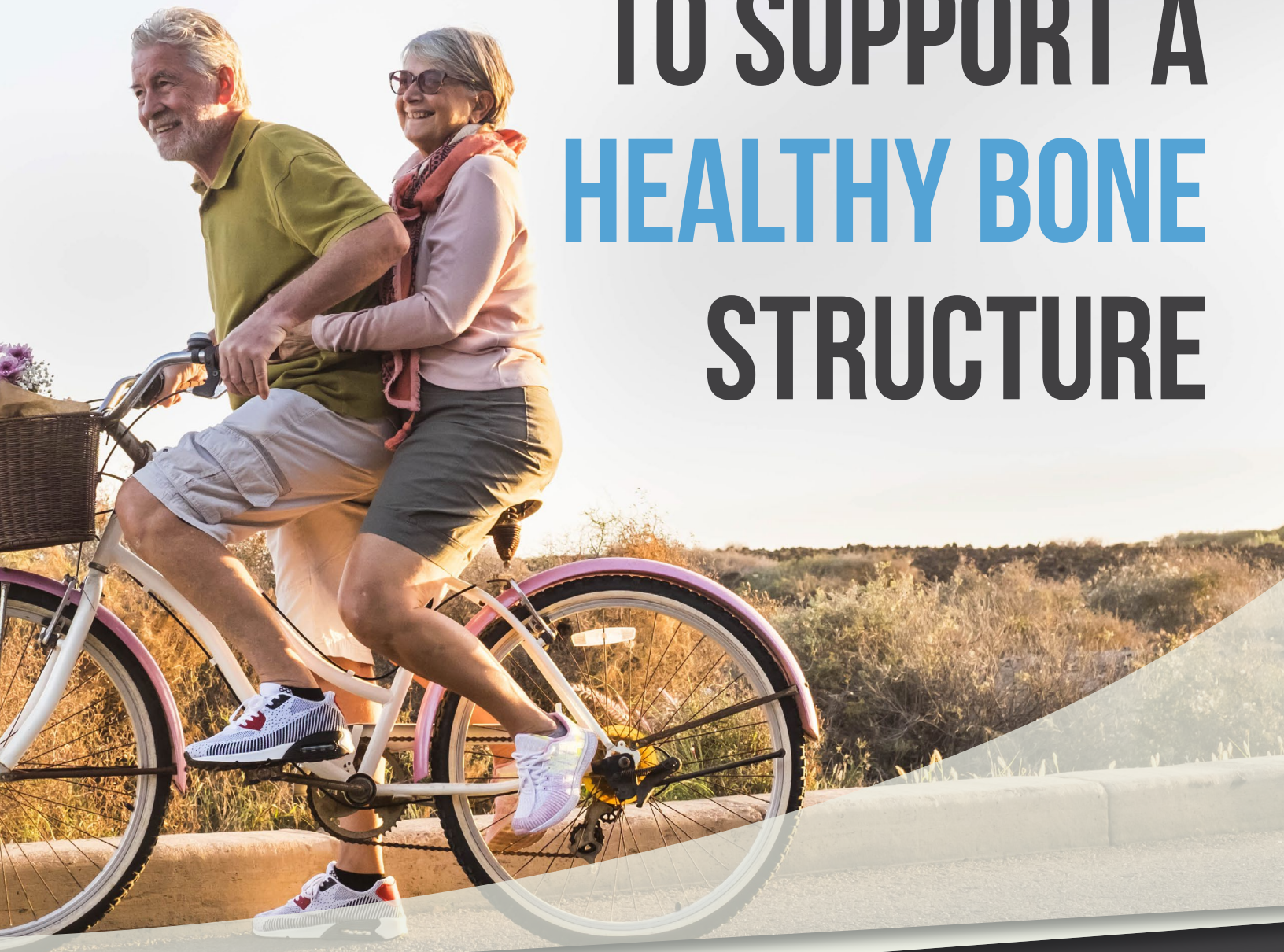
Foundation for
Chiropractic Progress

STRATEGIES TO SUPPORT A HEALTHY BONE STRUCTURE



MAKE NO BONES ABOUT IT

As we age and our chemistry changes, the weakening of our bone structure is a prevalent issue. Most of us have heard of someone that we know that has 'fallen and broken a hip.' Many of those cases, however, were actually the opposite, where an older adult fell because a fragile bone broke underneath them and caused them to fall.

