

Radio Voice: This is an MKMG Health Talk with the Mt. Kisco Medical Group. Join us each week at this time as group president Dr. Scott Haworth and group specialists discuss health issues that affect you and your family. Now, here's Dr. Scott Hayworth.

Dr. Scott Hayworth: Good morning, it's Dr. Scott Hayworth and we're here at the MKMG Health Talk with the Mt. Kisco Medical Group. Our call number is 914-242-1446 and you can feel free to use that number all week long if you need advice on choosing a doctor for you or your family I can help you do that or if you have questions or advice for future shows, recommendations, we love to hear them, so feel free to use our number 914-242-1446. Today's guest is Dr. Caroline Messer who's an endocrinologist with the Mt. Kisco Medical Group and she's at Mt. Kisco Medical Group offices and she's going to discuss osteoporosis which as many of you here on TV advertisements definitely disease that's talked about a lot so welcome care.

Dr. Scott Hayworth: Thank you, Scott.

Dr. Scott Hayworth: We're happy to have you. Why don't we start off with what is osteoporosis?

Dr. Caroline Messer: Well osteoporosis is a disease in which both the quality and density of the bone is reduced and then the risk of fracture is increased as your bones become more fragile. It's often referred to as the silent disease because there are really no signs that it's occurring until you have your first fracture. Osteoporosis can affect any of the pumps in the body but most often affects the hip, the wrist, and the spine.

Dr. Scott Hayworth: And I as a gynecologist I see Number of women with osteopenia and osteoporosis why don't you explain what osteopenia is?

Dr. Caroline Messer: Sure, I'm going to talk more about the bone density test later on. Osteoporosis is more severe fragility of the bone, while osteopenia is slightly less severe. I'm going to discuss t-scores later on what we discuss bone densities.

Dr. Scott Hayworth: Great, so what are some of the risk factors for osteoporosis?

Dr. Caroline Messer: So we have hormonal changes as we age. At the age of 40 we no longer replace bone tissue as quickly as we lose it, but things get even worse as you go through menopause, you produce dramatically less estrogen and so you don't benefit from estrogen's protective effect on bone. But there are also a number of other risk factors that place you at increased risk for developing osteoporosis. For example if you are a very thin, small woman with a small body frame under 127 pounds, if you have a family history of osteoporosis, if you're Caucasian, or Asian, and then of course various Eating Disorders, anorexia for example, really increases your risk. Celiac disease, Crohn's disease to name a few, various medications, glucocorticoids, women who haven't had their periods for more than a year are at-risk. Patients who have diets that are low in calcium, vitamin D, if you're over 60 or inactive, you're drinking, your smoking all these things can lead to osteoporosis.

Dr. Scott Hayworth: Now it can be men as well as women can't it?

Dr. Caroline Messer: It can be men as well as women. And in men when you have low testosterone levels at this can place you at increased risk.

Dr. Scott Hayworth: So how does a woman or man prevent osteoporosis?

Dr. Caroline Messer: Well some of the most important treatments for osteoporosis don't even include medications just dietary modifications, exercise and not smoking. So an optimal diet for preventing and treating osteoporosis includes eating an adequate number of calories so that you're not underweight and consuming the recommended amount of vitamin D and calcium. In terms of calcium I generally recommend that men and premenopausal women should have at least a thousand times a day. Postmenopausal women who are not on estrogen should get 1500 mg a day and that can be either through calcium supplements or from calcium in your diet. Most people don't get enough calcium in their diet and have to have calcium supplements as well, but the main dietary sources of calcium are dairy products and green vegetables. In terms of vitamin D experts recommend 800 international units of vitamin D. I generally give my patients a little more, maybe a thousand international units. Milk is the primary source, in one cup of milk you get 100 international units, so you'd be drinking a lot of milk if you're trying to get all your vitamin D from milk. You can also get vitamin D from sunlight, 10 to 15 minutes, two to three times a week should give you an adequate sufficient store of vitamin D.

Dr. Scott Hayworth: What are some other sources of vitamin D?

