



Symphony

NATURAL HEALTH

The Whole Health Guide to Bone Health

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Knowledge & Empowerment

What You Need To Know About Bone Health

There are three stages of bone health.

Stage 1 is the first 25 years of a man or woman's life when you build the strongest, most dense bones and minimize any actions that may compromise bone building.

Stage 2 is from 30 years of age to menopause for women or andropause for men, where the key is to take steps to avoid the breakdown of the foundational bone health you created.

Stage 3 is postmenopause or andropause, which is generally over 50 years of age, where you support both bone maintenance and limit bone loss.

For most individuals, the risk for bone changes is strongly influenced by hereditary factors such as a family history of a parent with a hip fracture. Importantly, that risk is worsened by lifestyle issues. Other individuals can have medical conditions that cause or put them at risk for bone changes, but again, lifestyle can further increase that risk. Significant changes in bone mineral density affect millions of Americans, particularly women. It is estimated that anywhere between 20%–50% of postmenopausal women are affected by low bone density.¹ Although bone loss is often thought to primarily affect women, men also incur substantial bone loss due to aging and decreased hormone production^{1,2,3}. The most serious complication of bone loss is fracture, specifically fractures of the hip, which cause severe pain and disability.

The major causes of significant bone loss are genetics, low body weight (<127 lb), being a current smoker, and/or being on steroid therapy.⁴ Additional risk factors include insufficient vitamin D levels, hyperthyroidism, changes in parathyroid function, renal concerns, poor nutrition, low hormone production, excess alcohol intake, and lack of exercise. However, bone health can often be supported by taking simple steps to build and support bone density. The most important first step is to:

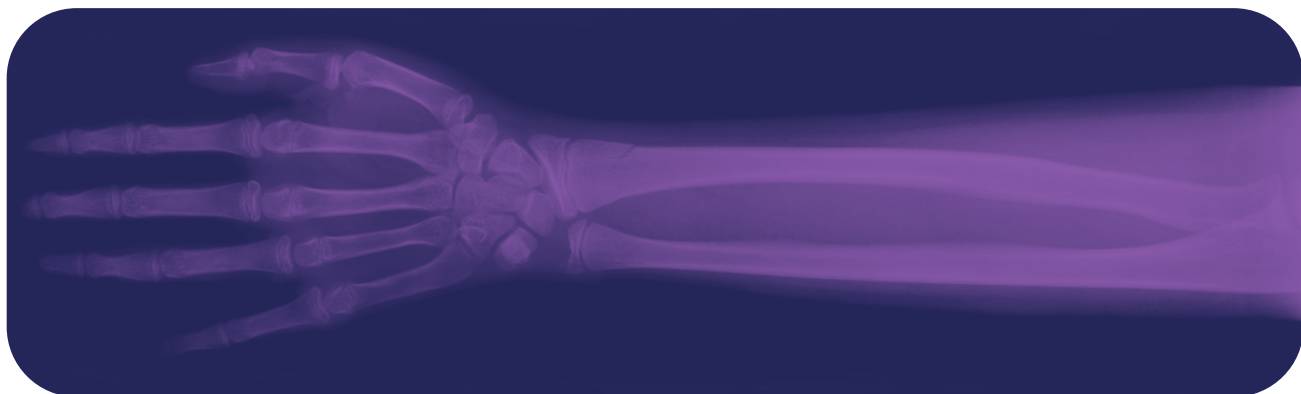
Find out the status of your bone density and evaluate your current lifestyle and diet.

Maybe you are getting enough calcium in your diet, but not getting enough magnesium, vitamin D, zinc or other co-factors? Maybe you are exercising and eating well, but also smoke or drink too much alcohol? Only by undertaking a personal assessment of your bone density, current lifestyle, and nutritional status will you get a clear picture of where you are and what measures you need to take.

