

BONE HEALTH

- BONE DENSITY TREATMENT OPTIONS -

Overall bone health is important because weak bones decrease the ability to do daily activities and broken bones, particularly major breaks, can cause disability and chronic pain. Here are some common issues.

CONVENTIONAL RESISTANCE TRAINING

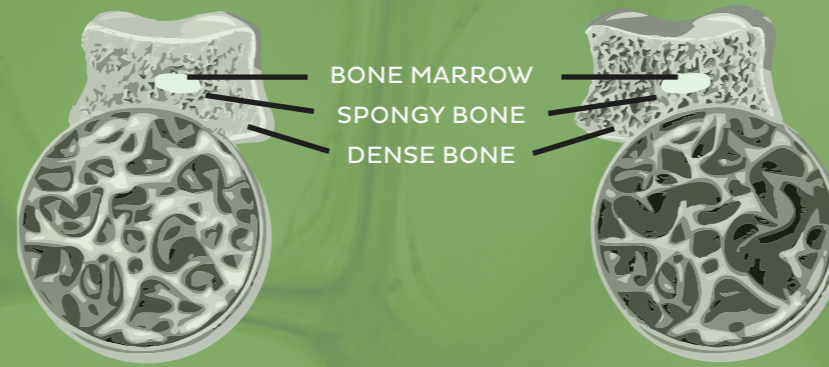
How It Works: In the normal functioning of bone the osteoblasts (bone cells) respond to the load/force of conventional weight training by absorbing minerals and becoming stronger/harder. This loading response is easily seen in the normal running and jumping activity of young children. The impact of each step/jump puts high amounts of force on their bones and the body responds by sending minerals to strengthen/harden the bone. By our 30's, the fear of injury makes us more cautious with impact type (bone building) activities and this lack of force/loading on the body is what starts the bone mass degradation.

Pros: Conventional weight training can put more force/load on the bones, thereby stimulating the bones to absorb more minerals. The building blocks the bone tissue, primarily calcium, are activated by this force/loading process and will yield positive results no matter your age.

Cons: The risk of injury associated with conventional weight training is significant. The vast majority of the conventional weight training public uses lighter/low impact type exercises to reduce this injury risk. Studies have shown that the low impact methods have little to no effect on bone mass.



OSTEOPOROSIS, WHICH LITERALLY MEANS "POROUS BONE," IS A DISEASE THAT LEADS TO FRACTURES AND BREAKS DUE TO LOSS OF BONE MASS AND STRENGTH.



HEALTHY BONE

BONE WITH OSTEOPOROSIS

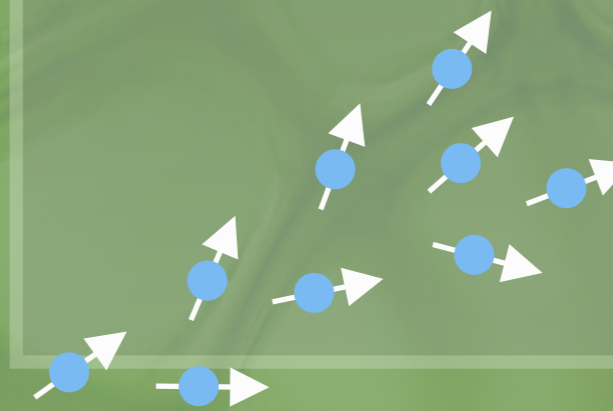


CALCIUM SUPPLEMENTS AND VITAMINS

How They Work: Calcium is the most essential mineral in bone mass, as well as being an essential requirement for all nervous system function. Adding more calcium to your diet, or taking calcium supplements, does not necessarily solve the problem of low bone mass density itself.

Pros: This is an easy and inexpensive piece of a larger, more comprehensive natural solution program.

Cons: Calcium is only one of the building blocks necessary for creating bone mass. Just because it is ingested, does not mean that the body will be able to absorb and use it. Studies have indicated that the use of calcium supplements can be associated with kidney stones, therefore natural sources of calcium should be preferred.



WHOLE BODY VIBRATION

How It Works: Users of this technology stand on a platform that shakes/vibrates. Some platforms move in an up/down motion, and other vibrate in a side to side motion, and even still some a mixture of both. There are a multitude of health claims associated with these devices, with increased bone density being one. The claims suggest that the vibration of the platform forces the individual standing on the platform to absorb many times their own body weight.

Pros: The vibrations cause increased muscular activity in balancing the body on an unstable surface and can be applicable to a fall prevention plan (to lower fracture risk), as balance is increased over time.

