucas
So I don't really see it, but I, I was trained to use aromatase inhibitors to, you know, to pull that back when it was high. Over the last several years, I've just let it roll because I don't find them to be symptomatic. And those higher levels of estradiol especially, you know, 40, 60, these levels are associated with improved cardiovascular function.

00:22:44:17 - 00:23:03:06
Dr. Doug Lucas
Right? Better bone density, lower bone turnover markers, which we need to talk about. So I as long as they're not symptomatic, then I let it ride. But also remember to like, I'm not driving testosterone levels through the roof either. So I don't want I don't want somebody with super physiologic testosterone. I'm trying to optimize their testosterone.

00:23:03:07 - 00:23:22:00
Dr. Jaclyn Smeaton
I think a lot of men do want super physiologic testosterone, where they're coming into the clinics and the and they can get it in certain clinics, too. So I think having a provider who's really knowledgeable about that sweet spot, and for some men, the thing that I think is so tricky about testosterone management in men is you could have a level, let's say a man's at 400 for his total testosterone.

00:23:22:00 - 00:23:40:00
Dr. Jaclyn Smeaton
Some men feel awesome. Other men feel terrible. Like there's more of the picture there. And so it's you can't just approach it with a target in mind. It really does have to be individualized, but unless you have the experience of managing it or the time to like, sit down with men and have conversations around it, it can be tricky to get the dosing right.

00:23:40:01 - 00:23:59:04

Dr. Doug Lucas
Yeah. And remember too, I mean, when you've got a guy that feels really good on a super physiologic dose, just remember that's not it's not going to stay like that. All right. Like that's that's going to come back down. It's just compensating for other things that are going wrong. And eventually those things will catch up to him. So I would you know, I've had some men say, hey, I don't want to back off my testosterone dose.

00:23:59:04 - 00:24:05:14
Dr. Doug Lucas
And I'm like, no, let's put your testosterone where it needs to be. And then let's look for other reasons why you're not feeling good.

00:24:05:16 - 00:24:22:09
Dr. Jaclyn Smeaton
Yeah, that makes a lot of sense. And there can be so much to it. Like even thinking about reasons why testosterone might be low, like for sleep or sleep apnea. I think those get under reason under discovered for men. Oftentimes they come in and they want this quick fix when really the true fix is fixing the root cause problem.

00:24:22:10 - 00:24:47:06
Dr. Jaclyn Smeaton
Whether it's stress, alcohol, you know, who knows what that's driving, that lack of physical activity. And all those things have other benefits with how you feel beyond just supplementing or boosting testosterone. Right? Right. So when you do did talk about estradiol and like if you see 20, that feels too low. Is there, a level of astro diol that leaves you concerned as far as not as far as bone health is concerned, specifically from.

00:24:47:06 - 00:24:48:07
Dr. Doug Lucas
A low perspective?

00:24:48:08 - 00:24:49:09
Dr. Jaclyn Smeaton
Yeah. From a low perspective.

00:24:49:09 - 00:25:00:20
Dr. Doug Lucas

Yeah. I mean, under 20 is concerning. I mean any honestly between 20 and 40 is sort of our sweet spot. But I still I mentioned earlier bone turnover markers. I always like to do hormones with bone turnover markers.

00:25:01:00 - 00:25:01:20
Dr. Jaclyn Smeaton
Tell us more about this.

00:25:01:21 - 00:25:19:13
Dr. Doug Lucas
Yeah. And the reason why is exactly what we're talking about, which is okay, we assume that an estradiol level between 20 and 40 and men is going to look is going to do okay for bone, but we know that it's variable. So it's the same thing with estradiol levels. And women. People talk about this sweet spot 60 to 80 peak for ML okay cool.

00:25:19:13 - 00:25:40:01
Dr. Doug Lucas
But like I see women that have estradiol levels of 20 and are building bone, and I see women that have astro diet levels of 150 that are losing bone. So it can't just be that. And there's more to it. Right. And so, specifically for men, if I'm worried about bone, I will get these bone turnover markers. And there's two blood markers that we use.

00:25:40:01 - 00:26:02:11
Dr. Doug Lucas
One is called CT and the other is called P1NP. And CT stands for c tell a peptide. And it is a biomarker of bone breakdown. So it comes from the osteoblasts. Conveniently all starts with a C. And so the osteoclasts release CTCs when they're breaking down the collagen. And you can measure that in blood. The osteoblasts secrete p1 and p p1 and p2.

00:26:02:11 - 00:26:26:04
Dr. Doug Lucas
Then is the building marker. And so now we have two markers that we can measure in blood at the same time. And we can use a comparison of one to the other to understand what's happening with bone metabolism. This is a topic I talk about all over the place, because it is such an important tool for people that are on a bone health journey, because we all know that Dexa is not a great imaging modality, takes forever to change.

00:26:26:04 - 00:26:43:06
Dr. Doug Lucas
It has a large margin of error. You're not going to see considerable change really in two plus years. So any kind of intervention that you're going to do, you're going to have to wait two plus years to see if it's working. Are you kidding me? So these bone turnover markers, while not perfect, can help us to understand what's happening in the interim.

00:26:43:10 - 00:26:48:06
Dr. Doug Lucas
And this has been massively helpful in our population of people who are on their bone health journey.

00:26:48:07 - 00:27:04:15
Dr. Jaclyn Smeaton
Yeah, it's super important because it does give you that snapshot in time of like what's happening metabolically. So I'm really glad that you brought that up because it is. How much time does it take? If you did a baseline measure and then you initiated a therapy, like what's a typical wait time for you to repeat that and actually see, is this therapy working.

00:27:04:16 - 00:27:21:06
Dr. Doug Lucas
Yeah. It's weeks I mean CTCs changes really quickly actually the osteo class are much more responsive. There's even diurnal variation of CTCs. So if you're going to use these things make sure you follow a protocol. Morning fasted. You know as many of the same variables as possible covered P1 and P takes a little bit longer to change.

