

Osteoporosis Supplement Considerations



OsteoFriend®

19 active ingredients that target the 7 biological pathways typically impaired in those with osteoporosis.



Curcumin & Turmeric

Curcumin stimulates osteoblasts to build bone and reduces inflammation which is degenerative to bones.⁵



Magnesium Citrate

Magnesium is one of the main minerals in the bone matrix after calcium. The majority of people do not consume enough magnesium in their diet, and follow a dietary and lifestyle pattern that uses up excessive levels of magnesium stores.³



Vegan Omega 3

There is a strong link between osteoporosis and chronic inflammation. Reducing inflammation reduces markers such as C-reactive protein and interleukins and helps to slow down bone degradation. Omega 3s increase osteoblast activity and decrease osteoclast activity.⁴



Vitamin D3 & K2

Vitamin D3 & K2 is an essential vitamin for those with osteoporosis. Vitamin D is required for the absorption of calcium across the intestines and into the blood. The majority of the population do not have sufficient vitamin D blood levels.¹



Gut Works®

A healthy microbiome is essential for strong bones. Not only do the probiotics in the gut help with the absorption and metabolism, they also produce key nutrients for bone health such as vitamin K, and some B vitamins.²

Dietary Considerations

+ Focus on plant protein

Plant protein is beneficial for those with osteoporosis as it is less acidic than animal protein. Increased acidity causes the body to use its calcium stores (in bone) to keep the body in a pH homeostatic state. Plant protein also typically contains isoflavones and other compounds beneficial for bones that are not found in animal proteins.⁶

+ Avoid excess salt

A high intake of salt causes calcium loss through the urine. Use salt sparingly.⁷

+ Eliminate sugar and refined carbohydrates

Spikes in blood glucose through the consumption of sugar or refined carbohydrates cause calcium loss through the kidneys. Choose wholegrain and naturally sugar-free foods.⁸

+ Stop alcohol consumption

Alcohol decreases calcium absorption and should be significantly reduced or stopped.⁹

+ Increase intake of antioxidants

Antioxidants (e.g. vitamins A, C, E, and Zinc) combat oxidative stress, which can contribute to bone breakdown.¹⁰

+ Increase calcium and magnesium-rich foods

Magnesium-rich foods like leafy greens, nuts, seeds and legumes are vital for bone health and are often under-consumed. Calcium-rich foods including sesame seeds and tahini, leafy greens provide bones with some of the calcium they need each day.

Lifestyle Considerations

+ Stress management

Stress triggers the loss of calcium through the urine. Stress elevates blood sugar which increases the acidity of the blood, triggers the calcium from the bones to be used as a pH buffer. This calcium is then excreted in urine.¹¹

+ Sleep hygiene

Sleeping less than 5 hours per night lowers bone mineral density and increases fracture risk. Sleep deprivation increases osteoclast activity while reducing osteoblast activity.¹²

+ Weight bearing exercise

Weight-bearing exercise stimulates osteoblast activity. It also supports balance and reduces the risk of falls and strengthens the muscles around the joints.¹³

+ Quit smoking

Nicotine and toxins in cigarettes interfere with osteoblasts, leading to less new bone formation. Smoking reduces calcium absorption in the intestines, depriving bones of a key mineral. It also lowers vitamin D levels, which is needed to absorb calcium effectively.¹⁴

Testing Considerations

TEST	MARKER	RATIONALE
DEXA (Dual-Energy X-ray Absorptiometry) Scan	Bone Mineral Density	A test to measure bone density and diagnose osteoporosis by assessing risk for fractures. It identifies areas of low bone mass, especially in the spine, hips and forearms.
Bone turnover markers	Osteocalcin, CTX, P1NP	These tests assess bone resorption and bone formation. Elevated CTX (C-terminal telopeptide) and osteocalcin levels may indicate higher bone turnover, which can lead to bone loss.
Homocysteine	Homocysteine levels	High levels of homocysteine are associated with increased risk of fractures and bone loss. Elevated homocysteine can interfere with bone formation and mineralisation.
Vitamin D	25-Hydroxyvitamin D	Vitamin D is essential for calcium absorption across the gut and bone density. Deficiency in vitamin D can accelerate bone loss and increase fracture risk.
Thyroid function and parathyroid test	TSH, Free T3, Free T4, Reverse T3, PTH	An overactive thyroid or underactive thyroid can affect bone health. The thyroid regulates calcium levels, and imbalances can increase bone loss. Raised PTH levels can result in excessive calcium loss from bones, weakening bone density. PTH regulates calcium levels and its imbalance can lead to osteoporosis.
Inflammatory markers	C-reactive protein	Raised inflammatory markers like C-reactive protein (CRP) can indicate increased bone resorption. Chronic inflammation accelerates bone loss and worsens osteoporosis.

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