**59 - Osteopenia and Osteoporosis**
BioBalance Podcast — Dr. Kathy Maupin and Brett Newcomb
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Dr. Kathy Maupin: Welcome to the BioBalance Healthcast. I'm Dr. Kathy Maupin.

Brett Newcomb: And I'm Brett Newcomb and today we're going to be talking about osteopenia and osteoporosis and why it is preeminently a feminine disorder.

KM: Yes. 10 million people in the U.S. have it and most of them are women, 8 million of them are women.

BN: Yea so 80% of the people that suffer from it are females. So I guess to have a cogent discussion we have to start by defining our terms.

KM: Not saying how unfair it is to be a woman.

BN: Well we can move quickly over that.

KM: We get osteoporosis too and we have the kids.

BN: He said.

KM: In any case what is osteoporosis basically should be discussed as some people may not know what we're talking about. Osteoporosis is a thinning of the bones and we measure bone density to see if your bones are thin or not against 29 year old females.

BN: I have really thin bones.

KM: You do? Really?

BN: I don't think so.

KM: I doubt it. Most men have really thick bones even into their 60's. They start out with bigger bones and thicker bones.

BN: But what you're talking about with women is you do a bone density scan to find out how thick of porous their bones are.

KM: We're looking at the bone that's on the outside not the bone that's on inside with the marrow. So we're looking at the thickness on the outside ring of bone. And so that's done with a bone density machine or a densitometer. And that is a low grade or a low level x-ray, so low that people can stand in the room and not have to be shielded. So it's low level x-ray that tells us how thin your bones are. But they compare us to a young female which is exactly what we should always be compared to because

that's healthy. So they're looking at, we're looking bone density to see who's at risk after we turn 50 of having broken hips, broken bones, disabilities, inability to get around as we get older so it's really kind of looking for a sign to replace something or to get on the stick to get treated when we're younger like 40 something and then we can be healthier when we're older and not be disabled. So that's the whole goal.

BN: So the goal is preventative to identify the people that might be at risk and there are causal factors for that, and to find ways to avoid it. Or if they already are beginning the deterioration process find ways to treat it to restore the bone density. And when we talk about that, or when doctors talk about that they are comparing the test scores that they get on density against a normal, healthy, 29 year old woman. But they compare that data then in what's a called a bell curve. And a bell curve is a statistical standard calculation that's used across multiple mathematical and scientific fields. And basically the contention of the bell curve is that you start on one side at an equal distance from a base line and you go up at a certain predictable point and go across and come down at go off the same measured distance away. So what matters is if you take the center point and you start moving away in brackets so you know where you fall above or below the center standard and they talk about standard deviations. So one measure out from center is one standard deviation, the second measure out is two standard deviations and those are equal brackets. And the reason this matters is to make the distinction between osteopenia and osteoporosis. If you're one to two and a half standard deviations off of normal, if your bone density is that much less than the normal, healthy, 29 year old, then you have osteopenia. And if you're two and a half or more, you actually have osteoporosis.

KM: You were a teacher. Bell curves are what we're graded on.

BN: They used to, modern teachers don't.

KM: Grading on a curve means if you're between a D and a B you're in the basic bell curve. But if you're in the outliers if you're a D or an F, F would be osteoporosis, D would be osteopenia. So I think that's easier visually maybe for people to grasp because most of us have been graded on the curve, which I think is very unfair.

BN: Yes absolutely, well what's so unfair about grading on the curve, using the bell curve is that it guarantees that you have as many A's as you do F's because you have to keep the standard brackets. So you adjust to find the center point, the mean, mode, medium of the middle so that you have the standard deviations. So then you have to have the brackets.

KM: If you have a brilliant class or a sub par class.

BN: Then yes if you have a brilliant class, select peoples, four of them are still going to make F's.

KM: However in bones.

BN: Yes we're not doing education today.