00:27:21:07 - 00:27:32:13
Dr. Doug Lucas
Osteoblasts are a little bit more sluggish to change. And so that's why we would wait weeks, you know, generally like a six week interval as is easy to, to use. But six weeks is so much faster than two years.

00:27:32:15 - 00:27:33:15
Dr. Jaclyn Smeaton
So sure.

00:27:33:15 - 00:27:34:01
Dr. Doug Lucas
Isn't it.

00:27:34:01 - 00:27:45:05
Dr. Jaclyn Smeaton
So can you think about the investment of like, is this enough? You know, if eight weeks later you can be like, this is not enough, let's add more weight, then you know, you're not waiting two years to be like, oh, sorry. That was, you know, wasted, right?

00:27:45:06 - 00:28:03:19
Dr. Doug Lucas
Oops. We didn't we didn't get there. Yeah. And so I mean let's go back to the hormone piece. So let's say we have a guy who's testosterone, let's say it's 500. Right. But his free testosterone is like mile 12. And his estradiol is let's call it 22. Like, are his bones protected? Well, if we get a CT and it's 600, the answer is no.

00:28:03:21 - 00:28:18:21
Dr. Doug Lucas
Now you want to get the p one in P and just see, like does you have high bone turnover bodies building or is his CT really high. So high that it's really breaking down bone and his ratio is low. You know, like that's how I want to look at hormones and bone health together to get a more comprehensive picture.

00:28:19:00 - 00:28:32:14
Dr. Doug Lucas
Because that picture of a man losing bone with okay, levels of total testosterone, but lower levels of free, that person is someone that I would talk to about doing again, something I don't know if it ends in replacement, but it's something. It's a consideration.

00:28:32:16 - 00:28:50:03
Dr. Jaclyn Smeaton
In a way. It's reminded me a lot of like the DUTCH test itself, where you have, you know, you're looking at parent hormone levels and you're looking at metabolites. And in a way it's a little bit different, but you're looking at rate of building and rate of

loss. And ultimately you need to see both of those measures to see, well, let's use the bathtub analogy that Carrie Jones made famous.

00:28:50:03 - 00:29:00:11
Dr. Jaclyn Smeaton
Right. Like how much is filling the tub? How much is draining the tub? You really need to know both of those to know how much water is going to be in the tub. And that seems like a similar comparison with bone health.

00:29:00:12 - 00:29:17:01
Dr. Doug Lucas
Yeah. I mean, I think DUTCH is actually a great example of looking at hormones together, right? Like you, you're creating a panel, you're looking at how things are balancing together. What is the ratio of this versus that, rather than a single lab value which can be misinterpreted?

00:29:17:03 - 00:29:38:22
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00:29:39:00 - 00:29:47:11
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00:29:47:13 - 00:29:55:07
Dr. Jaclyn Smeaton
Let's talk a little bit more about that. Like, what do you get out of a more full hormone workup compared to like a single testosterone number on its own?

00:29:55:09 - 00:30:02:09
Dr. Doug Lucas
Yeah. I mean, gosh, I, I am very familiar with the conventional model of just looking at total testosterone.

00:30:02:12 - 00:30:03:03
Dr. Jaclyn Smeaton
Right.

00:30:03:05 - 00:30:27:01
Dr. Doug Lucas
Right. And I mean, I get it. It's it's inexpensive. It does overlap with symptoms relatively well. So I understand the approach. But it leaves so many men not treated, especially right now where the true hypo gonadal you know, criteria cutoffs are at 300 or less, right. For total testosterone. There are so many men that have testosterone in that four hundreds, five hundreds that are symptomatic.

00:30:27:03 - 00:30:50:11
Dr. Doug Lucas
They don't necessarily need replacement. But understanding what's happening with their testosterone is really important. You mentioned it earlier right? So are they over aromatase going to estradiol right. Are they not benefiting from the testosterone because they're aromatase. You get to estradiol likely because of excess fat organo or inflammation. Do they have really elevated FPG sex hormone binding globulin so that they're binding that total testosterone.

00:30:50:11 - 00:31:15:05
Dr. Doug Lucas
And they don't have very much free testosterone? If you don't measure it, you don't know. And then you can, you know, if you really want to deal with this a natural way, like you take a step backwards from testosterone. You look at DHEA, what's happening with DHEA, what's happening with the full cascade of androgens, you know, from those precursors and, you know, looking at that on a DUTCH can be helpful to understand what's happening with the entire production of hormones or the metabolism of of those hormones.

00:31:15:05 - 00:31:21:04
Dr. Doug Lucas
Right. How are they being metabolized? Are you seeing side effects from androgens, whether you're on them or not?

00:31:21:06 - 00:31:38:23
Dr. Jaclyn Smeaton

Yeah, I love that. And I think one of the things that I think is great that we did with DUTCH in the last couple of years is bringing five alpha interesting dial to the cover page, which is for those of you who are new to it, it's a downstream metabolite of DHT, which is a metabolite of testosterone, actually three times stronger than testosterone.

00:31:38:23 - 00:32:09:19
Dr. Jaclyn Smeaton
But the problem is it only is made inside the cell, and DHT doesn't leave cells very efficiently. It converts to five alpha andro and then leaves the cell as five alpha andro. And I like that because you're actually able to see what's happening intracellular Lee at the androgen receptor in a way that you can't from just looking at total testosterone, for sure, but even implying what is happening from free or from the total of sex hormone binding globulin and total T, you actually can see what's coming out of out of the cells like metabolite after metabolism has happened.

00:32:09:22 - 00:32:19:12
Dr. Doug Lucas
Yeah. And people say like, oh, I'm experiencing symptoms, you know, should I measure DHT? And I'm like, well, I'm in blood. It's not like it's not a very good measure because it doesn't really track well with symptoms.