Dr. Caroline Messer: Well, you can get vitamin D in some food, but they're very small amounts and so we generally say it's just sunlight, milk, and supplements.

Dr. Scott Hayworth: And calcium, do you have a recommendation what type of calcium?

Dr. Caroline Messer: Sure. It's not so much the type of calcium, but the amount of elemental calcium that you're getting. So we have calcium carbonate, and calcium citrate, and they each have different amounts of elemental calcium depending on which brand do you use. Calcium carbonate needs to be taken with meals, versus calcium citrate which can be taken anytime of the day, but really, like I said, it boils down to how much elemental calcium is in your supplement.

Dr. Scott Hayworth: And with D, I guess it's very hard to, in the winters up here in the Northeast, to get it from sunlight?

Dr. Caroline Messer: Absolutely. Almost every patient when I measure their vitamin D levels, is low up here in the Northeast. In addition when you're overweight that vitamin D gets stored in your fat and so that tends to make your vitamin D levels even lower. I'm not sure I've ever had a

patient who's had adequate vitamin D stores without taking supplements, adequate being defined as a level greater than 32.

Dr. Scott Hayworth: I know, I always recommend citric alcase D to my patients. Now is the D in there enough vitamin D or they need additional D?

Dr. Caroline Messer: If you're just taking it once a day it wouldn't be adequate but twice a day depending on your levels could be adequate. If you're have a severe deficiency then I recommend 2000 units a day or more, in which case you'd need more vitamin D and you could find even if you were taking citracal could twice a day.

Dr. Scott Hayworth: Now D like citracal, these are over-the-counter drugs

Dr. Caroline Messer: Yes we do have a vitamin D that's not over the counter it's called Ergocalciferol, it's taken once a week and we generally reserve that for more severe vitamin D deficiencies.

Dr. Scott Hayworth: So you mention calcium should be taken with meals, it depends obviously on which calcium supplement, certain types of day better?

Dr. Caroline Messer: No it really doesn't matter what time of day you take that medication. What's important is, it's hard to absorb calcium in amounts greater than 500 mgs. So if your doctor's prescribing 1500 mg for example, then we'd like it to be divided into three doses, that way it's only 500 mg each time. But you can take that medication whenever you want during the day as long as it's divided doses, and then also you should remember that other medications interfere with the absorption of calcium. So if you're taking certain antibiotics, or blood pressure drugs, discuss with your doctor to see if perhaps you should be taking them separately from your calcium.

Dr. Scott Hayworth: There's so many different types of calcium, carbonate, as we mentioned, citrate, lactate, gluconate, how do you know which one to take?

Dr. Caroline Messer: Well you can really discuss it with your doctor. Certain patients who are taking medications called proton pump inhibitors might have to be on one type of calcium versus the other. But really like we said before, what's most important is the amount of elemental calcium if you look on the bottle you might be confused by the weight, but the weight really isn't important that's just the weight of the calcium plus whatever it's bound to; the carbonate, the lactate, the citrate, or the gluconate. If you're having trouble figuring out how much Elemental calcium is in your calcium you can just check the nutrition facts label and generally it'll be listed in milligrams according to the serving size.

Dr. Scott Hayworth: So how common is osteoporosis? I know I see a fair amount in my own practice, how often what number of people are men or women in america have that?

Dr. Caroline Messer: Well it's one of the most common and debilitating diseases and it's a Global Health Care problem. Millions of people have been put on to Bisphosphonates.

Dr. Scott Hayworth: Why don't you explain what a Bisphosphonate is for our listeners who didn't go to medical school?

Dr. Caroline Messer: Absolutely. Bisphosphonate is one of the main therapies for osteoporosis. It's a medication that helps prevent bone breakdown and most likely if you don't have any reasons that you can't take a Bisphosphonate and you're found to have osteoporosis this is what your doctor's going to prescribe for you. So we know that over a million people have been prescribed Bisphosphonates. And we also know that many people who have osteoporosis haven't even been diagnosed. A lot of people break a bone just from you no bumping into a table and they should have a work up to see if they have osteoporosis, and they would have osteoporosis would that work up have been done, but they don't receive a proper work up and I think the problem is a lot bigger than we even understand but, many millions of people. One in three women and one in five women over the age of 50 will suffer from a fracture from osteoporosis. It's common in older people, but it affects younger people too.