KM: No we're not doing that but we're trying to educate but in a different way. But in bones, if you are in the outlying portion if you're thinner and in the group that's thin and you have osteopenia that doesn't mean you're going to spontaneously break a bone. It means that you are at risk for developing osteoporosis so we need to treat you. If you're in the osteoporosis area, that's pretty bad, you could step off a curb and break your hip your leg. Or you could fall on your hand lightly and break your forearm, which is the most common break of osteopenia and osteoporosis.

BN: Not a hip?

KM: No because most of us first, before we break our hip and we have osteoporosis in the very beginning we are just starting, this is the thinnest bone it was a smaller bone to begin with. The hip is a little thicker. It's getting thin; the first sign is we break our forearm by falling on it. And so that is a sign of osteoporosis. You could be in a terrible accident and have that broken. But if you fall of a step or something and break your forearm, you probably have osteoporosis.

BN: Alright so if I take the test and I'm starting to drift off of normal to the negative side so that my bones are being less dense and we recognize that early, there are treatments for it. So what are the things you can do to prevent the continuing deterioration?

KM: Well there are lifestyles changes, and supplements and everything depends on both what the patients does and what we do for the patient. That's kind of a truism all the time.

BN: So diet and exercise, weight bearing exercise.

KM: You have to exercise with weight, not swimming. So it has to be something like biking or running, walking.

BN: Stairmaster?

KM: Stairmaster, where your weight is on your long bones, or your hip and your legs. That's weight bearing exercise that should be encouraged daily or at least 3 times a week at the minimum, and Vitamin D supplementation. You should get your Vitamin D level above 40 and that sometimes is hard so we have to do blood tests for that. That means that you're going to be able to absorb the calcium in your diet and put it into bone. That's the second thing and then you also have to have calcium. It's kind of like a plant. Everybody says well if I take calcium I'll be fine. Well if you have plant and you put it into a pot of dirt but you don't put it into the sun and you don't put water on it, it's going nowhere. So are your bones. If you take calcium and you don't take Vitamin D and you don't have any hormones, that's another thing we haven't talked about yet, and you don't exercise, you're not going to get your bones back. They're just going to

deteriorate more and more because every year after you have osteoporosis or osteopenia your bones deteriorate 1% per year and as they get smaller that percentage is a bigger number.

BN: So that tick, tick, tick that you're hearing is actually your bone density just falling away.

KM: Not mine, mine's great.

BN: Not yours because you're doing all those things.

KM: Because I'm doing all those things and I take testosterone. So basically getting older is one of the reasons why we have thin bones but also poor diet, poor exercise, and also genetics. Some of us are bone with thin bones; some of us are born with thick bones. Now men are always born with thicker bones than women because they have more testosterone. So they genetically and developmentally have thicker bones. Men also have testosterone longer, and a lot more of it so you rarely see it in men because of that reason.

BN: Yea, when we were preparing this podcast I asked Kathy what's the best way to avoid that and she said "be a man".

KM: And it's true. That's the best way. In any case if we can do all of the things we do in terms of being a patient and then if your doctor can also partner with you and replace your hormones then you might not need the drugs they came out with for osteoporosis because those drugs have a lot more side effects than just replacing hormones.

BN: And they're really starting to see this because we have a comparative treatment and when you only take the Fosamax and that's the only thing that's available, you don't worry as much about what might the side effects be, because you've got to have the treatment. But if there's an alternative that gets good or better results without the side effects, you want to know that. And part of what compounds this problem is that it is a problem of aging, both in terms of the deterioration of 1% a year of the bone structure but in terms of the change in the focus and lifestyle patterns of the individual. They do tend to become more sedentary, they do tend to eat perhaps less well than they should not necessarily out of choice, sometimes out of economics, if people can't afford to do that. They have not only the aging process for bones but also the aging process for hormones.