00:32:19:14 - 00:32:36:12
Dr. Jaclyn Smeaton
Yeah. Well, if you have high DHT in your blood, then you probably have really high DHT in your cells because only a small amount of it actually leaves. It has to be measured in urine as five alpha andro. But it's one of those things that now there's been more and more data on that metabolite to support us bringing it to more prominence since when DUTCH first came out.

00:32:36:12 - 00:32:57:21
Dr. Jaclyn Smeaton
But I certainly find that interesting, and I wonder if we'll start to see studies come out on five Alpha andro more. When it comes to like clinical correlation with symptoms, we know that we do see it in women with PCOS, PMS. It's the only androgen or androgen metabolite that the reference range is completely separate between women with PMS and women who don't have PMS.

00:32:58:02 - 00:33:14:01
Dr. Jaclyn Smeaton
Every other one testosterone, DHEA, DHEA, sulfate everything else overlaps where you have a rate, a normal range, and a disease date range that overlap. So it's really, I think, very interesting. It's very distinguishing. But we have I haven't seen as many studies in men.

00:33:14:03 - 00:33:14:16
Dr. Doug Lucas
Interesting.

00:33:14:21 - 00:33:34:17
Dr. Jaclyn Smeaton
Yeah. We'll see what happens with that. So when you're looking at hormone levels you know you. Well I really want to hear let me start at the beginning. Like how would you walk me through kind of the clinical experience or algorithm that a man would go through. Like what shows up in your office. Is it that they have a fracture or they have multiple fractures?

00:33:34:23 - 00:33:52:03
Dr. Jaclyn Smeaton
That's what tips you off to risk or start me at the beginning of like, how would you identify a man? You know, because I know we talked about lifestyle factors. Maybe they drink, they don't exercise. They sedentary lifestyle, standard American diet. But that's let's say most men, maybe not the ones that come in your practice, but most men.

00:33:52:03 - 00:34:00:08
Dr. Jaclyn Smeaton
How do you filter that through to say, okay, this man has enough risk and then what would the next steps be? Is it Dex's can first, is it lab testing first?

00:34:00:10 - 00:34:08:07
Dr. Doug Lucas
Yeah I mean I'm a fan of screening everyone you know, so when somebody says, hey, I want to get, you know, I want to get a checkup, I'm like, cool. Like, how deep do you want to go?

00:34:08:07 - 00:34:08:17

Dr. Jaclyn Smeaton
Let's do.

00:34:08:17 - 00:34:29:16
Dr. Doug Lucas
It. You're right. Like, where do you where do you want to follow me here. So I think index is just a it's an easy screening tool that honestly, I think we should be using even early in adult life. And I'll just explain why. Because here's the thing. Like I see so many times in our community, especially where we have, you know, with thousands of people with osteoporosis in our community, right?

00:34:29:16 - 00:34:49:13
Dr. Doug Lucas
And they come in and, you know, they're whatever in their 50s, if they're listening to their menopause influencers or they're in their early 60s if they're not, and they got screened for the first time and they have low bone density, right. Let's say they have osteopenia, the T score of -1.5. They're freaking out. And my first question is what do you have a previous scan.

00:34:49:15 - 00:35:07:05
Dr. Doug Lucas
You know almost always never I'm like okay, well like you don't know that you're losing bone. You don't know that you're getting worse. You have a single data point. You don't know what your starting point was, you know. And so for a lot of these women, you have risk factors for bone loss in men. -1.5 starting points. Not bad.

00:35:07:06 - 00:35:32:15
Dr. Doug Lucas
Maybe that used to be worse right. Maybe they're actually getting we don't know. So if you have a starting point and you use bone health as a biomarker of healthspan as a biomarker of health, recognizing that whatever your starting point is, is what you need to hold on to at minimum as you age. Think that's such a more powerful position to be in, especially for women as they're going through their adult life in their midlife, how much do they need to focus on their bones?

00:35:32:15 - 00:35:52:02
Dr. Doug Lucas
Well, if you don't measure, you don't know. And a really important part of that is also something I talk about frequently, which is that if you're losing bone,

something's wrong. And this is very different than the conventional model which would say that, you know we lose bone on average as we age. Therefore bone loss is expected as a part of aging.

00:35:52:04 - 00:35:54:04
Dr. Doug Lucas
I can't agree with that.

00:35:54:06 - 00:36:10:08
Dr. Jaclyn Smeaton
Yeah. It's not like it's like scaffolding that rusts over time at a general rate that we. Yeah I love the way and I want to hear you describe this because we've had a couple of guests on that talk about bone. And some people say it's like diabetes of the bone or like metabolic dysfunction of bone, or it's a result of inflammation.

00:36:10:08 - 00:36:15:06
Dr. Jaclyn Smeaton
Like, how do you talk about this? Yeah. As far as the global the global reasons why people lose.

00:36:15:06 - 00:36:36:20
Dr. Doug Lucas
Bone, it's all of those things. Right. And this is what's so fun about bone and why I love the space that I'm in, is because it allows me to talk about all of these things. Right? Inflammation, you know, poor diet, sedentary lifestyle. You know, you can go down any rabbit hole you want, right? Like every rib, every functional rabbit hole, like, whether it be heavy metals or lime or mold or whatever, there's bone in there somewhere, right?

00:36:36:20 - 00:37:00:08
Dr. Doug Lucas
So we can talk about all of it. I think the most important thing for people to take away, especially practitioners, is to understand that bone loss does not have to be a part of aging, or at least not until maybe the very end. And again, now that we have this massive community, thousands and thousands of people and our YouTube channel, you made this massive comment depository that people are telling us their stories.

00:37:00:08 - 00:37:19:00

Dr. Doug Lucas
Right. The we hear over and over again this success, almost agnostic of age all the way in that young adult life, all the way through 80s and even into 90s, women and men who are improving their bone density, stopping bone loss. If that's true, that we should not accept that bone loss has to be a part of aging.