A bone health assessment is often covered by insurance companies, can be carried out by your health professional, and includes a medical history, physical exam, and the gold standard – a bone mineral density test or DEXA scan. Standard screening guidelines for DEXA scans are the following:

- All women 65 years and older
- Postmenopausal women with medical causes of bone loss (i.e. steroid use, hyperparathyroidism, malabsorption, immobilization)
- Postmenopausal women over 50 years with additional risk factors (fracture – other than skull, less than 127 lb, history of hip fracture in a parent, current smoker, alcohol intake more than 2 units/day (1 unit: beer = 12 oz; wine = 4 oz; liquor = 1 oz).
- Any postmenopausal woman who has had a fracture after menopause

More extensive evaluation of underlying causes and management may include urinary and serum calcium, vitamin D levels, hormone analyses including parathyroid and thyroid tests, selected nutrient analysis, and a lifestyle, exercise, and nutritional assessment.



Hormones

Key Messengers In The Body

All information in the body is transferred by two types of messengers — neurotransmitters and hormones. Neurotransmitters help cells communicate through the nervous system, and hormones enable cells to communicate through the bloodstream. These two messengers control nearly every aspect of the body's function. They are so influential and at the root cause of so many health issues that your risk for many health conditions, like osteoporosis, are correlated to your hormone production. Within the first 3–5 years of a woman becoming post-menopausal (no menses in 12 months), they lose, on average, 7–10% of their bone density.⁵ And yet, during those first 3–5 years, most women are eating the same foods, vitamins, and minerals, exercising the same way, and spending the same amount of time in the sun! The only real change is that the body's own production of hormones dramatically declines, which directly correlates to the initial loss of 7–10% of bone density at the beginning of menopause (if not on prescription hormones or bone density medications). Similarly, most men do not have bone health issues until later in life, when testosterone levels significantly decline.

This is the reason hormones are one of the most important aspects of bone health, particularly growth hormones, estrogen, progesterone, and testosterone. Additionally, often forgotten in bone health protocols is thyroid production, as hyperthyroidism or overproduction inhibits bone building and accelerates bone loss, increasing the risk for osteoporosis.⁶

- **Growth Hormone** — During puberty, the increased levels of hormones support bone growth. As its name implies, growth hormone is a key hormone in building both bone and muscle.
- **Estrogen** — Bone is a living tissue, and scientists believe that, on average, people completely replace their bone once every ten years. This continual process of your body replacing old bone with new bone is conducted by cells called osteoclasts, which dissolve old bone, and osteoblast cells, which build new bone. Estrogen both inhibits osteoclast activity and supports osteoblast activity.²⁷ Therefore, supporting healthy levels of estrogen (estradiol specifically) may support bone health. This is particularly important for post-menopausal women when estrogen dramatically declines.

- **FSH** — FSH appears to preferentially act on osteoclasts, supporting their formation and activity. Rising FSH levels in perimenopause may contribute to an imbalance between bone breakdown and formation.
- **Progesterone and Testosterone** — Progesterone and testosterone increase the activity of osteoblast cells, supporting bone formation. Progesterone and testosterone have a less significant role in bone density and bone metabolism in women compared with estrogen. However, testosterone plays a significant role in bone health for men.²⁸
- **Thyroid Hormones** — Thyroid hormone plays an important role in skeletal development and bone turnover regulation. It is important to make sure hormone levels (especially TSH, but possibly Free T4 and Free T3) are within a normal range.
- **Cortisol** – The adrenals secrete cortisol, which is known as the stress hormone. Cortisol is essential for your health when it follows a normal, healthy rhythm. However, elevated levels can disrupt bone metabolism, negatively affecting bone mineral density, and fracture risk.^{46,47}
- **Melatonin** – Melatonin is a hormone produced in response to darkness, helping you fall asleep at night. However, melatonin has also been shown to support healthy bone formation and remodeling.^{48,49} Melatonin levels naturally decline with age in both men and women, making this hormone particularly relevant to bone health in midlife and beyond.

Importantly, growth hormone, testosterone, estradiol, and potentially FSH can also support muscle mass, which is critical for strength and balance, fall prevention, and healthy aging.