The most common locations for osteoporotic fracture are the spine, hips, and the wrist area. Statistics show that in the U.S. and Europe, 40% of post-menopausal women and 30% of men will experience an osteoporotic fracture in their lifetime.[1] Worldwide, it is estimated that the number of patients with hip fractures stemming from osteoporotic bone fragility is more than 200 million.[2]

These are important numbers because hip fractures in particular are associated with significant morbidity, mortality, loss of independence and financial burden. The effects of bone fragility can be life altering so above all, prevention is paramount to combat future bone loss.

GET MOVING WITH WEIGHT-BEARING EXERCISE

EXERCISE IS CRUCIAL FOR THE MAINTENANCE OF BONE, AND IT MUST BE WEIGHT-BEARING. That means activities that the skeletal system does against gravity. This is the power of resistance. High impact weight-bearing exercises include jogging, jumping rope, step aerobics, racquet sports or even heavy gardening. Moderate impact may include climbing stairs, dancing or hiking.

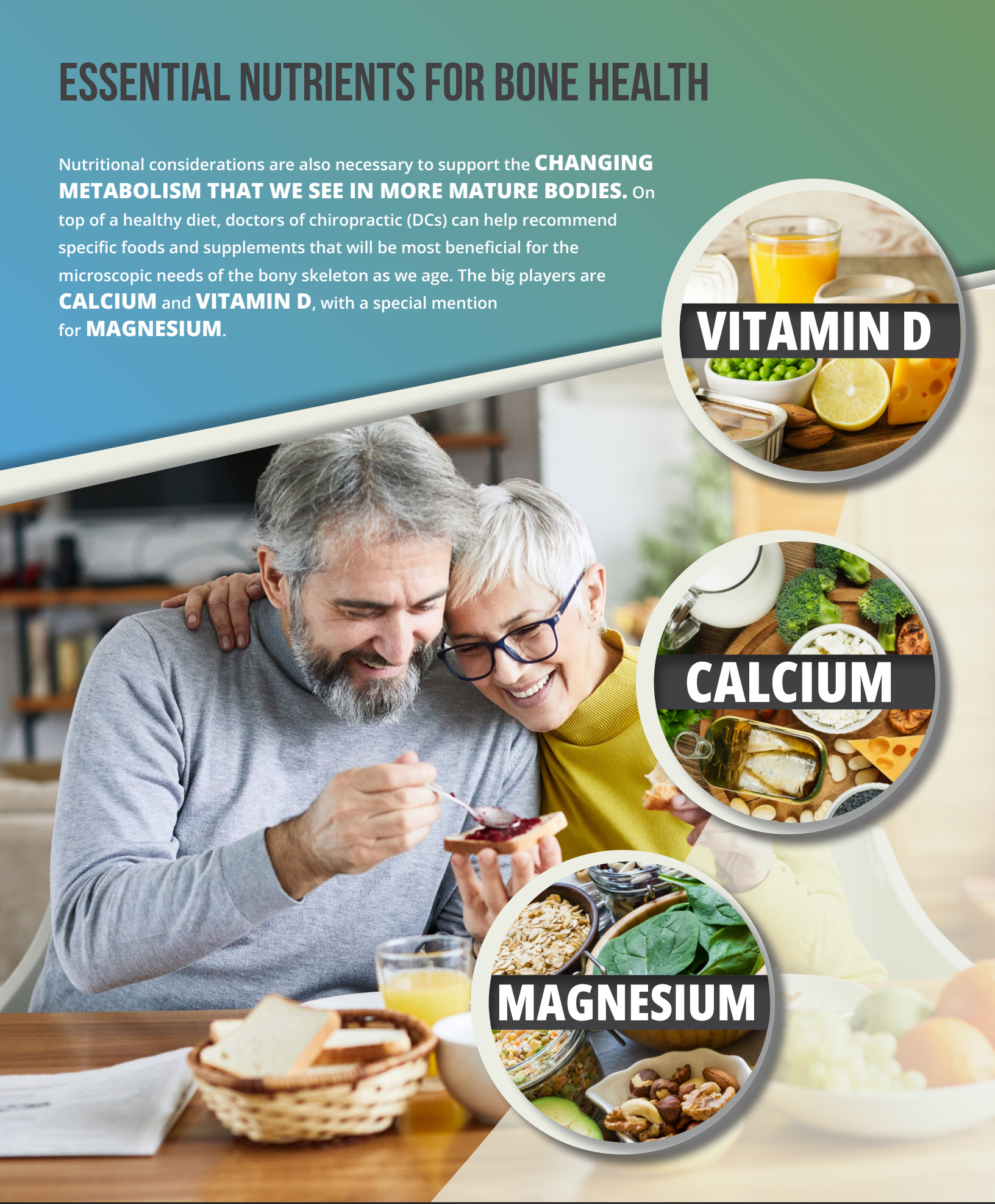
Low impact exercises would be indicated for those with severe bone loss and include elliptical or stair machines, low impact aerobics or simply walking. The point is to get moving and do something. Not only will weight-bearing exercise model the muscle, it will stimulate the bone that it's attached to. The stress of the tendon on the bone has a bone-building effect. Exercise and training will also improve balance and coordination which will help decrease the risk of falls.