Dr. Scott Hayworth: And a patient comes to you, how do you know they have osteoporosis? You mentioned before, index of skin, do you want to explain that?

Dr. Caroline Messer: Sure. Index of skin is a bit complicated what it is, is; there are several types of bone mineral density tests available, but the most accurate one and the one that we use most of the time is called the DEXA Dual energy x-ray absorptiometry. It's a low radiation x-ray, lots of patients are concerned about how much radiation they get; not much more than flying an airplane to California and back. When you get your results from the DEXA you're going to get something called a t-score. So what they're doing here is that comparing your DEXA results to the ideal bone mineral density of a healthy 30 year old and you're given a t-score. So a score of 0 means your bone mineral density is the same as that healthy thirty-year-old. Differences between your bone mineral density and healthy young adult are measured in units called standard deviations. So the more standard deviations below 0 indicated as negative numbers the lower your bone mineral density and the higher your risk of fracture. So if you have a t-score that's between negative one, and positive one, that's considered normal and healthy, but a t-score between -1 and -2.5 shows that you have low bone mass. This is not osteoporosis yet, going back to your original question, 'what is osteopenia', this is osteopenia. When your t-score is between -1 and -2.5 or -1 and -2.5 standard deviations from the norm, and then a t-score below -2.5 indicates that you have osteoporosis. So the lower or more negative that number the more severe your osteoporosis, I have patients to come in with t-scores of -3, -3.5, this is very severe.

Dr. Scott Hayworth: And obviously those are the ones you put on medicine, and plus the osteopenic patients as well you put on meds then.

Dr. Caroline Messer: Right so they osteopenic patients we absolutely put on calcium and vitamin D in the last few years there's something called a frac score that's become very popular. it's a survey that we take to assess how many wrist fractures - risk factors, we have for fracture. If your score is high enough, then even though you don't have osteoporosis, we will choose to put you on something stronger than calcium or vitamin D, most likely a bisphosphonate.

Dr. Scott Hayworth: And there's a number of bisphosphonates on the market.

Dr. Caroline Messer: Yes.

Dr. Scott Hayworth: And obviously our listeners may not know; there's daily, weekly, and monthly.

Dr. Caroline Messer: And yearly.

Dr. Scott Hayworth: And yearly now, with infusions. So there's lots of different options

Dr. Caroline Messer: Right. So the bisphosphonate, like I said, is the most common treatment to slow down the bone loss and help maintain bone mineral density. The ones that you might have heard of are; Fosamax, boneva, actonel, and the intravenous medication called zoledronic acid, which is once a year. They've been shown to prevent 50 to 70% of vertebral fractures in postmenopausal women, and 40 to 60% of hip fractures in clinical trials.

Dr. Scott Hayworth: So, they are effective.

Dr. Caroline Messer: They're effective, they're by no means a panacea. People are often shocked when they have a fracture on bisphosphonates, but as you can see from the numbers of course it's still possible but, it's the best medication we have at this point.

Dr. Scott Hayworth: Do you give your patients a drug holiday after 5 years?

Dr. Caroline Messer: So this is a very controversial question. Even among osteoporosis specialists, there's really no clear consensus as to how long bisphosphonates should be given, and whether they should be given a break from the medication which is, Scott, what you referred to as a drug holiday. Some doctors recommended drug holiday, which after several years of taking the bisphosphonates, and that would be in patients who have responded well to the bisphosphonate therapy, they have stable bone mineral densities on their dexta scans and they have no recent fragility fractures. The talk of a drug holiday really came about after a key study in 2006 showed that bisphosphonates continue to work in your system, perhaps 5 years

after the medication has been discontinued, and also a bunch of new studies which I think we'll discuss soon, that have shown that there might be some side effects from the bisphosphonates, including issues with the jaw, issues with the bone between your hip in your thigh, but there definitely is no consensus.

