High Point Health Solutions

Life Changing Care

Everything You Need To Know About Osteoporosis

Except One Thing!

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Hey Wait, What's the One Thing??

If you recall, this article is entitled Everything You Need to Know about Osteoporosis Except One Thing. What's the one thing?

The one question which cannot be answered is: if all of this is known, if we know calcium and estrogen and fosomax are not the answers—and we know about nutritional balancing and resistance exercising, etc. why isn't everyone doing **this** instead of **that.** Don't know—that's the one thing not answered here. The research is clear. At least, now *you* know what to do.

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Everything You Need to Know about

Osteoporosis

Except One Thing

It is commonly thought that osteoporosis is a calcium deficiency of the bones of the body. Actually, this describes another condition. There *is* a condition of calcium deficiency in the bone, but it is called *osteomalacia,* not osteoporosis. To understand about osteoporosis...

Let's Take a Quick Look at Bones

Imagine a large, long spider web. Further think of this spider web as being strongly connected together and very sturdy. This is so strong, in fact, that you can pour heavy particles on it and it will catch them and keep them together. As the web fills up

with these particles and they stick together, it is like cement which is able to withstand great force. If the web is not strong, the particles will fall through the pores. It will become porous. This is similar to what happens with the bones of the body. First, there is a spider web like protein mesh that can hold minerals together. Next, the correct formula of minerals is dropped onto it. If it is strong it will hold the minerals and form good, solid bone. If not, the minerals, for a large part will drop through the porous net. Porous bone is osteo (bone) porosis. Eventually, as the particles (minerals) fall through the bone, the bone becomes less dense. On an x-ray, the bone looks emptier.

So, Osteoporosis (porous bone) is actually, a Decrease in the Fiber Matrix that **Holds** the Minerals

When you have a broken down matrix and you add minerals to it, what do you think happens? They fall through. Except for a bit that may stick, here and there, they do nothing for bone density and strength.

Surely, calcium, which is recommended by nearly everyone, must have some positive effect on building bone. Yes, it does, depending on the matrix and depending on the other essential minerals that are available. The other trace minerals, such as zinc, magnesium, selenium, boron and others are **equally** important.

Many studies show that calcium is important, but not more than other essential minerals.

In fact, some studies show other minerals are more important!

We know that the body must always maintain a certain balance to function properly. It is similar to a recipe for fine food. Just because you like the taste of cinnamon, for example, and cinnamon is called for in the recipe, you can't pour in as much as you want and expect the end result to be edible. In fact, too much of anything will ruin the whole result, negating the other good ingredients in the mix.

This is also true for bones. Basically, when bone is thinning, we are trying a recipe to make new bone. Drop some ingredients in the body and hope all goes where is should, gets mixed together properly and new, strong bone results.

Does It Make Sense To Continue To Pour Calcium Into The Body and Hope Good Bone Will Be the Result?

No, it doesn't. In fact, there are disturbing studies that show too much calcium will actually inhibit the cells which are

responsible for making new bone. This is particularly true in people with deficiencies of other key minerals. In these people, taking calcium may have the exact opposite effect than they are looking for.

So for the average, otherwise *healthy* person, too much calcium or a calcium imbalance may make osteoporosis worse.

And...

It doesn't address the real issue of osteoporosis. Now let's go one step further. Not everyone who has osteoporosis is otherwise *healthy.* They usually have other nutritional or biochemical imbalances. Let's look at some ofthose.

1. **In people who are overly alkaline (a nutritional condition caused by certain types of poor eating) the excess calcium taken will likely be deposited in soft tissues (muscle, tendons, etc.) and possibly lead to arthritis, spurs, cramps and twitching. Calcium in these people may also wind up in stones (kidney, gall bladder) or cysts. Too much calcium in these people is a recipe for pain and dysfunction.**
2. **Many people who experience life as overly stressful wind up with an imbalance of hormones known as catecholamines. These hormones, such as epinephrine or adrenalin are part of the body's "fight or flight" mechanism. Excess calcium in these people makes their overcharged system even worse. They may experience dry**

mouth, cold hands or heart palpitations. Additionally, they may tend to suffer from insomnia, hypertension, constipation or erectile dysfunction. All this, from too much calcium.

3. In people with certain types of blood sugar imbalance, excess calcium may make it more difficult for the body to use sugar for energy. These people may suffer fatigue, depression, and a cold body temperature.
4. In people who have a problem with fat utilization at the cell membrane, too much calcium may accelerate the aging process and depress the immune system.

