

Baritz Wellness Center, P.C.

450 Pleasant Street, Brockton, MA 02301 • 508 583-2565 • www.baritzchiro.com

Bone Health

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Living bone is constantly renewing by a process of resorption of older bone tissue and build-up of new tissue. In youth and early adulthood bone building usually out paces resorption and bones grow longer or denser. As one gets older bone growth slows and resorption tends to increase resulting in bone thinning. Key to slowing loss and increasing growth is an understanding of factors of bone health and the sequence of calcium absorption as in 1 to 5 below.

1. Ingestion of calcium rich foods or supplements.
2. In the stomach HCL renders calcium and other minerals suitable for absorption.
3. In the intestines calcium is mobilized by vitamin D to be absorbed into the blood.
4. Blood calcium is mobilized by essential fats and moved into the bones.
5. Once in the bone, calcium is acted on by bone growth factors to become part of the bone structure.

Other Factors of Bone Health

- Para-thyroid glands act on kidneys, intestines and bone to maintain blood calcium levels needed for many functions.
- Estrogen and other hormones impact calcium use and are potent factors in bone growth and breakdown.
- The liver and kidneys change vitamin D, to a more effective form to enhance calcium absorption from the gut.
- Bones contain other nutrients such as protein and trace minerals which also need to be consumed and absorbed.
- Human blood is slightly alkaline and if the system tends to acidosis, calcium is taken from bones to reduce the pH.
- Weight bearing exercise is a potent bone growth factor and may make up for imperfections elsewhere in the system.

Risk Factors for Bone Loss

Slender physical frame	Sedentary lifestyle	Never had a full term pregnancy
White or Asian race	Smoking	Sugar intake
Family history of osteoporosis	Removal of part of the intestines	Lithium or Tetracycline use
Gall Bladder disease	Stomach Bypass surgery	Cortisone or Prednisone use
Long term low back pain	Antacid use	Excessive caffeine use
Previous stress fractures	Thyroid removal	High animal protein intake
Inadequate Ca during pregnancy	Digestive insufficiency	Soft drinks

Bone Density Testing

Often the first indication of thinning bones is poor bone density test results. The gold standard for bone density evaluation is the DEXA scan (dual energy x-ray absorptionmetry). DEXA results are reported as T and Z scores. The T score compares results with bone density of a healthy young adult and the Z score is age adjusted. The World Health Organization recommends using the T score. T scores can change and the DEXA scan can be repeated after 6 months.

T scores are evaluated as: Normal: above -1 Osteopenia: -1 to -2.5 Osteoporosis: below -2.5

Other Indicators of Bone Health

- ✓ Urine testing to measure the rate of bone breakdown or build-up (can be repeated every 3 to 6 months)
- ✓ pH monitoring of saliva and urine to measure decalcification tendency (can be tested daily home or at any office visit)
- ✓ The calcium cuff test gives an indication of tissue calcium levels (can be done weekly or monthly)

Summary

It should be obvious by now that bones are not some isolated part of your body, but an integral part of the miracle of life. The density of bone tissue is a reflection of general health and the steps to maintain healthy bones are in fact the very same ones necessary to promoting good health. For more information see Health Tip "Bone Health The Program."

To have a custom program created for you or for a free consult call 508 583-2565

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