Bone Health in Perimenopause: FSH Rises Before Estrogen Falls

Bone changes in perimenopause have traditionally been attributed to declining estrogen levels. However, estrogen levels often fluctuate during perimenopause, and accelerated bone changes have been observed before sustained estrogen decline. This suggests other factors may contribute. One hormone receiving increasing attention is FSH,¹ which begins to rise before estrogen falls during perimenopause.¹ [Link to FSH paper once published.](#)

Clinical studies consistently report an association between elevated FSH levels and lower bone mineral density. Some research even suggests that FSH levels may be a stronger predictor of bone mineral density changes compared to estrogen, particularly at the lumbar spine. However, this relationship is most relevant during perimenopause, when FSH levels rise rapidly. During postmenopause, FSH levels generally stabilize, and the association with bone mineral density is lost.

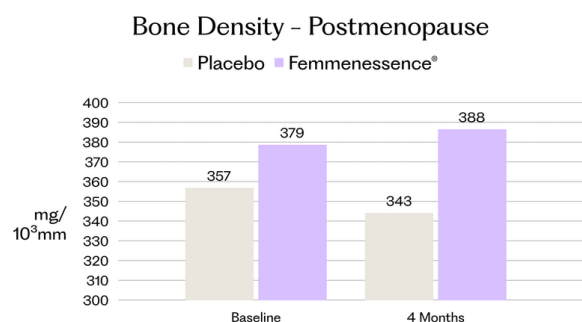
With this in mind, it's unlikely that FSH acts alone. Bone health is influenced by many factors, and the bone changes occurring during midlife likely reflect whole-endocrine adaptation rather than simply a consequence of declining estrogen. Even so, FSH may help identify increased risk of bone changes, allowing steps to be taken earlier to help protect bone health.

There are a number of steps you can take to support hormone and bone health naturally:

- **Reduce Stress** — Whether physical or emotional, stress is known to disrupt most systems in our body, including our hormones and adrenal function. In response to stress, the adrenals secrete cortisol. Chronic, elevated levels of cortisol can disrupt bone metabolism and contribute to fracture risk.
- **Meditation and Breathing** — Relaxation techniques like meditation and breathing are great ways to reduce stress. Taking even 15 minutes in the morning and before bed to practice therapeutic breathing and relaxation techniques can support healthy stress levels, mood, sleep, and energy. Research shows that these stress-reduction techniques may support the immune and endocrine systems.
- **Eat Adequate Protein** — Protein makes up roughly 50% of bone volume and 33% of bone mass. The bone matrix (think scaffolding) is constantly being remodeled, and that involves protein breakdown and synthesis. Therefore, adequate daily protein is key. Amino acids from protein are also the building blocks of hormones. Vegetarian protein can be sourced from foods such as organic eggs, dairy products, tofu, quinoa, yogurt, nuts, and whey, hemp, or pea protein powders. Animal protein, such as organic grass-fed red meat, chicken, and wild fish, can also be used. Each meal should include a portion of protein the size of the palm of your hand. A protein intake of 1–1.2 g/kg/day is often recommended for bone health for both men and women.
- **Exercise** — Weight-bearing exercise supports bone health in both men and women. More detail on strategies specifically for bone health can be found in the Exercise and Movement section.
- **Drink Less Alcohol** — Chronic and heavy drinking disrupts the normal balance between bone formation by osteoblasts and the removal of old bone by osteoclasts. Alcohol has an adverse effect on osteoblast activity, thus suppressing new bone formation. The empty space created by normal bone-removing activity is inadequately filled by newly formed bone. Keep alcohol consumption to a minimum for health benefits and choose wisely. For women, the maximum alcohol intake should be no more than seven alcohol drinks per week.