00:37:19:01 - 00:37:40:16
Dr. Doug Lucas
This is a really important point, because if you can accept that using bone imaging, bone density, bone quality as a metric, as this part of this comprehensive screening of somebody who comes into your clinic, hey, let's figure out what's going on with your bones. And if we have a starting point and we can track it over time, if you're losing bone, we got to figure out what it is.

00:37:40:18 - 00:37:50:19
Dr. Doug Lucas
Maybe it is diabetes of the bone. Maybe it is chronic inflammation. Right? Like whatever, whatever is under the hood that's causing your bone loss needs to be fixed because it's affecting other things too.

00:37:50:21 - 00:38:12:21
Dr. Jaclyn Smeaton
Well, that's I think the key piece because I, you know, my, my clinical backgrounds, fertility and I would say the same thing like we should be screening men with semen analysis when they're in their 30s. And if they're subpar, it is a canary in the coal mine for some other underlying issue that will show up and that there's data on that, particularly in men around all cause mortality, different cancers, cardiovascular disease.

00:38:12:21 - 00:38:39:15
Dr. Jaclyn Smeaton
We know that that is correlated with poor semen analysis earlier in life. So I can hear you saying bone as a similar marker to identify people who've maybe not lived a super healthy lifestyle, or they're just on a path to other chronic diseases as well. And I think this is where, like longevity medicine and prevention really fundamentally are at their core, which is looking at the root causes that are below these diagnoses, which are oftentimes the same causes.

00:38:39:15 - 00:39:07:06

Dr. Jaclyn Smeaton
The same root causes that drive development of so many different conditions later in life. Yeah, yeah. So let's talk a little bit more about Dexa scans before we move on, because there are like commercially available. And I think this is an under leveraged tool. I'm assuming you agree, but maybe you don't. But I think about like I'm in I'm in Boston like every major city has, like we have Boston Dexa and for $99 you can go in and get a VO2 max and a Dexa scan and, you know, they'll go through everything with you.

00:39:07:06 - 00:39:29:10
Dr. Jaclyn Smeaton
And when I think about this is particularly for women, the fact that screening guidelines for Dexa start so late in life, like 65 as far as insurance covered. But we know women lose the most bone in perimenopause like and early menopause, but we are not screening until 65, which is way too late. That's like you're going to have the disease at that point.

00:39:29:12 - 00:39:38:00
Dr. Jaclyn Smeaton
I wish we'd pull it back sooner, but even if not, I think it's like one of the best $100 that you could patent to get this done. Like talk to me about this. You agree?

00:39:38:05 - 00:39:40:02
Dr. Doug Lucas
Oh my gosh, I could talk about Dexa all day long.

00:39:40:04 - 00:39:42:06
Dr. Jaclyn Smeaton
So that's why we're here. Yeah.

00:39:42:06 - 00:40:00:11
Dr. Doug Lucas
I mean, and look, I'm, I, I am a kind of a fan. Like I'm glad that it exists. I'm glad that we have access, especially in major metropolitan areas, like you said, like it's there. Let's use it. It has weaknesses, and I want to talk about those. But first let me just talk about some of these, like these Dexa places that you go to that'll do VO2 Max and a Dexa.

00:40:00:13 - 00:40:20:00

Dr. Doug Lucas
They have to make sure that you're actually going to get a spine and hip bone mineral density. Right. Like make sure they understand that that's what you want, because a lot of times they'll give you a body comp and they'll give you a whole body bone density, which is it'll tell you something, but we can't use it to really understand what's happening with our hip and our spine, which is where we diagnose osteoporosis from.

00:40:20:02 - 00:40:40:15
Dr. Doug Lucas
So just ask the right question, like, can I get, you know, is this going to show me if I have osteoporosis and make sure they can answer that correctly? So I'm glad we have access. Yes, we use it. It's not perfect. And the biggest reason why it's not perfect is because of the margin of error. Or as it's done in Dexa language, it's like or at least significant change.

00:40:40:17 - 00:40:58:22
Dr. Doug Lucas
And that basically is the, the plus or minus or margin of error of the test. And just like in polling, right, we're going into midterms as we're talking, sitting here talking. So like when it comes to polling, if the results of the polls within the margin of error, you do not know that there is anything real in those data, right?

00:40:58:23 - 00:41:17:21
Dr. Doug Lucas
This everybody knows this. So the LSC with Dexa is the same. And I just did a deep dive on this for the second time, because the first time I probably I didn't really report it with enough vigor. But the LSC has reported on a lot of the dexus like scan reports. Right. You get a report, it's in there somewhere.

00:41:17:21 - 00:41:47:23
Dr. Doug Lucas
It says LSC. Usually it's going to say 2.7%. And I won't get into the statistics because I can't remember at all. But basically it has to do with like the margin of error of the test itself and then the circumstances around that test, that 2.7% is a plus or -2.7, let's just call it three to rounded up. So that plus or -3% is under the best of circumstances, a machine that was just calibrated, an operator that knows exactly what they're doing and a positioning of the patient, they don't have any rotation of their spine.

00:41:47:23 - 00:42:07:07
Dr. Doug Lucas
They don't have any arthritis. Other spine. Right. They didn't just consume their calcium supplement that morning. And it's sitting on top of their spine in their gut. Right. It's that 3% is under the best of circumstances when you start adding in other variables, you start multiplying that 3% by another number, and it's usually somewhere between 1 to 2, maybe up to three.

00:42:07:12 - 00:42:28:05
Dr. Doug Lucas
Right? So you imagine you start doing the math, you're like, oh my gosh, a Dexa has a margin of error of is it plus or -3%? Is it plus or -6%? That's a huge swing when you're talking about something that changes at most. For most people, 1 to 2% per year, right? So now we have a test that is testing a change.

