

The Wellness Express™

Jump on the train to good health

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Bone-Building Strategies

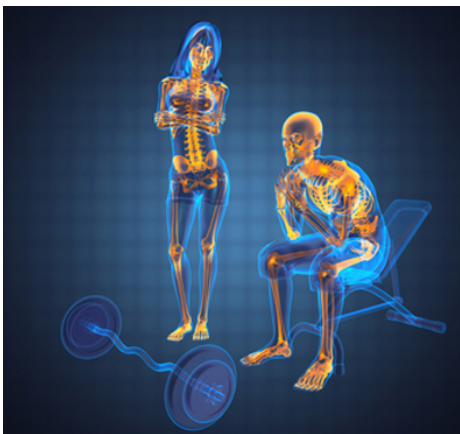
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Introduction

Your bones form the framework of your body. Your bones are alive and in a constant state of change - a process known as remodeling in which your bone tissue is perpetually resorbed and replaced. This bone remodeling process is affected by the force of gravity, the pull of your muscles on your skeleton, your nutritional status and other circumstances. Though bone remodeling occurs throughout your lifespan, your skeleton experiences the most rapid increase in bone density and strength during childhood. According to the UK's National Osteoporosis Society, the skeleton completely renews itself in just 2 years during this rapid growth phase.¹

Your bones cease growing in length between 16 and 18 years of age, though bone density continues to increase up to and through your mid-20s. At this point, the balance between bone loss and bone construction remains stable, with little net bone loss or gain. Once you reach your early 30s, however, the process of bone loss begins to outperform bone construction and bone loss increases gradually. This is a natural part of the aging process. It is important, especially for women, to optimize bone mass before this slow bone loss begins. The following strategies can

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help you build or preserve bone mass and density as you age. Your chiropractor can counsel you further on how these strategies can benefit your spine health and prevent osteoporosis and other problems.

Perform Weight-Bearing Exercise

Weight-bearing exercise puts stress on your bones, which has the health-positive effect of strengthening your bones and enhancing or preserving their density. Examples of weight-bearing activities that can help improve bone health include walking, running, dancing, jump rope, weightlifting, martial arts and even activities around the home, such as raking leaves, mowing the lawn and gardening. Weight-bearing exercise is a powerful stimulus for bone turnover, and even a single, strenuous bout of exhaustive,

Exercise of the Week

Crunches on Exercise Ball with Oblique Twist

Difficulty: Beginner to Moderate
(Consult your Chiropractor before starting this or any other exercise)

Start: Lie on back over exercise ball so that lower portion of ribcage is positioned over center of ball. Let head rest on ball and relax hips. Keep knees wide apart and position arms across chest (easy), hands behind head with elbows out (moderate), or arms stretched out overhead (difficult).

Exercise: Engage inner abdominals first by bringing belly button inward. Then, curl body forward on ball, keeping lower back in contact with ball at all times. As you curl forward, bring one shoulder/elbow across body in the direction of the opposite knee. Return to starting position. Alternate sides. Repeat 5-10 times each side.



high-impact exercise can favorably affect bone formation, notes a 2009 study published in the *Journal of Sports Science and Medicine*.²

Along with building bone density, weight-bearing exercise can help you preserve muscle strength, balance and coordination. This is particularly helpful for older adults, notes the National Institute of Arthritis and Musculoskeletal and Skin Diseases, as it can help those diagnosed with osteoporosis, prevent falls and fractures.³ It is important to incorporate activities or movements into your exercise routine that load your bones along their length. When performed correctly, squats, bench presses, pushups and overhead presses (in front of your head and neck) are good bone-loading activities. Impact exercises - running, jumping, heavy bag routines - are other types of weight-bearing exercise that also yield significant cardiovascular health benefits.

Consume a Healthy Diet

Eating a healthy, balanced diet is important for building or maintaining bone mass, as the remodeling process requires numerous key nutrients. Failure to consume sufficient amounts of these nutrients, notes a 2006 study published in the journal *Critical Reviews in Food Science and Nutrition*, increases your risk for bone loss and subsequent osteoporosis.⁴ Nutrients important to bone include calcium, protein, magnesium, phosphorus, vitamin D and potassium. Other vitamins and minerals required for bone-related metabolic processes include vitamins A, C, K and B, manganese, copper, boron, iron and zinc. The National Osteoporosis Foundation suggests consuming the

following good-for-your-bones foods: Milk, yogurt, cheese, canned sardines and salmon, fatty fish (salmon, mackerel, tuna), collard greens, mustard greens, plantains, broccoli, kale and spinach, among others.⁵

Consider Key Nutritional Supplements

In most cases, consuming a healthy and varied diet should provide you with all the vitamins and minerals you need to maintain bone health, but some people, especially older individuals, absorb nutrients less efficiently and may benefit from key nutritional supplements, including calcium and vitamin D. According to a study published in the *New England Journal of Medicine*, dietary supplementation with calcium and vitamin D in men and women over 65 helped reduce bone loss over the 3-year study period, as well as reducing the incidence of non-spine fractures.⁶ Some studies, including one published in 2009 in the *Journal of Nutritional Biochemistry*, suggest that plum polyphenol supplementation may encourage bone deposition, or formation and perform other beneficial bone-related processes.⁷

You should always speak with your chiropractor before using nutritional supplements to improve your bone health. Your chiropractor can counsel you on the proper dosage and provide you with helpful information about product purity, the most effective forms of the supplement available and the best brands to buy. Getting sufficient sun exposure, quitting smoking and limiting alcohol and soft drink consumption are other ways to preserve and support bone health. Ask your chiropractor about the best ways for you to bolster your bone health.

Quote to Inspire

“Parents are the bones on which children cut their teeth”

Peter Ustinov

References and Sources:

1. National Osteoporosis Society. What is Osteoporosis? <http://bit.ly/XsU0LF>
2. Rantalainen T, Heinonen A, Linnamo V, Komi PV, Kainulainen H. Short-term bone biochemical response to a single bout of high-impact exercise. *Journal of Sports Science and Medicine*. 2009. Dec; 8: 553-559.
3. National Institute of Arthritis and Musculoskeletal and Skin Diseases. Exercise for Your Bone Health. <http://1.usa.gov/V1V1Kv>.
4. Palacios C. The role of nutrients in bone health, from A to Z. *Critical Reviews in Food Science and Nutrition*. 2006; 46(8): 621-628.
5. National Osteoporosis Foundation. Food and Your Bones. <http://bit.ly/VVH417>.
6. Dawson Hughes B, Harris SS, Krall EA, Dallal GE. Effect of calcium and vitamin D supplementation and bone density in men and women 65 years of age or older. *The New England Journal of Medicine*. 1997. Sep; 337: 670-676.



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