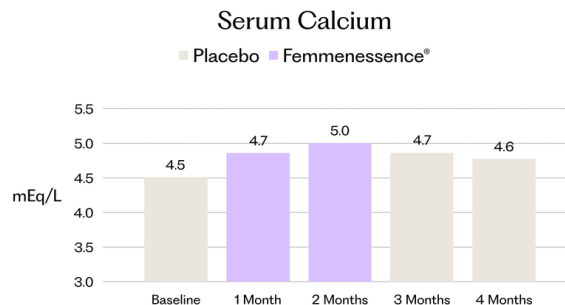


- **Get a Massage** — Physical touch or massage is a key factor for maintaining hormonal health. Oxytocin, which stimulates growth hormone, is released during orgasm, labor and breastfeeding, but also through safe touch, such as massage. Therefore, regular massage should not be seen as a luxury, rather as a health necessity! Additionally, sexual activity is important for many individuals to maintain a quality of life they desire.
- **Sleep** — Sleep recharges the brain and allows the body to relax and heal. Growth hormone peaks during deep sleep, which allows for tissue growth and repair. Proper immune response occurs during adequate and regular sleep. Proper, restful sleep is paramount, especially for supporting healthy testosterone levels in men. Additionally, melatonin may play an important role in not only supporting sleep, but bone health as well. Multiple studies have shown that adequate melatonin production impacts bone health positively, and supplementing with even low doses may support bone health in perimenopausal women.^{43,44,45}
- **Hormone Therapies & Herbal Alternatives** — Historically, doctors have used Hormone Replacement Therapy (HRT), or more recently Bio-Identical Hormones, all of which have clearly demonstrated bone density improvements when used in adequate doses and duration.^{30,31} However, once stopped, a woman will lose bone again. This has led many integrative practitioners to consider other alternatives. Clinical research on a concentrated herbal preparation called Maca-GO® (commercially known as Femmenessence®) has demonstrated statistically significant effects on post-menopausal women's own hormone production, including estradiol and FSH, and bone mineral density measures.^{32,33}



In this cohort, women in the placebo group showed the expected decline in bone density associated with postmenopause, while women taking Femmenessence® experienced an increase.*

Reference: Meissner HO et al. Hormone-Balancing Effect of Maca-GO® (Femmenessence) (III) Clinical responses of early-postmenopausal women. *Int Journal Biomed Sci* 2006 Dec; 2 (4): 375-394.



In this cohort, women taking Femmenessence® for two consecutive months showed an increase in gastrointestinal absorption of serum calcium.*

Reference: Meissner HO et al. Hormone-Balancing Effect of Maca-GO® (Femmenessence) (III) Clinical responses of early-postmenopausal women. *Int Journal Biomed Sci* 2006 Dec; 2 (4): 375-394.

Diet & Nutrition

What You Need To Eat for Healthy Bones and Why

Bone and muscle are living tissues. They grow, shrink, and become stronger or weaker. A key factor in bone health (which includes bone density, bone strength, and bone architecture) is to provide all the necessary elements for your bones. Bone is a complex, highly mineralized tissue that requires essential nutrients for its formation. These include protein, fatty acids, calcium, magnesium, and Vitamins A, D, E, and K, among others. Below are a few of the more important building blocks you need.

Calcium

The first thing that usually comes to mind when people think of bone health is calcium. Calcium is essential for healthy bone formation; however, it requires optimal amounts of other trace minerals, vitamins, and hormones to build bone and reduce the risk of fracture. However, research indicates that too much calcium (>1500 mg/day) may negatively affect kidney health, cardiovascular health, and nutrient absorption.⁵ A solution to the question of too much or too little calcium is to estimate dietary calcium and then supplement the difference. Most adults will consume between 400–700 mg of calcium from the foods they eat each day. The current guideline for total daily calcium intake through combined diet and supplements (if needed) is:

Adult men (19 to 70 years)	1,000 mg/day
Adult men (>70 years)	1,200 mg/day
Adult women (19 to 50 years)	1,000 mg/day
Adult women (>51 years)	1,200 mg/day

Current research still reveals that the form or type of calcium is not an issue if you take the calcium with food.⁶ For some, non-carbonate forms of calcium may be easier on the digestive system. Dairy products are the easiest form of calcium for most people to include in their diet. However, many have chosen to eat less dairy or perhaps none at all. Other food sources of calcium include sardines (with bones), sesame seeds, egg yolks, tofu, soybeans, molasses, and green leafy vegetables, all preferably organic. The best solution is to get adequate calcium in your diet from recommended food sources; however, it may also be necessary to choose a calcium supplement to fill the gap and ensure that you meet your daily requirements. Less constipating forms of calcium and perhaps easier on the digestive system, especially for those with reduced stomach acid, include non-carbonate forms such as calcium citrate, calcium lactate, calcium acetate, or calcium gluconate.⁷

One important aspect of bone health is gastrointestinal absorption: for dietary calcium and other minerals listed here to be absorbed into the body, good digestive function is paramount.