00:42:28:06 - 00:42:45:10
Dr. Doug Lucas
And that change is much smaller than the margin of error of the test. And this is a problem with Dexa. It doesn't mean we don't use it because we don't have a better tool that we can use over and over again. It just means we need to understand what it is. And if you see subtle, down, subtle ups, know that that doesn't necessarily mean that what you're doing is wrong or right.

00:42:45:12 - 00:42:51:05
Dr. Doug Lucas
And we need to use other tools so we can talk about other imaging modalities. But this is also where the bone turnover markers come into.

00:42:51:07 - 00:43:06:23
Dr. Jaclyn Smeaton
Yeah, that makes a lot of sense. And I think it's this gets into the what you were saying earlier around like repeating Dexa as more frequently isn't necessarily going to be helpful. You know, you said you need about two years. I imagine part of that is because whatever the small rate of changes is enough to be outside of that.

00:43:06:23 - 00:43:07:12
Dr. Doug Lucas
Right.

00:43:07:14 - 00:43:08:19
Dr. Jaclyn Smeaton
Typical error range.

00:43:08:19 - 00:43:24:09
Dr. Doug Lucas
One one caveat to that. So it's true that if you wait longer, then you will you'll see more change, right? Assuming that it's changing and in one direction or another. Right. So let's say you get a scan every five years. You're like, well, if I change 2% per year, in five years it will be 10% that's outside of the lock.

00:43:24:09 - 00:43:44:16
Dr. Doug Lucas
So that makes sense. And that's true, except that when you only have two scans to compare to, you run the risk of if we say it's plus or -6%. What if you were at the bottom of that, you know, 12% range on one and you were at the top of that 12% range on the other? Well, now that 10% just disappeared, like even a 10% like, oh my gosh.

00:43:44:18 - 00:44:06:18
Dr. Doug Lucas
So the solution to that is to do them more frequently but not too frequently. So like, what's the sweet spot? The sweet spot is probably around every 12 months or between 12 and 24 months. Because if you go out five years with one extra test, it's a huge margin of error. If you have a test every five years for five years, then you have to blend all of that plus or -6% across all five of the test.

00:44:06:18 - 00:44:09:02
Dr. Doug Lucas
And it actually narrows that margin of error.

00:44:09:04 - 00:44:15:22
Dr. Jaclyn Smeaton
Okay, that makes a lot of sense, because you're also going to be catching more kind of within that range to almost get more of a on average or a mean.

00:44:15:22 - 00:44:17:09
Dr. Doug Lucas

Right. You can get a better line.

00:44:17:11 - 00:44:34:10
Dr. Jaclyn Smeaton
Yeah. Makes sense. So when you're talking about let's get back to men and risk factors. So linear, what are the things that would stand out to you that would lead you to say, okay, this man in his general wellness visit, he really needs to have a better workup. And then I want to know, what is that? Is that Dexa.

00:44:34:10 - 00:44:40:15
Dr. Jaclyn Smeaton
Is it? Yeah. You know, that bone marker is bone metabolism markers. Is it hormone panel.

00:44:40:17 - 00:44:56:19
Dr. Doug Lucas
So yes. All of these. All right. So so what are the risk factors. Well again like there are so many I mean it's a it's a huge list. But some of the obvious ones for me are history of fracture I mean that's the number one risk factor for osteoporosis. And fracture is a history of fracture, especially fragility fracture.

00:44:56:21 - 00:45:20:19
Dr. Doug Lucas
And that would be weird in a, you know, a younger man. But it happens, right? I've seen guys be like, yeah, I had this weird, like, spine fracture, you know, from sneezing like, oh, God, I'm sneezing. Yeah, yeah. Like, we need to look at this. So history of fracture, any kind of hormone abnormality, right. If you've had low testosterone, any kind of, like, dysfunction, there, in the testosterone axis needs to be evaluated.

00:45:20:21 - 00:45:49:08
Dr. Doug Lucas
Anything a lifestyle. Right? So poor sleep, high stress. Even now. We just found all men, right? So poor sleep, high stress. History of anything in the gut that's going to result in a decreased, absorption of nutrients, especially celiac disease, but also non celiac gluten sensitivity on down the line of gut dysfunction, inflammatory bowel disease. IBS, all of those things, can result in, you know, poor nutrition and malnutrition, history of eating disorder, body dysmorphia.

00:45:49:10 - 00:46:04:18
Dr. Doug Lucas
All of those things are going to count over-the-counter medications like PPIs, some other prescription drugs, anything with a steroid like prednisone, oral inhaled IV. I could go on and on and on. So basically we screen everyone.

00:46:04:19 - 00:46:22:00
Dr. Jaclyn Smeaton
Yeah, I screen everyone. It's interesting that you bring up eating disorders and mad. And I'm really glad you mentioned this. I think that's like under leverage. And actually just last last week I saw this clip from an interview with Sylvester Stallone who like, talked about how he had bulimia, like during the time of Rocky and all that and like all the pressure to have this perfect physique.

00:46:22:00 - 00:46:39:14
Dr. Jaclyn Smeaton
And I just I'm glad this is coming to the forefront because I think it's an area that's not talked about a lot with men. And the other thing that I would add is on testing, because we see, you know, tens of thousands of reports now, we see a lot of people coming in on GLP ones, and they look like anorexia and bulimia.

00:46:39:14 - 00:47:04:03
Dr. Jaclyn Smeaton
It looks like an eating disorder because you are fundamentally under fueling calorically. So I will just say that, like while it's not a classic eating disorder, the eating pattern or the caloric restriction that we're seeing with it is showing up. Similarly with things like changes to the HPA axis and cortisol clearance rate, like we are seeing signs that look a lot like anorexia and bulimia on the reports.

00:47:04:05 - 00:47:06:05
Dr. Doug Lucas
Yeah, I totally believe that. Yeah.