The stress of using weights during exercise can potentially be added as well. Weight lifting with a few pounds, or lifting what you can (even as light as soup cans from your cupboard to get started), can help provide more needed resistance to help build bone. Elastic bands or weight machines will also work for this.

Studies have shown that **ONLY 20 MINUTES** of modest impact, resistance training or vibration therapy 3x per week **CAN IMPROVE BONE MINERAL DENSITY.**[3, 4] Like other weight-bearing physical activities, vibration therapy causes muscles and bones to work against gravity and is also utilized for increasing bone density in older persons and others at risk for osteoporosis.

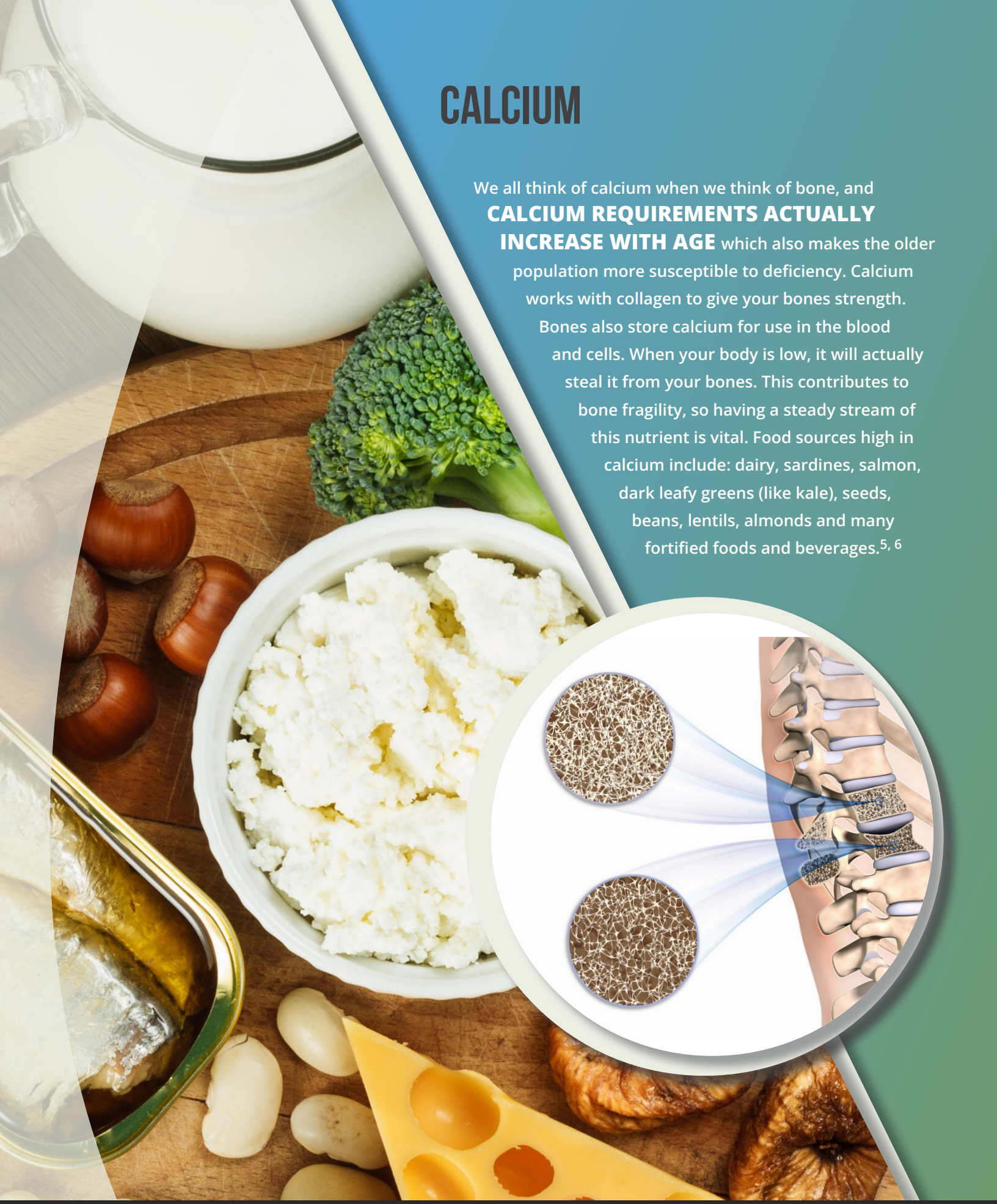
ESSENTIAL NUTRIENTS FOR BONE HEALTH

Nutritional considerations are also necessary to support the **CHANGING METABOLISM THAT WE SEE IN MORE MATURE BODIES.** On top of a healthy diet, doctors of chiropractic (DCs) can help recommend specific foods and supplements that will be most beneficial for the microscopic needs of the bony skeleton as we age. The big players are **CALCIUM** and **VITAMIN D**, with a special mention for **MAGNESIUM**.



CALCIUM

We all think of calcium when we think of bone, and **CALCIUM REQUIREMENTS ACTUALLY INCREASE WITH AGE** which also makes the older population more susceptible to deficiency. Calcium works with collagen to give your bones strength. Bones also store calcium for use in the blood and cells. When your body is low, it will actually steal it from your bones. This contributes to bone fragility, so having a steady stream of this nutrient is vital. Food sources high in calcium include: dairy, sardines, salmon, dark leafy greens (like kale), seeds, beans, lentils, almonds and many fortified foods and beverages.[5, 6]



