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Nutrition for Bone Health

Breanne Nalder Harward, MS, RDN

Diet and exercise play critical roles in building and maintaining good bone health for people from infancy through adulthood, and the food that you eat affects your bones. Learning about the foods that are rich in calcium, vitamin D and other nutrients that are important for your bone health and overall health will help you make healthier food choices every day. If you eat a well-balanced diet with plenty of dairy, fish and other lean proteins, fruits and vegetables, you should get enough of the nutrients you need every day, but if you're not getting the recommended amount from food alone, you may need to complement your diet by taking supplements. Many people ask how much calcium they should be getting from food or supplements. Let's discuss the daily Calcium recommendations to learn the total amount you need each day. Then estimate the amount of calcium you get from your diet to determine whether you're getting enough calcium to meet your daily needs.

CALCIUM RECOMMENDATIONS

Life Stage Group	Recommended Daily Allowance (RDA)
Females and males 9 to 18 years	1,300 mg
Women and men 19 to 50 years	1,000 mg
Women 51 to 70 years	1,200 mg
Men 51 to 70 years	1,000 mg
Women and men > 70 years	1,200 mg
Pregnant or nursing women 14 to 18 years	1,300 mg
Pregnant or nursing women 19 to 50 years	1,000 mg

**This includes the total amount of calcium you get from both food and supplements.*

Dietary Sources of Calcium

People can get the recommended daily amount of calcium by eating a healthy diet that includes a variety of calcium-rich foods. Milk, yogurt, cheese, and other dairy products are the biggest food sources of calcium. Other high-calcium foods include:

- Kale, broccoli, Chinese cabbage (bok choy), and other green leafy vegetables
- Sardines, salmon, and other soft-bone fish
- Tofu
- Breads, pastas, and grains
- Calcium-fortified cereals, juices, and other beverages.

Some foods make it harder for the body to absorb calcium. For example, sodas decrease calcium absorption in the intestines due to the caffeine and contain phosphoric acid content.

Iron is another mineral that can decrease the bioavailability of Ca, so if you supplement Iron, I recommend taking that in the morning with your water soluble vitamins and taking your calcium supplement at night with your fat soluble vitamins (A, D, E, and K) as well as magnesium. Let's dig into this deeper…

Calcium Supplements

Although adequate calcium can be obtained through your diet, it is difficult for many people, particularly for those who avoid dairy products. People who are lactose-intolerant or vegans, who do not eat dairy products, have a harder time getting enough calcium from foods. It is also hard to get enough calcium from the diet during certain times of our lives, such as in adolescence when our bodies require more calcium to build strong bones for life. Postmenopausal women and men older than age 70 also require more calcium to slow down bone loss.

Many people need to take separate calcium supplements to ensure they reach the Recommended Dietary Allowance (RDA) for their life stage. Although calcium is sometimes found in multivitamins, it is typically not in significant amounts or the proper forms. Not all the calcium consumed, whether through food or supplement, is actually absorbed in the intestines. Research shows that calcium is absorbed most efficiently when it is taken in doses less than 500 mg. Because many calcium supplements come in 500 mg doses, people who require at least 1,000 mg of supplementation each day should take their doses at separate times. Newer daily slow release formulations of calcium citrate that supply 1,200 mg have recently become available. Most calcium supplements also contain Vitamin D, which helps the body absorb calcium.

Other Key Nutrients in Bone Health

Many other nutrients — most found naturally and at sufficient levels in a typical diet — contribute to bone health and growth. They include:

- Vitamin D. Essiential for many body functions including calcium absorption. If you do not get enough vitamin D, you are at greater risk of bone loss and broken bones. You can get small amounts of vitamin D from a few foods, like fortified milk, liver and fatty fish (e.g., wild mackerel, salmon, sardines and tuna). Your skin can make vitamin D from the sun, but getting too much sun can be harmful, and sunscreen blocks out vitamin D.
- Phosphorus. A major mineral in the body's bone crystal, phosphorus is found in dairy products and meat, as well as shellfish, beans, sunflower seeds, lentils, sardines, and cheese. Vitamin D improves phosphorus absorption in the intestine and kidney.
- Magnesium. Primarily found in bone crystals, magnesium improves bone strength. Older adults are more likely to be deficient in magnesium. Calcium supplements that contain magnesium can help. You can also find it in foods like spinach, bananas, nuts and seeds, avocado, and chickpeas,

- Vitamin K. Necessary for bone formation and mineralization, Vitamin K also is important for blood clotting, and may assist in channeling calcium directly to the bone rather than the blood vessels. You can get Vitamin K from leafy greens, avocado, kiwi, asparagus, and pumpkin.
- Vitamin C. Collagen is the main protein in bone, and Vitamin C is necessary for collagen synthesis. Vitamin C is present in citrus fruits and tomatoes, and in many vegetables, including sweet yellow pepper, red bell pepper, broccoli, and kale.
- Vitamin A. Vitamin A is necessary for cells to develop normally and for normal skeletal growth, and also is extremely important for eye health. Vitamin A is available in liver, eggs, butter, green leafy vegetables, and carrots. Too little vitamin A is a major cause of blindness worldwide. In contrast, too much vitamin A can cause bone loss and increase the risk of hip fracture. The animal source supplements (retinols) may cause toxicity but plant sources (B carotene) do not. Daily intake of retinols should be less than 10000 IU.

At Nervana Medical, we recommend having Calcium and Vitamin D as separate supplements so you can control the form, dosing and timing of each, as each of you have unique needs for them. Please see patient education materials for both Reacted Calcium and Vitamin D or schedule an appt with me. I'd love to help you establish your unique Bone health food and supplement needs 😊