KM: And that's why your bones start deteriorating when your testosterone drops. So in women our testosterone drops more in our 40's and thereafter so our bones start thinning out between 40 and 50. It's not when we hit menopause although that compounds it because estrogen builds bone as well. So I had to see a doc for rehab. I had lifted too heavy a weight. And my doctor looks at my x-ray and it was a cervical spine which is up here. And he looks at it and he yells to the tech, "this is the wrong x-

ray, this is not Kathy's" and I'm looking at it and he didn't have his cheaters on, and she comes in and says "that's the only cervical spine I've done this morning." So he looks at it really close and he says "your bones are so thick" This is about 7 or 8 years after I started taking testosterone. He said "I can't believe it, I want what you're having".

BN: Which interesting enough is the name of your book.

KM: It's the name of my book. But a lot of people say that, and not just to me but to my patients. In any case I had never taken bisphosphonate partially because I was wary about there's a very rare but very severe problem with jaw bone ossification. Sometimes people lose their jaw bone from bisphosphonate. So I find that to be a risk I didn't want to take. But I did have osteopenia when I was in my 40's before I started taking testosterone because I was on a drug called lupron which put you into menopause years before infertility. So I did have osteopenia but once I got the testosterone at 47, my bones all came back.

BN: You raise an interesting point. If you replace testosterone naturally early enough the beneficial aspect of having testosterone restores the strength of the bone. You were talking off camera about one of the side effects of the drug the bisphosfonate, is that they're starting to have questions about whether or not what looks like a dense bone on the bone density test is in reality a dense bone or if it's more of a crust around the bone but the bone is still brittle and thin.

KM: The medication came out about 15 years ago so we don't have a really long time frame for looking at people but now that they're finding people who have been on this for a long time they're finding that they're still getting breaks. They are still falling and breaking their bones. Even though they're bones look great on a bone densitometer. So the recent studies have proven what I suspected that it wasn't as thick or strong a bone. It looks good on x-ray.

BN: Or at least if there is a legitimate set of questions about it. I mean you're not saying that Fosamax doesn't work and you shouldn't use it.

KM: No. It does work.

BN: You're saying that there maybe some camouflage issues that need to be studied further. And that those issues are not raised by the replacement of the hormones testosterone and estrogen.

KM: That's right, you pick your risks.

BN: You pick your risk. But that's what being a good medical consumer is about. And that's part of what we talk about in these podcasts all the time. It is really, really important for you to be an informed consumer and to have a relationship with your physician so that you can have these conversations to say explain to me, clarify for me,

what are we looking at? How do I understand it. So that you can then make medical choices that are the best optimal for your unique circumstances. It's not one size fits all medicine.

KM: No, it isn't. So I guess most of my patients come in and say "why didn't I hear about osteoporosis up until 15 years ago?" And that's because we didn't have a really good drug besides hormones to take care of it. No one recognized hormones as really the thing that was keeping women's bones better. And we only used estrogen and not testosterone. So basically it became a new interest for physicians. Something they could do to prevent future illnesses. And it was marketed well by the company that made Fosamax and all the other companies that followed they made all the other bisphosphonate, Actenal, and the Sally Fields one, the one that Sally Fields advertises.

BN: So sort of a serendipitous effect of the pharmaceuticals discovering you know what this medicine solves this problem, is that then allowed doctors to say "this is a problem that we need to be conscious of because we can treat and repair or prevent issues from arising."

KM: And so in that way it was really good. It educated the public by putting their marketing on television. And people started asking questions and doctors started checking with the bone density machines how the bones were in all their patients over it used to be 45 and now it's 50.

BN: Kind of like how the space program lead to the invention of Tang.

KM: Not exactly, well okay. I forgot about that. That just told everybody how old you are.

BN: I have some dense bones. But if you have questions about osteopenia and osteoporosis then you should get information about it. You can talk to your physician about it, you can do some research. If this podcast is not giving you the information that answers your questions and you want to contact us directly to get better answers you can do that, and how do they do that?

KM: You can go to my website at BioBalanceHealth.com or you can email us at podcast@bioblancehealth.com or you can call my office at 314.993.0963. We'd be glad to see you.

BN: And you can always reach me at Brettnewcomb.com. Thank you.