Dr. Scott Hayworth: Well hold that thought, and we'll be back in a minute This is Dr. Scott Hayworth I'm here with the MKMG health something Medical Group our call number is 914-242-1446 and I'm here with Dr. Caroline Messer who is an endocrinologist in Mt. Kisco near Carmel.

COMMERCIAL BREAK

Dr. Scott Hayworth: Hi, it's Dr. Scott Hayworth I'm here with Dr. Caroline Messer who is an endocrinologist near Carmel, Mount Kisco offices and we're speaking about osteoporosis today. let's go back to dexa score so who should get a bone mineral density? I know in my own practice I usually recommend for women that you don't start till menopause unless you have a family history history of osteoporosis do you agree with that?

Dr. Caroline Messer: That's correct what are US preventive Services Task Force recommends that women aged 65 and older should be screened for osteoporosis, but if you're - if you have significant risk factors such as any of the risk factors that I spoke to you about before, for instance you've been taking glucocorticoids for long-term or you've had severe eating disorders or celiac disease then it certainly makes sense the screen with a younger age. The u.s. per the United States preventive task force recommends women 60 and older who are at increased risk for an osteoporosis related fracture. I tend to do it at an even younger age.

Dr. Scott Hayworth: So you agree with what I do, with starting around menopause?

Dr. Caroline Messer: Or perhaps even younger, if the patient, for example, if the patient hasn't had her period for many, many years It might be reasonable to check a bone density even before menopause.

Dr. Scott Hayworth: Well obviously risk factors at her age but my general.

Dr. Caroline Messer: But generally, right, without risk factors then menopause.

Dr. Scott Hayworth: How about men, when should a man get a bone density?

Dr. Caroline Messer: So this is also controversial. Some people are recommending that men should get bone densities is when they're in their seventies and certainly not as early in age as women, and if men have risk factors like low testosterone they should have a bone density or if

they had a history of fractures without significant trauma, then that would be a red flag, showing that they need a bone density.

Dr. Scott Hayworth: So, we mentioned a little about the t-scores, and what they mean and at what level t-score do you start doing your survey to see whether you should start people on medicine?

Dr. Caroline Messer: Well, when a t-score is between -1 and -2.5, that's in the osteopenic range, that's what we do the frac survey. We calculate all the risk factors, and we get a number and we look at their risk for having either hip fracture or a major fracture, and if it's high enough, more than 3% risk of having a hip fracture in the next 10 years, or more than 25% risk of having a major astio-periodic fracture, then we would start medications.

Dr. Scott Hayworth: And now, we mentioned medicines before but we didn't go to the other medicines, such as Evista and estrogen. Why don't you discuss some of those other medicines for us?

Dr. Caroline Messer: Okay, sure. So avista belongs to a class of drugs called selective estrogen receptor modulators there otherwise known as the serms. It mimics estrogen's beneficial effect on the bone in postmenopausal women, but it doesn't have some of those risks that are generally associated with estrogen, such as increased risk of uterine cancer and possibly breast cancer. We generally don't use estrogen anymore as a first-line therapy for osteoporosis because of those risks that we just spoke about, the endometrial cancer, possibly heart disease, based on the Women's Health Initiative study; blood clots and breast cancer. We also have another medication called calcitonin, this is used to reduce bone breakdown and potentially slow bone loss, and may also prevent spine fractures, and decrease the pain associated with compression fractures of the spine. Unfortunately, it hasn't really been shown to help the hip. So, I generally don't use this as a first-line medication, but reserve it for patients who can't take other medications. It can be taken nasally, although a lot of my patients have nasal irritation when I try to prescribe it this way, so it's also available as an injection.

Dr. Scott Hayworth: Now when Avista first came out, you're a younger practitioner than I am, and when avista first came out it was known as designer estrogen. Because what they thought they were doing is coming up with a medicine that would mimic certain aspects of estrogen. Also what's interesting about avista as it does reduce the risk of breast cancer for women so sometimes with a strong family history we use it as well, or for, obviously for bone density, is a key thing, but the real risk with avista is blood clots, which you know a number of us watch out for, so we tend not probably not to use that in a smoker and, obviously estrogen. The IV medicines, are you using a lot of intravenous medicines?