VITAMIN D

Vitamin D goes hand-in-hand with calcium as it is **NECESSARY FOR CALCIUM ABSORPTION**. It is also needed for other elements of bone health, muscle performance, balance, and is linked to health risks and immune issues. It is one of the most prevalent deficiencies that we see globally. **IN THE U.S. ALONE WE HAVE AT LEAST 50% OF THE POPULATION AFFECTED OVERALL** and even over 80% in some sub-groups. It is difficult to get enough Vitamin D from food sources alone. The good news is that it is easily remedied with supplementation. Vitamin D3 is the type that is most absorbable. Approximately 10 minutes of sunlight a day also greatly assists your body to manufacture its own. Foods high in Vitamin D include oily fish like salmon and swordfish.[5, 7, 8, 9]

MAGNESIUM

Studies have shown that **PEOPLE WITH HIGH INTAKES OF MAGNESIUM (MG) HAVE A HIGHER BONE MINERAL DENSITY.** If you happen to be on the low side of Mg, you can have problems with your Vitamin D balance. Dietary sources include nuts like almonds, cashews, and peanuts, as well as legumes like kidney beans and lentils. Eight ounces of milk has approximately 25 milligrams of magnesium. With a recommended daily allowance of 10x that, this is a nutrient that may be hard to get fully through food and may require a supplement.[5, 10, 11] Also of note is that alcohol consumption can greatly deplete Mg levels in the body. Lifestyle choices that **DIMINISH ALCOHOL INTAKE** are important, and supplementation for people that choose to continue to imbibe would be paramount.