It is not uncommon for digestion to slow down as we get older. If you find that you have increased digestive concerns, from heartburn to bloating, gas, diarrhea, or constipation, reach out to your provider for help. Improving digestion through diet and supplementation will result in better absorption of all nutrients.





Magnesium

Magnesium is an extremely important co-factor in more than 300 enzymatic reactions in the human body, including alkaline phosphatase, which plays a role in bone mineralization.¹¹ It is also a building block in making progesterone. Magnesium promotes bone rebuilding and increases bone mass by stimulating parathyroid hormone, which enhances calcium metabolism.¹²

Magnesium is required to activate the enzymes involved in forming calcium crystals in bone¹³ and in converting vitamin D to its active form. Magnesium also influences the assimilation of other minerals, including calcium, by regulating calcium metabolism. Today, most soils are deficient in magnesium, making dietary sources unlikely to provide adequate levels of this vital mineral. Magnesium is available in several different forms and, in general, all forms are well-absorbed. Consider increasing magnesium-rich food sources such as wheat bran, wheat germ, soybeans, parsnips, brewer's yeast, molasses, and green leafy vegetables, preferably organic. Too much magnesium can lead to loose stools or diarrhea; if this occurs, reduce the dose.

Magnesium supplementation is often found in combination with calcium, which helps to reduce the constipating effects of calcium carbonate.

Adult men (19 to 30 years)	400 mg/day
Adult men (>31 years)	420 mg/day
Adult women (19 to 30 years)	310 mg/day
Adult women (>31 years)	320 mg/day



Vitamin D

Vitamin D is actually defined as a pro-hormone, and some doctors believe it's the most important supplement you can take. Poor vitamin D status is often more of a concern than poor calcium status in bone health. Vitamin D helps maintain serum calcium within a normal range, increases osteoblastic cell formation, and enhances intestinal absorption of calcium.^{14,15,16} Vitamin D is also essential for your immune system and overall health.

You can obtain Vitamin D three ways — from the sun, in small amounts from food, and through supplements. Vitamin D naturally occurs in fatty fish (mackerel, salmon, and sardines) and fish liver oils, though many grain and dairy products are also fortified with Vitamin D. Current government guidelines recommend the following:

General (< 50 years)	400 IU/day
Postmenopausal (> 51 years)	400—800 IU/day
Osteoporosis	800 IU+/day; specific amount based on individual's bone density, age, blood Vit D level, fracture history
Northern Latitude/Darker Skin	800-1000 IU/day; higher amounts in Fall & Winter

Many in the scientific and medical community now assert that these guidelines are outdated. More and more commonly, 1,000 IU and even up to 5,000 IU per day is recommended as routine, especially in the absence of sun exposure. Recent studies confirm that vitamin D blood levels below 30 ng/ml are associated with changes in bone turnover markers, immune function, and parathyroid function.¹⁷ Those with low vitamin D levels will need higher amounts to achieve adequate levels. Over 30 ng/ml is the necessary level for bone health, and some labs suggest achieving levels over 50 ng/mL.



Zinc, Copper and Manganese

Zinc is essential for the formation of osteoblasts and osteoclasts, enhances the biochemical action of vitamin D, and is a key factor in the body's production of testosterone. Zinc is also necessary for the synthesis of various proteins found in bone and is therefore ideally consumed with protein. Zinc is found in grass-fed red meat, brewer's yeast, wheat germ, wild fish, organic chicken, oysters, nuts, seeds, and whole grains. Zinc is kept in balance with copper, which is also important for proper bone development.¹⁸ A deficiency of copper is known to produce below-normal bone development in growing children. In vitro studies have shown that copper supplementation supports normal bone metabolism.¹⁹ Foods high in copper include oysters, liver, nuts, chocolate, shellfish, and most seeds. Low manganese levels contribute to changes in bone calcium deposition. Manganese also stimulates mucopolysaccharide production, which provides a framework for the calcification process.²⁰ Foods high in manganese include organic raspberries, pineapples, whole grains, pecans, beans, tomatoes, and green leafy vegetables.