Dr. Caroline Messer: Yes I do use reclast quite frequently. I have some hesitations about using it in patients who are predisposed to developing complications from the bisphosphonates, which we'll discuss in a moment. I also use something called teriparatide, it's an injection it's not an IV

medication, but it's an injection under the skin, either the thigh or the abdomen. It's a new medication, it's very powerful. The drawback is really that you have to take it once a day and there's not that many long-term studies, we generally give it only for a year or two at most but, unlike the other medications which decrease the rate of bone loss this actually increases the rate of bone growth. So it can be very powerful for certain patients who haven't responded to traditional medications.

Dr. Scott Hayworth: So you mentioned earlier, about the jaw problems with bisphosphonates. Why don't you talk about the risk of the medicines for osteoporosis?

Dr. Caroline Messer: Ok. So, since 2003 there have been reports of a possible link between bisphosphonates and something called osteonecrosis of the jaw, that translates to; jaw-death, basically.

Dr. Scott Hayworth: That doesn't sound too good. (Laughter).

Dr. Caroline Messer: It doesn't sound too good or bone-death. It's actually pain, swelling, infection, and exposed bone in your jaw. It should make you feel better to know that most of these can be treated conservatively and make it better on their own. The majority of the cases of osteonecrosis of the jaw were patients who have had cancer who are receiving chemotherapy, and then were given IV bisphosphonates, like the reclass that we spoke about, to treat the cancer that spreads in the bone, but a small number of the cases where patients that were taking oral bisphosphonates like fosamax. But those patients, most of them had recently had a dental procedure or had active dental disease so it's very rare with oral bisphosphonates in a patient who hasn't had any dental procedures. But the risk certainly depends on the amount of medication you're taking in the time you've been taking it, most patients who develop this complication we're taking the medication for over five years, which is why it seems to become a magic number. After 5 years you should take a drug holiday to prevent the risk. But just some numbers to make you feel better; some of the studies showed that only 1 patient in the 260,000 get this complication from bisphosphonates. Another study showed that it is 1 in 100,000. But if you really weigh the risks in the benefits, you know the risk of osteoporotic fracture is high if you have osteoporosis and the risk of osteonecrosis of the jaw is low. So, it seems that the benefit of preventing an osteoporotic fracture, really clearly far exceeds that really small, and somewhat theoretical risk of osteonecrosis of the jaw.

Dr. Scott Hayworth: When do you tell a patient to stop the medicines, before dental work or after dental work?

Dr. Caroline Messer: So, the recommendation is truly that you don't need to stop the medication. However, patients get very nervous

Dr. Scott Hayworth: Well the Dentists get nervous.



Dr. Caroline Messer: The dentist get nervous from this too, and they'll say three weeks before in 3 weeks after, and so I've been saying that too just because patients are too nervous not to stop it but it hasn't been shown to really make a difference in clinical trials.

Dr. Scott Hayworth: That's interesting, and that's, but the IV meds don't have the same issues?

Dr. Caroline Messer: Oh no the IV meds you actually have more of an issue with reblast and osteonecrosis of the jaw. So I tend to avoid those patients if I think - I tend to avoid giving reblast in those patients if I think they're in any way predisposed to developing osteonecrosis of the jaw.

Dr. Scott Hayworth: Wow.

Dr. Caroline Messer: There are also reports of patients with osteoporosis taking bisphosphonates who fracture that bone between, in the middle of the thigh, it's between the hip and the knee. I'm not sure if you've heard about this recently.

Dr. Scott Hayworth: I haven't, but why don't you fill our listeners in?