00:47:06:05 - 00:47:08:08
Dr. Jaclyn Smeaton
And just tying it back to what you said before. Yeah.

00:47:08:08 - 00:47:32:00
Dr. Doug Lucas

And I mean, I think it is I think the body dysmorphia thing, I mean, I in the, the men that I, that I am now colleagues with and in friends with, you know, we are these are men mostly in their 40s and 50s, you know, you know, athletic, successful entrepreneur doctors. I mean, I would say the rate of, of eating disorder, once you actually ask the right questions, it's like 80%.

00:47:32:03 - 00:47:33:12
Dr. Doug Lucas
I mean, it's high. It's super high.

00:47:33:18 - 00:47:41:17
Dr. Jaclyn Smeaton
Yeah. So what would the questions be that you'd like if a man's listening, like what kinds of things would he identify with that would lead him to say, okay, maybe this is a problem for me.

00:47:41:20 - 00:47:43:16
Dr. Doug Lucas
Yeah. And I'm not an expert in this space.

00:47:43:17 - 00:47:48:09
Dr. Jaclyn Smeaton
I know you're not an expert. This is again, this is more just because that's a shocking statistic and.

00:47:48:11 - 00:47:49:05
Dr. Doug Lucas
It's so high.

00:47:49:05 - 00:48:06:21
Dr. Jaclyn Smeaton
I mean, I also believe it because I think it's the same across the board with like, women in our field who want to be looking great and taking care of themselves. It's a fine line between the discipline that's required to have the physique you want to put forward and like tipping over the edge where it's too much, right?

00:48:06:21 - 00:48:25:04
Dr. Doug Lucas

Yeah, I mean, I, you know, again, I'm not an expert in this space, but when you start asking questions about like, you get into lifestyle, right? And you get into like how, how disciplined are you talk to me about you're actually eating, you know, and especially when you hear like, like benching behavior, you're like, it's interesting. You're like, you know, what happens after you band?

00:48:25:04 - 00:48:41:11
Dr. Doug Lucas
You like people. They'll tell you like, oh, yeah, you know, like, sometimes I purge sometime, you know, like, I, I will not eat for days. I'll do a three day set. And I say they're like, oh, I'll do an extended fast. My cool. And then what happens are like, oh well then I, you know, I feast, I'm like, wow, I like that's okay.

00:48:41:12 - 00:49:10:17
Dr. Doug Lucas
That's not really healthy. And and then you get into like the real diagnosable anorexia and bulimia. And I think exercise bulimia is totally a thing. I see lots of guys are in that space. And the body dysmorphia thing is real too. And I can I can spot that in my way. You know, the guys that just like, are so hard on themselves about their appearance and how they don't look like, you know, whatever the I figure on Instagram, and they look and they look amazing, you know, and it's like, wow.

00:49:10:17 - 00:49:17:09
Dr. Doug Lucas
Like you really don't see it. And, it's sad because I think that these guys do drive themselves so much harder than they need to.

00:49:17:11 - 00:49:25:15
Dr. Jaclyn Smeaton
Yeah. And it has lasting health impacts, which is like bringing it back to bone. But so many other negative health impacts as well, just like it does for women.

00:49:25:17 - 00:49:26:06
Dr. Doug Lucas
Right.

00:49:26:08 - 00:49:32:22
Dr. Jaclyn Smeaton

Yeah. Yeah. Okay. So we've talked about some of those risk factors. What would be the next step for the workup.

00:49:33:00 - 00:49:52:22
Dr. Doug Lucas
Yeah. So getting an imaging I mean Dexa again is easy. The other imaging modalities that are out there one is called Rams, which is by the company Echo Light. And it's an ultrasound device that can also give you a T score like a Dexa. It'll also give you a fragility score, which is a measure of quality, which is nice, just not as well studied as Dexa.

00:49:52:22 - 00:50:08:20
Dr. Doug Lucas
It's not covered by insurance. It's going to be, you know, 2 to 3 times more expensive. So generally, I'm not having people do a Rams on their own. I'm having them do it in addition to Dexa. So it's not a replacement at this point. And then outside of that, those are the two imaging modalities we're going to use.

00:50:09:00 - 00:50:25:00
Dr. Doug Lucas
There is a CT version like a biomechanical CT, but I'm not sending anybody to get a CT just for that. And then I like to do a comprehensive hormone panel. So out of the gate, you know, looking at all of the potential risk factors, right. As many, as many largest lab core will let me get in one ladder.

00:50:25:03 - 00:50:50:15
Dr. Doug Lucas
Right. Let's just push the boundaries there and let's look at everything from an inflammatory perspective. Cardiovascular risk. You know, any other nutrient, labs that we can get, you know, homocysteine, a lot of these things because everything overlaps dementia prevention, cardiovascular prevention, osteoporosis prevention, they all overlap. I mean, by a ton. So we start with those, and then we also will have them meet with a dietitian.

00:50:50:15 - 00:51:01:18
Dr. Doug Lucas
That's part of our initial workup just to like have them track food for a week, get a sense of what they're consuming, and have them meet with a dietitian to sort of set the stage for what's going to come next.

00:51:01:19 - 00:51:19:12
Dr. Jaclyn Smeaton
Oh, I have a really interesting question for you. And I heard this from another friend of mine who was a surgeon, bone surgeon, and he had said that there were times in his surgical practice where he could actually see the poor quality of the bone, like it was like spongy, like a marshmallow, or putting a pin in it.

00:51:19:12 - 00:51:31:09
Dr. Jaclyn Smeaton
It would like be crumbling around the pins like, does that something that was real in your practice too, that you could, like, really see bone quality, even from just the naked eye? As a surgeon?

00:51:31:11 - 00:51:53:04
Dr. Doug Lucas
Yeah. It really teaches you a lot about about the body. I mean, even just cutting into the human body, I mean, there are certain bodies that just feel oily, right? There's just like blood feels different from one person to another. Sometimes it's really sticky. Sometimes it's really slimy. Adipose tissue can feel different and burns the same. I agree.