Zinc	15 mg/day
Copper	2 mg/day
Manganese	2 mg/day



Vitamin K

Vitamin K is probably most known for its primary role in the manufacturing of clotting factors. In bone health, Vitamin K is responsible for converting a bone protein, osteocalcin, from its inactive form to its active form. Osteocalcin provides the protein matrix for mineralization and is thought to act as a regulator of bone mineralization.²¹ Vitamin K plays a key role in the formation, remodeling and repair of bone, by attracting calcium to the site of this protein matrix.²² Deficiencies are not common, but can be found in individuals with chronic gastrointestinal disorders, poor fat absorption and in some individuals who have taken high or long-term doses of antibiotics.

Vitamin K, in fat-soluble chlorophyll form, is found in liver, soybeans, kelp, cabbage, and broccoli. Monounsaturated fats found in olive oil and canola oil are also naturally high in Vitamin K. While the recommended dietary intake of vitamin K is 90-120 mcg per day, the optimal dose and form of vitamin K supplementation to achieve a protective effect on bone loss and fracture reduction is not known.

B-12

B-12 has numerous health benefits, especially related to heart, nerve, and brain health. Many often forget about Vitamin B-12's role in bone health, but it has been shown to support osteoblast function²³ and promotes the remethylation of homocysteine to methionine, as well as reducing homocysteine levels directly.²⁴ Homocysteine has the potential to contribute to changes in bone mineral density if it is not eliminated adequately. Vitamin B-12 is normally found in grass-fed red meat, shellfish, liver, fish, cheese, spirulina, and sea kelp. Sublingual tablets or liquid are often best absorbed and come in cyanocobalamin or methylcobalamin forms.

B-12	500-5000 mcg/day
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Lifestyle & Environment

Day-to-Day Choices You Can Make for Bone Health

- Low exposure to the **sun** or excessive use of sun block can reduce Vitamin D synthesis in the skin.
- **Sleep hygiene**, including reducing light exposure in the evening and maintaining a regular sleep routine, are essential to be both adequately rested and produce melatonin, a hormone that may have bone protective effects.^{43–45} However, natural melatonin production decreases with age, and supplemental melatonin may help support both sleep and bone.
- Managing stress levels, incorporating relaxation techniques, and getting adequate rest can help support healthy cortisol levels and bone.
- **Smoking** decreases estradiol, can contribute to early menopause, reduces key antioxidants, and decreases the body's ability to heal.
- Excess consumption of **alcohol** affects production of hormones, vitamin status, and fall risk.
- **Corticosteroid** use affects bone remodeling by interfering with osteoclastic and osteoblastic cell formation.
- **Distilled water**, which is low in mineral content, can contribute to low mineral intake, which can adversely affect bone health.
- **Hormone medications and oral contraceptives**: Like all medications, there are pros and cons of menopause hormone therapies and hormonal contraception. The information that follows relates only to the pros and cons for bone health. Menopausal hormone therapies that include estrogen can be a positive for bone density, especially if you are prematurely menopausal. On the other hand, progestin-only birth control can negatively affect bone density. What hormones, at what age, for what conditions, and the benefits versus risks are a complicated medical arena, requiring an individualized approach. Find a clinician who is truly well educated in women's health who can provide you with hormone and non-hormone options.
- **Pharmaceuticals** such as anticoagulants, anticonvulsants, anti-anxiety medications, aromatase inhibitors, steroids, diuretics, immunosuppressant drugs, and antacids have all been seen to reduce bone density.^{35,36,37,38,39,40} Proton pump inhibitor drugs, used to reduce stomach acid, may also have a negative impact on bone health with long-term usage.⁴¹



Many foods are considered acid-producing foods, which can promote the loss of calcium and should be carefully monitored to ensure balance is maintained. The Standard American diet, which is typically high in phosphorus (meat, processed foods, junk food, and sugar), creates a more acidic state and can result in decreased calcium levels in the body.³⁴



Foods that increase calcium loss should be minimized, while foods that lower acid, or alkalize, the body should be increased.



