



An Integrative Approach for Bone Loss

By Dr. Tricia Talerico, D.C., M.S., Nutr.

As we age, 2 factors become increasingly important, memory and mobility. Addressing poor bone health is the most important way to preserve mobility in the aging population. Over 200 million people are affected by osteoporosis globally. This affects 1 in 3 women and causes a greater hospitalization burden than for diabetes, heart attacks and breast cancer. 1 in 5 men suffer from poor bone health resulting in 1/3 of fractures worldwide and the highest risk of mortality. Sadly, over the next 10 years, there is an expected 42.6% increase in fractures in men and 29.6% increase fractures in women. Fractures cause a reduced quality of life due to social isolation, depression, pain and loss of mobility. Prevention is the most important action to reduce the future burden of poor bone health. Once a fracture has occurred, an individual has twice the risk of experiencing another fracture, yet only 20% of those will receive care post fracture (secondary care). If the primary fracture is a hip fracture, mortality can be as high as 40% with higher rates in men than in women. Sadly, there is no clinical specialty dedicated solely to bone health. There is also no single treatment strategy that is sufficient to solely address this issue. Integrative care is the best plan for prevention and long-term management care.

So, what is osteoporosis? Basically, it is a condition where bones become brittle and may fracture. Starting in childhood there is a fine balance between the building up and breaking down of bone – this is coordinated by cells called osteoblasts and osteoclasts. A common misconception in osteoporosis is that it is the lack of Calcium which causes the condition. It is actually Calcium balance and not the total Calcium which is important in osteoporosis.

What are the risk factors for osteoporosis? These risk factors are slightly different than the risk factors outlined by the FRAX Tool (see below).

Aging or Inflamm-aging. Since inflammation is a normal process of aging, then inflammation increases with age.

Diet. The S.A.D. (Standard American diet) is extremely inflammatory and so up-regulates the immune system. Overconsumption of sugar, alcohol, caffeine, salt and soda can lead to bone loss due to demineralization of bones. A leaky gut or intestinal permeability (a result of the S.A.D.) can also drive inflammation to the point of bone resorption.

Lifestyle. Stress, smoking, inactive lifestyle.

Genes. ie. Celiac Disease predisposes one to osteoporosis due to poor absorption of minerals.

Gender. Just being female increases the risk as it is usually seen after menopause. We now know that estrogen is protective for the bones as well as the brain and heart.

Medications: Steroids, PPIs (omeprazole, pantoprazole, esomeprazole), cancer drugs, thyroid hormone, heparin and warfarin.

Traditional screening for osteoporosis is done thru a DEXA scan or Bone Density scan in which the density of the hip and spine are measured. The results of this test will tell you if you are normal, osteopenic (bone poverty) or osteoporotic. It is ideal to have a baseline DEXA scan around age 30-35 as this is the time of peak bone mass, and then another one year after menopause. Bone mineral density is part of the

FRAX tool (fracture risk assessment tool) which estimates the likelihood of a hip or other major osteoporotic fracture within 10 years. A comprehensive functional medicine approach to the evaluation of osteoporosis can also look at blood, saliva, stool and urine testing. Low-grade inflammation can be assessed thru bloodwork by checking hs-CRP, HbA1c, ESR, CMP, CBC and essential fatty acids. We can also measure vitamin D and osteocalcin (a biomarker for vitamin K deficiency) in blood. In stool analysis, we can measure calprotectin as it can indicate inflammation in the gut. Saliva testing for hormones would tell us levels of estradiol, testosterone, DHEA, cortisol and progesterone.

Treatment of osteoporosis by conventional medicine involves using strong drugs, some of which are not without side effects and some may even cause bone fractures.

Bisphosphonates: ie. Fosamax, Boniva, Actonel and Reclast

SERMS: Selective estrogen receptor modulators like Raloxifene

Parathyroid hormone

Romosuzumab: A bone-building medication/injection given once a month

Estrogen hormone therapy if appropriate

Once you have been diagnosed with osteoporosis, these are treatments we can easily follow:

Exercise: At least 3 days a week using weights, bands, yoga and core strengthening to help build up bone mass and preserve balance.

Optimize vitamin D levels up to 80-100 ng/mL. This means taking 5000IU with K2, which helps absorb the calcium into the bones and not the arteries.

Eliminate "bone dissolvers" like excess protein, S.A.D. (diet) and excess salt.

Consider supplementing hormones like testosterone, estrogen and progesterone.

Nutraceuticals: trace minerals (magnesium, zinc, boron, manganese, copper and silicon. If you do take calcium, make sure it is in the form of MCHC or (microcrystalline hydroxyapatite complex).

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Tricia Talerico, D.C., M.S., Nutr.
Nutrition and Weight Loss Center of Ocean
 Dow Plaza • 1819 Highway 35 North
 Oakhurst, NJ 07755

732-609-3366

www.nutritionandweightlosscenter.com

