

The Abc Nutrients for Bone Health

Joint pain is a major national health concern affecting 50 million Americans who suffer from some form of arthritis, gout, lupus, or fibromyalgia. Although these are not life-threatening diseases, the severity of this disease can debilitate lives in more ways than one leading to social, physical, economical as well as emotional implications.

Arthritis remains probably the most common cause of disability with approximately 47.5 million reporting a disability in 2005. Of these, 22.5 million Americans expressed their most common disability was not being able to walk 3 city blocks and about 21.7 million of them reported not having the ability to climb a flight of stairs. Disability risks increase with age and women tend to suffer more than men, according to the Centers for Disease Control and Prevention.¹⁻²

As baby boomers enter into the 65+ age group, the number of adults with a disability because of more than one joint or bone disease is expected to rise significantly in the coming years creating a growing consumer industry for joint and bone health supplements.



Nutrition - a Modifiable Factor in Bone Health

Calcium and vitamin D are now synonymous with bone health and just about everyone understands that these two essential nutrients are required for improving bone mineral density and reducing the risk of fracture. However, after reviewing the science related to bone health, researchers at the American University of Beirut, Lebanon concluded that additional vitamins, too, may have an influential role to play in promoting bone health.


Findings from this in-depth review demonstrated that enough intakes of vitamin b complex, vitamins C, E and K were associated with positive bone mineral density (BMD) and decreased risk of fractures. Below is a list of other vitamins that these researchers have equated with optimal joint and bone health. Researchers believe a lack of any one of these important nutrients may result in compromised bone health.³

- Vitamin B - A deficiency in vitamin B results in elevated levels of homocysteine (an amino acid) in the body.
- High levels of homocysteine tend to be associated with increased risk of heart disease, cognitive decline, dementia and chronic bone loss.
- An insufficient intake of vitamin b may therefore lead to a decrease in bone strength and a higher risk of break.
- Vitamin C helps in creating ideal bone tissue matrix reportedly from the hydroxylation of lysine and proline, both amino acids.
- These amino acids are needed by the body for forming stable collagen structures promoting optimal bone development.
- Vitamin K helps to activate osteocalcin, a protein required for the utilization of calcium in bone tissue.
- Osteocalcin is actually dependent on vitamin K and would remain nonactive without it, thus resulting in calcium loss.

Vitamin A - A review of studies conducted on a vitamin and its relation to bone health are inconsistent but indicate which insufficiency as well as an excessive intake may result in compromised bone health. An excessive amount of vitamin a, particularly in the form of retinol (the most easily bioactive form of vitamin A), may lead to bone loss and an increased risk of hip fractures. Scientists also believe that excessive intake of vitamin A may interfere with Vitamin D's role in the body which is to absorb calcium.⁴

Other Nutrients that Play a Role in Bone Health

Addition to vitamins, a report from the surgeon General on bone health and brittle bones listings an array of nutrients, beyond vitamin D and lime scale, required with regard to promoting bone health:⁵

“  **Medicine for Gout** Purine rich foods contribute to a painful type of arthritis called gout. The body needs a small amount of purine, but it can lead to further problems if you eat it in excess amounts. Purine gets converted in to uric acid. Uric acid that does not get...

Boron -enhances the absorption of calciumCopper -helps in creating optimal bone matrix that strengthens bonesFluoride - stimulates new bone production which is required for the development of dental and skeletal systems. Iron - helps in creating optimal bone matrix that strengthens bonesIsoflavones - demonstrate a protective impact on bones but a lot more research is required with human studies to confirm this. Magnesium - enhances bone fragments quality and may improve bone mineral density. Concerning 60 percent of the the mineral magnesium in the body is found in bones along with calcium and phosphorous.

- Studies also indicate an insufficient intake of magnesium may interfere with the body's ability to process calcium.
- Phosphorous - supports the building of bone and other tissue during the development stage.
- About 85 percent of the phosphorous in our bodies is found in the bones, with phosphate making up more than 50 percent of our bone mineral mass.
- A few studies suggest that too much phosphorous may interfere with the absorption of calcium.
- Protein - helps heal fractures.
- Zinc - helps in creating optimal bone matrix that strengthens bones

Formulating Comprehensive Bone Health Supplements

Spite of the escalating numbers at risk of bone disease, the good news is that enough diet can play a positive role in changing bone health conditions. This provides you with opportunities for supplement business owners to provide their customers with a variety of superb bone and joint health formulations in order to maintain bone health, increase bone strength and decrease the risk of osteoporosis and fractures. To make producing easier, look well-designed stock formulas from a high-quality supplement manufacturer.

“ According to Frost & Sullivan, in 2008 the marketplace for bone and joint health ingredients was estimated at \$178 million and is expected to grow to \$246 million by 2015.⁶ According to the Nutrition Business Journal, vitamin D and calcium drew the largest revenue. Last year, sale of calcium supplements totaled \$1.2 million and that of vitamin D accounted for \$430 million.⁷⁻⁸ Going beyond vitamin D and calcium, consumer appreciation is being drawn to other nutrients that have a beneficial impact on bone health.

Find out how you can produce science-backed, multi-spectrum or stand-alone supplements to promote optimal bone and joint health for your customers by contacting GMP-certified vitamin manufacturers. A one-stop in-house supplement manufacturer can easily help you get your product or service off the ground and running in no time. For speed and convenience, look for contract manufacturers that offer customized manufacturing solutions such as label design services, packaging solutions, purchase fulfillment and fall shipping providers. A superior quality product with creative label designs is easy to market and is likely to make your own brand easily distinguishable in the marketplace!


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- About the author: Nutricap Labs will be a full service supplement maker.
- All of us mostly are usually vitamin manufacturers also manufacturing tablets, powders, liquids and also creams.

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