

Natural Ways to Build Healthy Bones

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ABSTRACT

Building healthy bones is extremely important. Minerals are incorporated into bones during childhood, adolescence and early adulthood. Once reach 30 years of age, have achieved peak bone mass if not enough bone mass is created during this time or bone loss occurs later in life, have an increased risk of developing fragile bones that break easily. Fortunately, many nutrition and lifestyle habits can help build strong bones and maintain them as you age.

Keywords: Building Healthy Bones, Minerals, Fragile Bones, Bone Health.

INTRODUCTION

Bone health is important at all stages of life. However, having strong bones is something people tend to take for granted, as symptoms often don't appear until bone loss is advanced. Fortunately, there is much nutrition and lifestyle habits that can help build and maintain strong bones– and it's never too early to start. Bones play

many roles in the body– providing structure, protecting organs, anchoring muscles and storing calcium. While it's important to build strong and healthy bones during childhood and adolescence, you can take steps during adulthood to protect bone health, too [1].

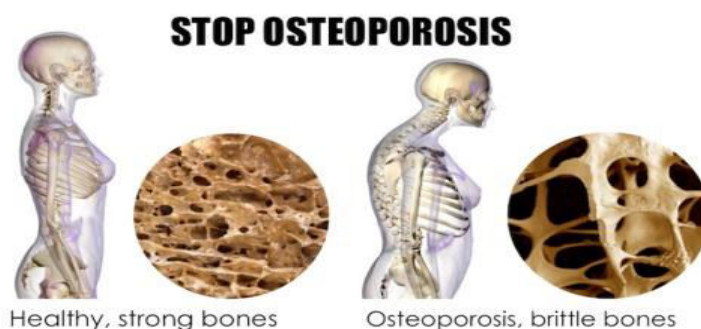


Fig. 1. Shows differences between Strong Bones and Osteoporosis

WAYS TO BUILD HEALTHY BONES

Eat Lots of Vegetables

Vegetables are great for bones. They're one of the best sources of vitamin C, which stimulates the production of bone-forming cells. In addition, some studies suggest that vitamin C's antioxidant effects may protect bone cells from damage. Vegetables also seem to increase bone mineral density, also known as bone

density. Bone density is a measurement of the amount of calcium and other minerals found in your bones. Both osteopenia (low bone mass) and osteoporosis (brittle bones) are conditions characterized by low bone density. A high intake of green and yellow vegetables has been linked to increased bone mineralization during childhood and the maintenance of bone mass in young adults. Eating lots of

vegetables has also been found to benefit older women. One major risk factor for osteoporosis in older adults is increased

bone turnover, or the process of breaking down and forming new bone [2].



Fig. 2. Useful foods for Strong Bones

Strength Training and Weight-Bearing Exercises

Engaging in specific types of exercise can help build and maintain strong bones. One of the best types of activity for bone health is weight-bearing or high-impact exercise, which promotes the formation of new bone. It can be extremely beneficial for preventing bone loss in older adults. In older men and women who performed weight-bearing exercise showed increases in bone mineral density, bone strength and bone size, as well as reductions However, one study found little improvement in bone density among older men who performed the highest level of weight-bearing exercise over nine months. Strength-training exercise is not only beneficial for increasing muscle mass. It may also help protect against bone loss in

younger and older women, including those with osteoporosis, osteopenia or breast cancer [3].

Consume Enough Protein

Getting enough protein is important for healthy bones. In fact, about 50% of bone is made of protein. Nevertheless, studies have found that this doesn't occur in people who consume up to 100 grams of protein daily, as long as this is balanced with plenty of plant foods and adequate calcium intake In fact, older women, in particular, appear to have better bone density when they consume higher amounts of protein. What's more, diets containing a greater percentage of calories from protein may help preserve bone mass during weight loss [4].



Fig. 3. Healthy Protein Diet.

Eat High-Calcium Foods

Calcium is the most important mineral for bone health, and it's the main mineral found in your bones. Because old bone cells are constantly broken down and replaced by new ones, it's important to consume calcium daily to protect bone structure and strength. The RDI for calcium is 1,000 mg per day for most people, although teens need 1,300 mg and older women require 1,200 mg. However, the amount of calcium your body actually absorbs can vary greatly. Interestingly, if eat a meal containing more than 500 mg of calcium, body will absorb much less of it than if you consume a lower amount. Therefore, it's best to spread your calcium intake throughout the day by including one high-calcium food from this list at each meal. It's also best to get calcium from foods rather than supplements [5].

Get Plenty of Vitamin D and Vitamin K

Vitamin D and vitamin K are extremely important for building strong bones. Vitamin D plays several roles in bone health, including helping body absorb

calcium. Achieving a blood level of at least 30 mg/ml (75 n mol/l) is recommended for protecting against osteopenia, osteoporosis and other bone diseases. Indeed, studies have shown that children and adults with low vitamin D levels tend to have lower bone density and are more at risk for bone loss than people who get enough .Unfortunately, vitamin D deficiency is very common, affecting about one billion people worldwide. To get enough vitamin D through sun exposure and food sources such as fatty fish, liver and cheese. However, many people need to supplement with up to 2,000 IU of vitamin D daily to maintain optimal levels. Vitamin K₂ supports bone health by modifying osteocalcin, a protein involved in bone formation. This modification enables osteocalcin to bind to minerals in bones and helps prevent the loss of calcium from bones. The two most common forms of vitamin K₂ are MK-4 and MK-7. MK-4 exists in small amounts in liver, eggs and meat. Fermented foods like cheese, sauerkraut and a soybean product called natto contain MK-7 [6].