00:51:53:07 - 00:51:55:20
Dr. Doug Lucas
And the the marshmallow bones. The worst.

00:51:55:22 - 00:52:00:01
Dr. Jaclyn Smeaton
It's the worst. Gary, that was shocking. I'm like, really? They're like that. Like you could actually press into it.

00:52:00:03 - 00:52:17:17
Dr. Doug Lucas
No, it's terrible. Yeah. Yeah. I mean literally you push into it with your finger. Right. And it's like, you know, it's like, oh wow. You know, let's get out the locking screw set and let's we're going to use that. You know I've used the word pens. I've never understood that. But screws that lock into the plate to try to like lock this thing into position.

00:52:17:17 - 00:52:34:15
Dr. Doug Lucas
And then we have to keep them off of it, you know, for a long time so they can heal. So there's marshmallow bone, and then there's also like dust bone and dust. Bone is also scary. And this is the type of bone that when you try to screw into it or drill into it, it just breaks, you know, it's just like chalk.

00:52:34:17 - 00:52:36:20
Dr. Doug Lucas
And so, yeah, all those things are real.

00:52:36:22 - 00:52:48:16
Dr. Jaclyn Smeaton
That's scary. I mean, if anything shakes you in this podcast, listening to that, it should be that if if my bones ever break and I need surgery, I want them to be as strong as I imagine them to be.

00:52:48:18 - 00:52:57:06
Dr. Doug Lucas
Yes, bones. Amazing. I mean, it's an amazing organ. But if it's not taken care of, it will fail.

00:52:57:07 - 00:53:12:14
Dr. Jaclyn Smeaton
Now, when it comes to therapeutics for improving bone health, can you give us just the high level of your top things that you think about generally? And then I'd love to know if there's anything that's unique to men versus how you, a woman, might think about bone health.

00:53:12:16 - 00:53:16:19
Dr. Doug Lucas
Yeah. And mean from a therapeutics perspective of referring, like all things hormone.

00:53:16:23 - 00:53:38:19
Dr. Jaclyn Smeaton
Like starting with lifestyle factors. You know, I think, you know, we can talk a little bit about pharmaceuticals. Our audience probably wants to know more about natural things like, yeah, yeah. Is calcium as good as we think it is or are there other things

like strontium comes up a lot? So what are the things that you really like or maybe what myths that people might come across on the internet where you're like, NAB this, really don't give this as much credit.

00:53:39:00 - 00:53:42:01
Dr. Doug Lucas
As yeah, this is it's a it's a crazy space. The marketing.

00:53:42:01 - 00:53:42:18
Dr. Jaclyn Smeaton
Another hour.

00:53:42:23 - 00:53:59:04
Dr. Doug Lucas
We do. We seriously do. I mean, the marketing and bone health is so strong because the audience of people, especially of women with osteoporosis, they are they are rejecting the conventional model. They're rejecting the pharmaceuticals. Bisphosphonate drugs are one of the most refuse drug classes on the market.

00:53:59:04 - 00:54:00:18
Dr. Jaclyn Smeaton
What do you think about that?

00:54:00:20 - 00:54:19:21
Dr. Doug Lucas
Well, I think what's it really important for, you know, for a functional or, you know, naturopathic practitioner to understand is that we shouldn't turn our back on these drugs. There is a time and a place for all of them. Yes, they're over utilized. Yes, they have side effects. Yes, they have risks. But they are powerful tools that can be used under the right circumstances.

00:54:19:23 - 00:54:38:05
Dr. Doug Lucas
And so what I, what I don't like about the bone health space right now is that you have the, you know, like the functional practitioners who say, never, ever would I ever use a pharmaceutical. And then you have the endocrinologists that say, well, don't ever, ever listen to what Doctor Doug says, because it's all genetically driven anyway, and all of the patients are left in the middle.

00:54:38:07 - 00:54:42:23
Dr. Jaclyn Smeaton
I hate that I, I couldn't agree more with just that generally in our field.

00:54:43:04 - 00:55:03:10
Dr. Doug Lucas
Right? Right. Yeah, I agree, I love to write a book on that. But, when it comes to the therapeutics, I mean, we start with lifestyle. Just like any integrative approach. It's lifestyle driven. These are lifestyle problems. They should be lifestyle solutions. The, I'll just run down the list and you tell me, stop me when you have a question.

00:55:03:12 - 00:55:20:18
Dr. Doug Lucas
But when it comes to food, the most important thing I tell people is that I'm not here to change anybody's beliefs. I just want you to understand what the research shows, which is that if we want to build muscle, you have to eat adequate protein. And when it comes to research on bone, the more protein you eat, the better bone density you have.

00:55:20:18 - 00:55:37:05
Dr. Doug Lucas
It's just that simple. So I'm not going to tell you what you can and can't eat, but you have to eat adequate protein. And we aim for around 0.8 to 1g per pound of ideal body weight, which is more than the vast majority of you are eating. And that's okay. We can work our way up to that.

00:55:37:06 - 00:55:57:15
Dr. Doug Lucas
But that's the most important thing. And then outside of that, I don't talk much about diet, because if you just fix that one thing, then probably everything else is okay. And then the exercise piece, this is where, like, there's so many gadgets and gizmos and, and like, lots of fun influence or funny things to talk about.

00:55:57:17 - 00:56:18:13
Dr. Doug Lucas
But the simple piece is we need high intensity resistance. This was shown best in the Livermore trials by a Doctor Blunt back, high intensity resistance and impact. That's how you build bone and muscle, but that's how you build muscle. And bone doesn't

necessarily mean quote unquote lift. Heavy high intensity for you is whatever high intensity is for you.

