

## Module 8 Lesson 6

### Transcript

I don't know about you, but I haven't spent too much time thinking about my skeleton. Beyond the importance of calcium in bone formation and health, some weight-bearing exercise and bone loss prevention, bones haven't been at the forefront of what I preach and teach too much. That is exactly why I wanted to do a quick lesson on bone health. Even though we don't talk about this information all too often, our bones are essential to us. They hold us up, they get us from place to place, yet so many of us just kind of take our bones for granted. They're just there. Unfortunately, we see the results of that as we age. So in today's lesson on bone health, we're going to talk about the importance of calcium and its role in bone health as well as overall health, the function of vitamin D and where we can get it, other nutrients and lifestyle factors that can promote bone health, and how to help clients maintain strong bones as they age.

Here's what you need to know before we really get started. You know how they say that you get all the calcium in your bones that you'll ever have for the rest of your life by, I don't know, I've heard 20, 25? Well, that's not exactly true. While bone density peaks for most adults between the ages of 25 to 35, our bones are constantly remodeling themselves with bone being resorbed and reconstructed all the time. You can make new bone after that magic peak point, but hormone shifts make it harder to do that. Plus, adults tend to drink less milk and consume less calcium as we age and calcium, as I know you know, is essential to bone formation. Your bones are alive, as alive as your skin. What you may not realize is that our bones are mostly a storage facility for calcium. Calcium is taken from our bones and used in our blood for nerve functioning, for our hearts to beat, and for muscle and cell functioning.

Our bodies don't prioritize keeping calcium in our bones as much as they prioritize using calcium in our blood, so it's important to keep consuming calcium. You may remember that blood beats bones, so dietary calcium is preferentially used in the blood and if the blood needs are met, the bones may take up extra available calcium. The result of not getting enough calcium is that our skeletons may become weak and brittle, which causes osteopenia and osteoporosis. Our GI tracks aren't the most efficient at absorbing calcium, unfortunately. We only absorb about 15 to 20% of the dietary calcium we consume, and vitamin D is the hormone that helps us maximize calcium absorption, which we know is deficient in many Americans. On top of that, lots of older adults don't eat a lot of calcium-rich foods like dairy such as milk, cheese, yogurt, also dark green, leafy veggies, sardines, salmon, and tofu, and they may or may not be getting the vitamin D they need from the sun, fatty fish, fortified foods like milk and orange juice, egg yolks, and cheese.

You know, I'm a believer in whole foods first, so I always recommend calcium and vitamin D-rich foods to my clients, but I do find that many come to me on 1200 milligrams of calcium and 800 to 1000 IUs of vitamin D per day, and if they're taking it by prescription, of course I don't tell them to discontinue it. It is important to keep in mind that calcium is also best absorbed in 500 milligram or fewer doses, so your clients may benefit from splitting their pills into AM and PM doses or throughout the day. I also want to really stress the importance of magnesium, which I think is often underrated in our bone health discussions. We spend a lot of time thinking of magnesium as it relates to stress management and migraine research, but it's also important for our bones.

Magnesium is essential in the regulation of calcium and vitamin D and you're going to find it in dark green, leafy veggies, seeds, nuts, legumes, whole grains, and avocados which many people may not be getting enough of and they may be deficient in. It's also absolutely essential that your bones get some good exercise. As we age, bones break down faster than they can rebuild and strong muscles pull on bones to keep them strong. So weight-bearing exercise is paramount to osteoporosis prevention. That's why you hear it being recommended so much to women as they age. Being underweight, smoking, alcohol, and certain medications can also impact bone health. So be sure to ask your clients about all of these things in your thorough intake. Other risk factors aren't so controllable and they include: age, elderly people are of course at higher risk; gender, women are more likely to have bone loss than men; genetics, some are born at higher risk than others, of course; ethnicity, White and Asian women are at higher risk and African Americans and Hispanic people, and so we should be considering ethnicity in our assessments, especially if we have elder females with a genetic history.

There are tests to diagnose bone loss and there are also medications to prevent further bone loss. So refer your clients out to a doctor if you're concerned here. I want to quickly review the key info from today's lesson. Our bones are constantly remodeling themselves. Despite what we always hear, you can make new bone later in life, but hormone shifts do make it harder, so we need to focus on it. Bones store the calcium that is used for nerve functioning, for our hearts to beat, and for muscle and cell functioning. We absorb 15 to 20% of the calcium we consume and vitamin D helps maximize the absorption. Magnesium is essential in the regulation of calcium and vitamin D, so it's really important. Recommend calcium, vitamin D, and magnesium-rich foods first, and don't forget that there is a time and place that supplementation may be appropriate. Work with clients to incorporate these nutrients into their meals and promote weight-bearing exercise, of course. Other factors that are going to influence bone health that we can't control, unfortunately, are going to be age, gender, genetics, and ethnicity.

I will see you in the next lesson.