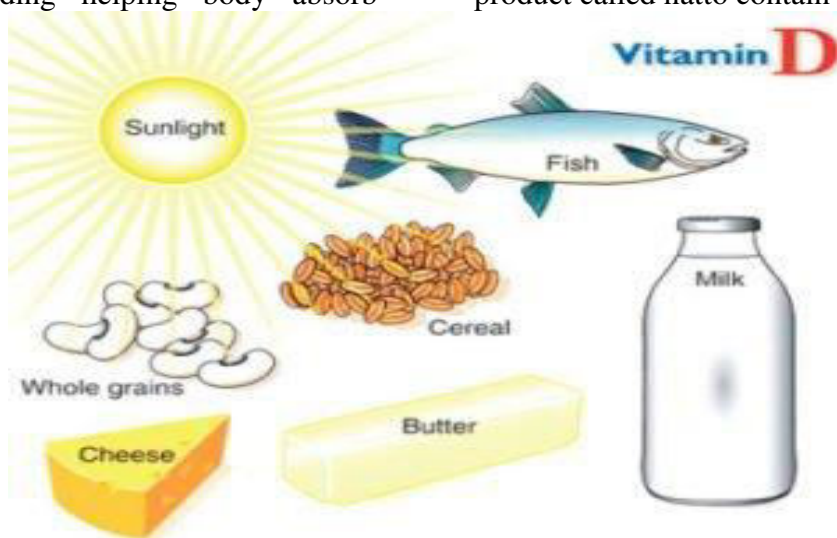


Fig. 3. Use of Vitamin D and Vitamin K

Avoid Very Low-Calorie Diets

Dropping calories too low is never a good idea. In addition to slowing down your metabolism, creating rebound hunger and causing muscle mass loss, it can also be

harmful to bone health. Diets providing fewer than 1,000 calories per day can lead to lower bone density in normal-weight, overweight or obese individual's. Obese women who consumed 925 calories per

day for four months experienced a significant loss of bone density from their hip and upper thigh region, regardless of whether they performed resistance training. To build and maintain strong

bones, follow a well-balanced diet that provides at least 1,200 calories per day. It should include plenty of protein and foods rich in vitamins and minerals that support bone health [6].



Fig. 5. Low Calorie Diet.

Collagen Supplement

Collagen is the main protein found in bones. It contains the amino acids glycine, proline and lysine, which help build bone, muscle, ligaments and other tissues. Collagen hydro lysate comes from animal bones and is commonly known as gelatin. It has been used to relieve joint pain for many years [4].

Maintain a Stable, Healthy Weight

In addition to eating a nutritious diet, maintaining a healthy weight can help support bone health. For example, being underweight increases the risk of osteopenia and osteoporosis. This is especially the case in postmenopausal women who have lost the bone-protective effects of estrogen. Obese can impair bone quality and increase the risk of fractures due to the stress of excess weight. While weight loss typically results in some bone loss, it is usually less pronounced in obese individuals than normal-weight individuals. Overall, repeatedly losing and regaining weight appears particularly detrimental to bone health, as well as losing a large amount of weight in a short time.

Maintaining a stable normal or slightly higher than normal weight is your best bet when it comes to protecting your bone health [5,6].

Include Foods High in Magnesium and Zinc

Calcium isn't the only mineral that's important for bone health. Several others also play a role, including magnesium and zinc. Magnesium plays a key role in converting vitamin D into the active form that promotes calcium absorption. Although magnesium is found in small amounts in most foods, there are only a few excellent food sources. Supplementing with magnesium glycinate, citrate or carbonate may be beneficial. Zinc is a trace mineral needed in very small amounts.

It helps make up the mineral portion of your bones. In addition, zinc promotes the formation of bone-building cells and prevents the excessive breakdown of bone. Good sources of zinc include beef, shrimp, spinach, flaxseeds, oysters and pumpkin seeds.

Consume Foods High in Omega-3 Fats

Omega-3 fatty acids are well known for their anti-inflammatory effects. They've also been shown to help protect against bone loss during the aging process. In addition to including omega-3 fats diet, it's also important to make sure your balance of omega-6 to omega-3 fats isn't too high. Generally speaking, it's best to aim for an omega-6 to omega-3 ratio of 4:1 or lower. Plant sources of omega-3 fats include *Chia* seeds, flaxseeds and walnuts. Omega-3 fatty acids have been found to promote the formation of new bone and protect against bone loss in older adults [4–6].

CONCLUSION

Consuming a diet high in vegetables has been shown to help create healthy bones during childhood and protect bone mass in young adults and older women. Consuming a diet high in vegetables has been shown to help create healthy bones during childhood and protect bone mass in young adults and older women. Magnesium and zinc play key roles in achieving peak bone mass during childhood and maintaining bone density during aging. Being too thin or too heavy can negatively affect bone health. Furthermore, maintaining a stable weight, rather than repeatedly losing and regaining it, can help preserve bone density. Diets providing too few calories have been found to reduce bone density, even when combined with resistance exercise. Consume a balanced diet with at least 1,200 calories daily to preserve bone health. Emerging evidence suggests that supplementing with collagen may help preserve bone health by reducing collagen breakdown. A low protein intake can lead

to bone loss, while a high protein intake can help protect bone health during aging and weight loss. Getting adequate amounts of vitamins D and K2 from food or supplements may help protect bone health. Consuming a diet high in vegetables has been shown to help create healthy bones during childhood and protect bone mass in young adults and older women. Calcium is the main mineral found in bones and must be consumed every day to protect bone health. Spreading your calcium intake throughout the day will optimize absorption.

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