00:56:18:15 - 00:56:40:02
Dr. Doug Lucas
Impact is literally impact. And it doesn't have to be jumping. We don't need I don't want 80 year olds jumping off of boxes, but something to stimulate bone. And that could be something as simple as a heel drop. Or it could be simulated impact through like whole body vibration or through osteo genic loading or ways around that that have okay data, but some kind of impact to go along with your high intensity resistance.

00:56:40:08 - 00:56:55:15
Dr. Doug Lucas
Does everybody need to wear a weighted vest? No. Does everybody need like, you know, oh gosh. There's some really interesting devices out there, but expensive devices to sort of simulate these things. No. They're fun. Some of them work. But just like start with the basics.

00:56:55:17 - 00:56:57:15
Dr. Jaclyn Smeaton
You you start by like, getting off the couch and going for it.

00:56:57:15 - 00:57:19:00
Dr. Doug Lucas
Yeah. Right. Sleep is critical. I'm sure you've talked about sleep plenty. We don't have to talk about that, mindset, I think, is probably the most important piece. Right. Because the decisions you make, the way that you're thinking about these things are critical just from day to day, minute to minute decision decisions around food and movement. So that's our foundation.

00:57:19:02 - 00:57:42:18
Dr. Doug Lucas
On top of that foundation is hormone optimization. Now, not all women are candidates for HRT or want to have HRT. That's fine. Not all men are going to be candidates for testosterone, but there's so many tools that we can use to improve either natural levels or we can press on receptors through potential like supplements for post-menopausal women. But there's ways that we can do this and optimize to the best of our ability.

00:57:42:20 - 00:58:01:15
Dr. Doug Lucas
And then on top of that, we start talking about supplements. And then on top of that, I talk about pharmaceuticals. For those women that still need it, women and men that still need it at that point. And honestly, by the time I get to them, the vast majority of them do not. And that's the difference between an integrative approach and the conventional approach.

00:58:01:17 - 00:58:19:10
Dr. Jaclyn Smeaton
That's awesome. Well, this has been really eye opening and I think just in wrapping, like what do you wish more providers and specifically like functional and integrative providers, what do you wish they understood about like connecting hormone data to bone health, particularly for men?

00:58:19:12 - 00:58:40:06
Dr. Doug Lucas
Yeah. So first things first, screen everybody for bone because I think we're I think we're seeing a lot of it that we're just not seeing. I think it's out there. And then when it comes to hormones, understand that in the hormone space for women, even though we're having this, you know, this magic menopause moment, still very few women are actually on therapy.

00:58:40:06 - 00:58:45:04
Dr. Doug Lucas
They could be on therapy. I think the estimation right now is that we went from 4% to 7%.

00:58:45:06 - 00:58:49:08
Dr. Jaclyn Smeaton
I know it's deliberate, and I think it was about 30% before okay.

00:58:49:11 - 00:59:07:18
Dr. Doug Lucas
In the 90s. Yeah, I think it was around there. So we have a lot of work to do on education now. We have to be careful. We can't say that we treat osteoporosis with hormone replacement therapy or with estradiol specifically, but we know or at least I can tell you, that there's tremendous impact on bone metabolism with hormones.

00:59:07:20 - 00:59:29:21
Dr. Doug Lucas
You can use them with conventional bone drugs. You can use them without. I've seen reversal osteoporosis with estradiol alone as an intervention. Again, we weren't using it for that. We just saw it. So they're very, very powerful. For men, testosterone is the sex hormone that you're going to treat with. And that is going to result in the adequate estradiol levels.

00:59:29:21 - 00:59:38:11
Dr. Doug Lucas
And for men with osteoporosis, this is an absolute must to optimize with replacement or some kind of a tool to get their levels optimized.

00:59:38:13 - 00:59:51:17
Dr. Jaclyn Smeaton
Awesome. Well, what a good rundown. I really appreciate you spending this time with all of us today sharing your expertise on a population that for osteoporosis, really, we don't talk very much about. And I've learned a lot today. So thank you for being here.

00:59:51:21 - 00:59:53:17
Dr. Doug Lucas
Yeah. Well thanks for having me I appreciate it.

00:59:53:19 - 00:59:58:19
Dr. Jaclyn Smeaton
Now, if people want to learn more about your practice or follow you, what are the best places for them to connect with you?

00:59:58:21 - 01:00:22:10
Dr. Doug Lucas
Yeah. So the, website actually that we just finished, I believe, is doctor Doug lucas.com. And I'm going to prove that while we're talking because we just updated so that we had one place to go to. And yeah, that's true. So doctor Doug lucas.com will get you to our community called the OsteoCollective. Or if, you're interested in more about the other things that we're doing, it'll do that as well.

01:00:22:12 - 01:00:35:09

Dr. Doug Lucas
And then if you want to learn more about the topics, the topic osteoporosis, just go to our YouTube channel or our podcast, The Doctor Doug Show, which is a longevity through the lens of bone health or longevity through bone health or something like that.

01:00:35:11 - 01:00:39:12
Dr. Jaclyn Smeaton
Awesome. We'll make sure we put all the links to show notes about social social.

01:00:39:12 - 01:00:41:11
Dr. Doug Lucas
It's doctor underscore Doug Lucas on everything.

01:00:41:15 - 01:00:58:12
Dr. Jaclyn Smeaton
Well, thank you so much, Doug, for joining us today on the podcast. And thanks to all of you who are listening. I hope you found this conversation to be as fascinating as I did. I want to just remind you, if you like conversations like this, to click subscribe and you can listen to our podcast every Tuesday when we release a new episode.

01:00:58:16 - 01:01:10:08
Dr. Jaclyn Smeaton
We hope you'll join us every week. And also, I encourage you to follow us at DUTCH Test across all the socials or visit us at DUTCH test.com. Thank you so much for joining. We'll see you next week.

01:01:10:10 - 01:01:22:22
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