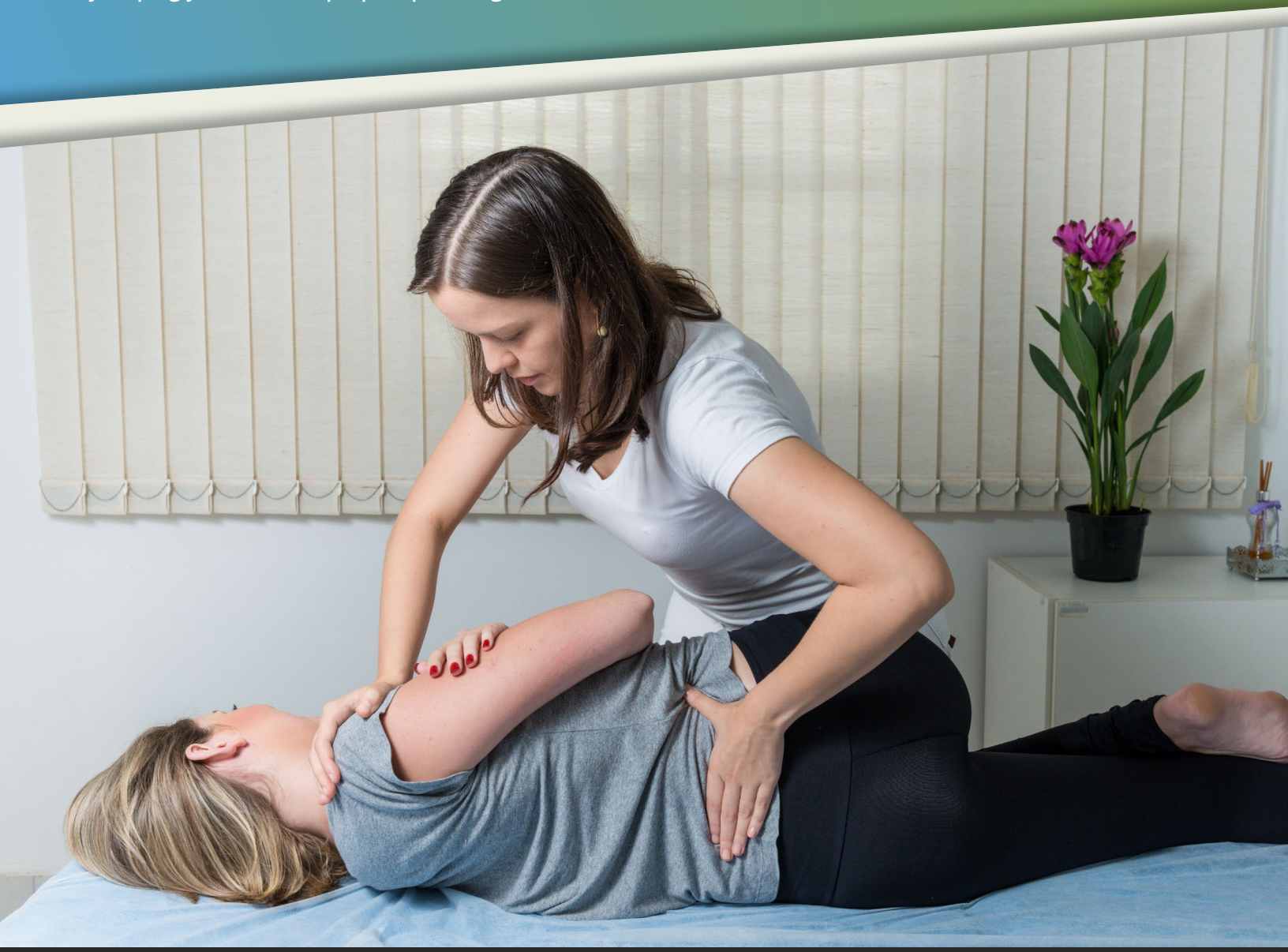
THE RECURRING THEME FOR FOODS THAT BEST SUPPORT BONE HEALTH INCLUDE: oily fish, dark leafy greens, nuts, seeds, beans, lentils and fortified foods including dairy products high in calcium.

There are several other vitamins and minerals that are also associated with bone strength that you might find in supplement formulas targeted for bone support. Those include but are not limited to: **VITAMIN C, INOSITOL, L-ARGININE, SILICON, BORON** and **ZINC.** These elements aid with bone formation, remodeling, calcium absorption and the stabilization of Vitamin D.[5, 14, 20] Vitamin K and Collagen are two others that often come to mind and are important to reduce bone turnover and provide support for all aspects of our connective tissues.[14, 15, 21, 22]

CONCLUSION

The building blocks we consume from nutrient dense foods and supplements provide the foundation for bone growth. If supplements are indicated, there are also a variety of products that combine necessary vitamins/minerals to provide a convenient dosage without having to endure a handful of pills.

Your chiropractor can work with you to help determine your risks for osteoporosis or the possible need for a screening test. DCs aim to preserve bone strength and prevent the progression of bone loss by helping you maintain proper spinal alignment and muscle balance. Good structural integrity along with proper nutrition, exercises for strengthening the muscles and a weight-bearing exercise routine to promote bone strength, balance and coordination, are all part of your first line of defense against bone loss and minimizing the risk of falls. For patients already diagnosed with osteoporosis, your chiropractor can tailor a specific care plan for you that includes dietary recommendations along with very safe low impact adjusting techniques and exercise.



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