- **Red meat** (acidic) is high in phosphorus, causing calcium to be excreted in the urine.
- **Refined sugar** (acidic) requires alkalizing minerals such as calcium and magnesium for its absorption, thus reducing their availability for bone health.
- **White Flour** (acidic) is found in breads, pasta, and pastries.
- **Salt**, due to its poor structure and often added chemicals, puts unnecessary strain on the body and its function. Alternatively, **Original Himalayan Crystal Salt** contains
- 84 trace minerals and elements and may support normal acid-alkaline balance.
- **Foods/beverages** such as soda, coffee, tea, dairy, and chocolate are high in phosphoric acid and can leach out available calcium and magnesium from the body, if used in excess.
- **Alkalizing Foods** such as green, leafy vegetables should be eaten liberally to support pH balance. Supplementation is encouraged, especially if you need to complement your diet.



Exercise & Movement

How To Exercise for the Best Bone Density Results

There is well-established evidence that physical activity early in life contributes to higher peak bone mass, with resistance training and high impact exercise being the most beneficial.³⁰ Exercise during the middle years of life has numerous health benefits. Regular exercise later in life, in the presence of adequate calcium and vitamin D intake, has shown a modest effect on supporting bone density.³⁰

Bone building occurs in two stages: remodelling and resorption. When you have healthy, dense bones, these two processes are occurring together all the time. Where it becomes problematic is when there is an imbalance between the two stages. Weight bearing exercise puts direct force on the muscles, which then stresses the bone and supports the formation of new bone.

Bone and muscle health are also related. Both bone and muscle are active tissues that strengthen and weaken based on the weight, tension, or stress under which they are placed. As an example, individuals confined to bed will experience changes in muscle strength and size as well as bone strength and density. Conversely, weight-bearing activities, such as high-impact exercise, will help muscles and bones to increase in size, strength and structure. However, it is important to point out that overtraining with physical exercise can result in injury and have a negative impact on bone health.⁴³ Additionally, overtraining or physical stress, even emotional stress, can result in elevated cortisol levels for extended periods of time, which can negatively affect bone health. Exercise programs should be balanced with type, intensity and, more importantly, consistency. Statistics confirm that people who are more active have denser bones and fewer fractures in old age. Exercise also decreases the risk of fracture by improving muscle strength and balance.



Maintaining a healthy weight is also critically important. Below are suggestions for adopting an exercise routine to support your bone health:

- The first step is to find a training partner, class you like, or an activity that is emotionally stimulating. It has been shown that people exercise more consistently when doing so with others and choosing exercise programs that are fun and engaging.
- Second, consider getting a personal trainer who has experience in bone density. Professional direction will ensure you are doing things correctly, safely, and effectively.
- Third, find activities that are weight-bearing, such as lifting weights, yoga, hiking, running, briskwalking, Pilates, tai chi, or dancing. Rebounding (small trampolines) has gained popularity as a bone-building exercise.
- Fourth, dedicate time to exercise each week, ensuring it is effective and focused on achieving results. Set goals, be consistent, and sweat! To gain the protective benefits from exercise, it is recommended you do a minimum of 3 sessions per week for at least an hour or 6 sessions lasting 30 minutes each. Also, be aware that when you train properly, you will sweat, and when you train consistently, you will see and feel results within a matter of months.
- Finally, just do it! The moment you stop to think about what else you could do, how hard it will be, or if you have time, is the moment you won't do it. 99% of the time you exercise, you will not turn around afterward and think, "I shouldn't have done that." Rather, you will say, "I am so glad I did that!"