Dr. Caroline Messer: It was a big to-do on the news, but the FDA reviewed the available data, and they concluded that there really is not a clear connection between bisphosphonate use and this mid-thigh fracture. It's too early to know what's going on with these fractures but we know that not all the patients who develop these fractures or even on bisphosphonate therapy, and while over a million patients at taking these pills fascinates in the past 15 years, there has only been a hundred cases of mid thigh fracture, so I don't think this would be a reason to stop your medication.

Dr. Scott Hayworth: And a number of my patients are interested in natural alternatives for the medicines for osteoporosis what do you recommend?

Dr. Caroline Messer: Well, there are actually no natural alternatives for the treatment of osteoporosis that are at all supported by scientific research. There's something called strontium, which a lot of patients mistakenly think is the same thing as strontium ranelate, which is a medication used in the European Union, which is proven to help with osteoporosis, but it hasn't been approved yet United States or Canada, and as far as I know; there's absolutely no connection between strontium, which is the nutritional supplement, and the strontium ranelate which is being used at the European Union, and I don't really know about the risks and the benefits of strontium; but it certainly doesn't appear to have any connection to bone, or stabilising bone.

Dr. Scott Hayworth: Sounds like something Superman would take

Dr. Caroline Messer: Exactly. I wouldn't recommend it.

Dr. Scott Hayworth: And you don't recommend Kryptonite either?

Dr. Caroline Messer: Might help. (laughter)

Dr. Scott Hayworth: Now there's a new drug on the market and I don't know how to pronounce it, dino-sum-va?

Dr. Caroline Messer: Denosumab, yeah.

Dr. Scott Hayworth: I don't know who comes up with these names, can you fill us in on that one?

Dr. Caroline Messer: Sure, so Denosumab was just approved actually, June 1st of 2010. It's an injectable treatment and it's indicated for postmenopausal women who have very severe osteoporosis. It's designed to target a protein that's called rank ligand, and that's the primary signal in the body that promotes bone destruction. I like this medication because it's approved for renal failure, but I haven't been prescribing it recently, because there are some reports that it causes cellulitis. There are other links to certain types of cancers so, I'm personally waiting until there's more data available before I begin to use it, but in the future it could be used for women who are at high risk of osteoporotic fractures, who have failed other medications, or are intolerant to other treatments.

Dr. Scott Hayworth: Now once a woman reaches menopause, is it too late at that point to do things about osteoporosis?

Dr. Caroline Messer: No, I don't believe it's too late at all. You can certainly make lifestyle changes, and start to receive the appropriate treatment for your osteoporosis at menopause. You can't restore all the bone that has been lost, like I said, these medications, the bisphosphonates, help prevent further bone loss, but you will not regain all your bone function. But you can build some new bone, and prevent further bone loss by taking the medications, if their necessary and by having a diet that's rich in calcium and vitamin D, by doing weight-bearing exercises, and like I said, in some cases taking the medications.

Dr. Scott Hayworth: People say that as we age we get shorter, we obviously do, isn't that correct?

Dr. Caroline Messer: Well we do, but I think that a lot of that has to do with the fact that people weren't receiving the proper treatment or screening for osteoporosis in the past. A substantial loss in height and that stooped posture as you get older, that's actually not normal. It's not a normal result of growing old, and it can be a sign that you're having multiple small fractures in your spine or your back, because very often like we said, it's a silent disease, so you don't know that you have osteoporosis until your bones are so weakened that you have collapse of your vertebrae, and these collapsed vertebrae lead to the loss of height, and that stooped posture

and other for spinal deformities that you see in older patients, but I believe that with the screening we have now, that we can prevent a lot of this in the future.

Dr. Scott Hayworth: Now you also, besides osteoporosis, you do the full range of endocrinology from thyroids to everything else, is that correct?

Dr. Caroline Messer: Yes, yes, I especially enjoy patients who potentially have polycystic ovary syndrome, and thyroid disorders, but I see every type of endocrine pathology.

Dr. Scott Hayworth: Well this is Dr. Scott Hayworth, I've been in here with Dr. Caroline Messer, discussing osteoporosis and she's in our Carmel Mt. Kisco offices, and next week our guest will be Dr. Glen Boyer a cardiologist discussing preventing heart disease, thank you.