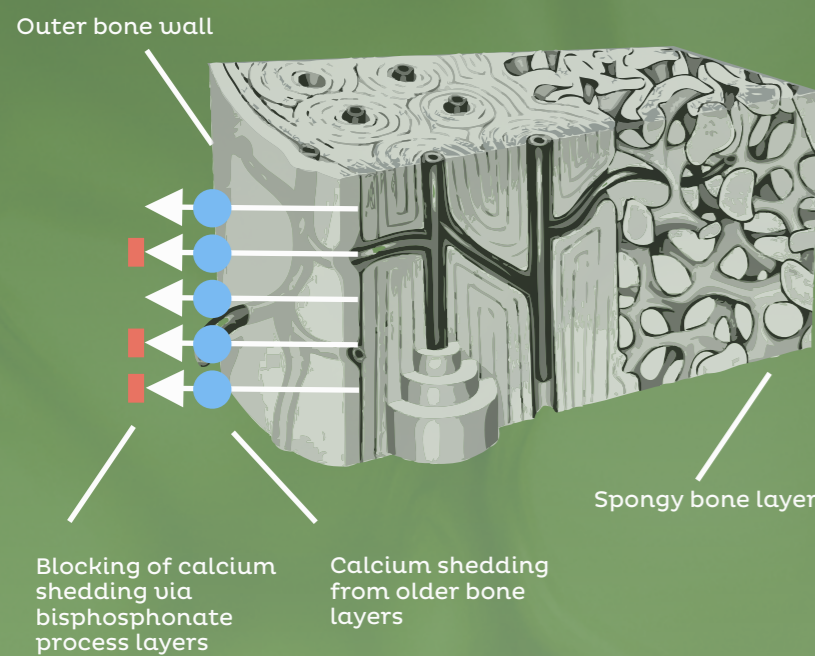
Cons: Recent studies and reports have shown that the evidence is weak in support of claims that the whole body vibration can have a positive effect on bone density. A November 2011 study was published showing 202 postmenopausal females separated into use and control groups. The whole body vibration group showed no change in bone density after one year compared with the control group.

REGULAR WEIGHT-BEARING PHYSICAL ACTIVITY,

which is any activity in which your body works against gravity, is essential to overall bone health. Running and walking are weight-bearing, swimming and cycling are not.



WHAT CAN YOU DO FOR GOOD BONE HEALTH?



BISPHOSPHONATE PHARMACEUTICALS

How They Work: This category of pharmaceuticals (includes Fosamax, Boniva, or Actonel) acts in a way to limit or stop the body's natural process of shedding older bone mass which lies in the outer cortex/outer layer of the bone. This gives the bone a harder, more-dense outer layer, however inside the same low bone mass density can exist.

Pros: Since pills and injections are the norm, this is one of the easiest protocols to follow.

Cons: These drugs limit or stop the natural mineral shedding process and cause the bone tissue to retain minerals at the outer layer of bone giving the false impression of a stronger bone. While the outer layer is now somewhat harder, the bone core is still porous, fragile, and statistically almost as easily fractured. In addition, by interrupting this normal shedding process, other body organs normally supplied by the process are robbed of minerals that are essential for their functioning. This retention is the primary catalyst of the various side effects.

Side Effects Include:

- Upset Stomach/Esophageal Inflammation
- Osteonecrosis (disintegration)
- Bone, Joint, and Muscle Pain
- Femur (thigh) Fracture

Individuals considering taking these medications should consult their physician, and read all FDA warnings before beginning treatment.

GET THE RECOMMENDED AMOUNTS OF CALCIUM AND VITAMIN D IN YOUR DIET.

Non-dairy sources of dietary calcium are preferred. Almonds, broccoli, and dark green vegetables are all excellent sources.

OsteoporosisInstitute.org
Copyright 2012, All Rights Reserved

OSTEOGENIC LOADING DEVICES

How They Work: Similar to the effects of the conventional resistance training, however without the injury risks. Due to the body's natural adaptive response to the loading stimulus, bone cells in the impact position (the best biomechanical position for the body to absorb/generate the greatest amount of force... Think of how a person will brace for a fall to minimize the chances of injury). The actual force/loading events are self-generated (no external weight) and regulated by the user's comfort. With no weights to move or balance, the chance of injury is greatly reduced allowing even the elderly deconditioned person to safely and naturally reverse.

Pros: Use of these devices will facilitate the natural bone growth process, without injury risk of conventional resistance training. The devices also seem easy to use, and only need to be used one time per week.

Cons: These types of devices are so new that availability is scarce. In principle, placing forces greater[than and] than an individual's body weight on the bone will have effectiveness equal to or greater than what is possible with conventional resistance training, although no clinical research has been done with these devices to date, the underlying science (Wolff's Law) has been taught in medical schools for over 100 years.