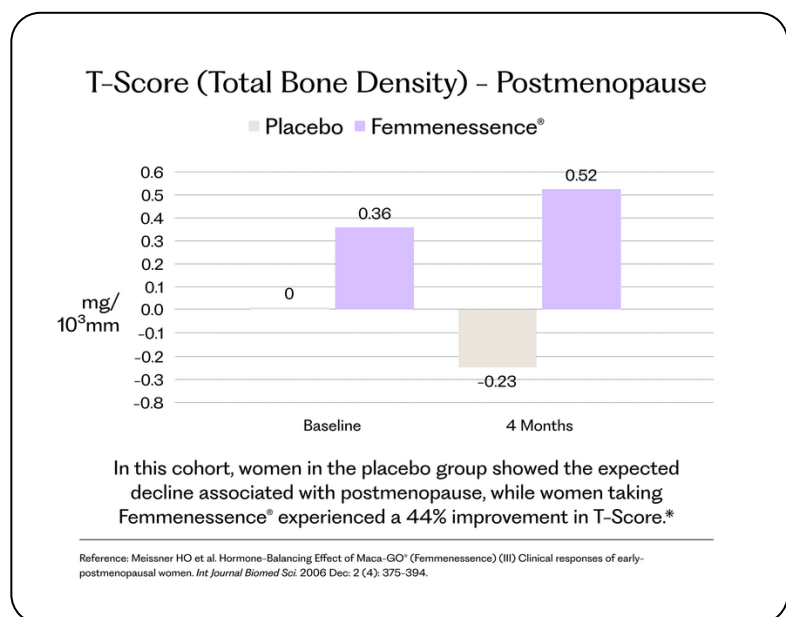
Summary of Bone Health Recommendations

Empowerment & Knowledge

- Bone mineral density test
- Urinary and serum calcium level, urine or serum N-telopeptide level, Vitamin D level
- Estrogen, progesterone, testosterone, parathyroid and thyroid tests
- Measure height annually after menopause, normal age-related height loss is 1.0”-1.5”
- Lifestyle, exercise and nutritional analysis by a professional

Hormone Balance

- Estrogen
- Progesterone
- Testosterone
- Thyroid/Adrenals
- Femmenessence to support healthy hormone levels
- Herbatonin 0.3 — 3.0mg
- to support sleep hygiene
- & bone health



Diet & Nutrition

Vitamin/Mineral	Amount per day	Source
Calcium	500-1200mg	Organic green leafy vegetables, sardines, molasses, dairy, supplementation
Magnesium	500mg	Organic green leafy vegetables, wheat bran, brewer's yeast, supplementation
Zinc	15mg	Oysters, grass fed red meat, organic chicken, fish, wheat germ, supplementation
Copper	2mg	Liver, oysters, nuts, chocolate, seeds, shellfish, supplementation
Manganese	2mg	Pineapple, raspberries, beans, tomatoes, green leafy vegetables, supplementation
Vitamin D	1000-2000IU	15-20 minutes of sun, wild fish – sardines, mackerel and salmon, supplementation
Vitamin K	90-120mcg	Chlorophyll, broccoli, cabbage, kelp, olive oil, canola oil, supplementation
B-12	400-800mcg	Grass-fed red meat, shellfish, liver, cheese, spirulina, kelp, supplementation



Lifestyle & Environment

- Don't smoke
- Reduce stress
- Meditate and sleep more
- Eat more protein and green leafy vegetables
- Walk in the sun 15 to 20 minutes a day
- Mineralize your water with Original Himalayan Crystal Salt Sole therapy
- Keep alcohol consumption to no greater than one drink per day of wine/beer
- Avoid soda pop, reduce coffee and tea
- Reduce consumption of processed foods, refined flour and refined sugar
- Minimize corticosteroids and pharmaceuticals with the guidance of your healthcare professional
- Supplement with pH Quintessence, 3 capsules per day, as necessary

Exercise & Movement

- Maintain healthy body weight, BMI and body fat percentage.
- Get a personal trainer
- Commit to regular exercise and weight-bearing exercise three days per week

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