Get the idea? Too much calcium is as big a problem as too little calcium. Or maybe bigger! All this for people who are following instructions to add calcium to bone which is unlikely to hold it anyway.

One Last Idea On Too much Calcium

We should expect the people who ingest the most calcium to have the strongest bone, based on the calcium/bone theory. However, this is nearly opposite to the truth. Finland and The Netherlands who have among the highest calcium intake in the world also have among the highest rate of osteoporosis. Why? Imbalances of nutrients, particularly magnesium and vitamin D, in this case.

Calcium is one of the two biggest myths when it comes to osteoporosis

Before understanding a subject as complex as osteoporosis it is important to remove ideas which are misleading and confusing. Loading up on calcium is one of these misconceptions that needed to be removed. Now for the second...

Estrogen and Osteoporosis

Menopause is the time when a woman's menstrual cycle ends permanently. The time leading up to it is now called perimenopause. This change of life is dependent on changes of hormone levels. As women age, changes in hormones like estrogen and progesterone dictate the end of potential fertility as well as the onset of other changes that depend on these hormones. One of the most popular notions is that this time of life and the decline of estrogen lead to osteoporosis.

Now let's look at some research. First we learn that women generally have an *increase* in estrogen between the ages of 21 and 40. Surprisingly, as estrogen rises during these years, bone loss begins! For most women, it actually begins around age 23. Some studies estimate that there is up to 50% of bone loss

before menopause even begins. That is, the metabolic changes that drive osteoporosis happen while estrogen is rising.

Not only that. There are many studies showing that the increase of estrogen *contributes* to osteoporosis. One study goes to great detail to discuss the potential mechanism of the estrogen-mediated decrease in bone formation. Another shows that women with higher estrogen had decreased bone mass and thinning skin. Further, we know that estrogen increases the hormone prolactin which also has a negative effect on bone density. To make matters worse, the literature is filled with many other devastating effects of too high estrogen besides its connection with osteoporosis.

But We Have A Problem Here

Surely, there must be some research and support for the popular notion that estrogen is good for the bones.Where are all the studies of estrogen and hormone replacement therapy being good for bones coming from? Why is it touted as an anti-osteoporosis choice?

Decades ago, it was shown that adding estrogen would yield a positive calcium balance. This means that less calcium was excreted out of the body in the presence of additional estrogen. It was then assumed (or hoped) that the extra calcium retained by the body would go to strengthen the bones. Unfortunately, it was later shown that estrogen caused

calcium to be retained in the soft tissue (skin, muscle), not the bone. So much for estrogen and its bone building possibilities.

Hold on, not so quick. Another study came quickly to the rescue of the estrogen supporters.

Bone is living tissue. This means it should constantly be rebuilt when old bone cells die off and are replaced by new bone cells. This balance keeps bones healthy and strong. To keep this dynamic going, there are two types of cells that drive this equation. First there are osteoclasts which are cells like vacuum cleaners that break down old bone cells and remove the dead cells to make room for new cells. Then there are osteoblasts which are responsible for making the new cells. It was shown that estrogen can reduce the activity of osteoclasts more than the osteoblasts. Thus, it can be claimed that estrogen prevents bone loss. Of course, it does nothing to build new bone and merely helps keep decayed bone around longer.

So that's the brief estrogen story. It has been shown that during the course of life, bone loss begins while estrogen levels rise. Secondly, it has been shown to be involved with mechanisms that decrease bone formation. It has been shown to add calcium to soft tissue instead of bone. Finally, the theories that it was originally built on while having some technical reality, clinically do nothing good for the bone.

One last note: there can be claims made that estrogen makes bones "look better" on x-ray images. This may, in fact, be true. Why? Two reasons. A decrease in osteoclastic activity can leave dead brittle cells in the bone which may *look* denser on a picture. Secondly, if estrogen lays calcium down in soft tissue above the bone, it will *appear* on a picture as if it were a part of the bone.

OK, If Calcium and Estrogen are Not the Answers

What are we to do?

There is good news after all. There are things proven to prevent and correct osteoporosis. Let's look at them.

First, there is **resistance** or **weight bearing exercise.** This is exercise where there is some resistance or force which must be worked against. Exercise such as brisk walking would not be of value here. Here is a summary of some of the <u>many</u> studies:

> It is shown that weight bearing exercise is related to bone integrity in the lower spine. Resistance exercise such as rowing increased bone density in elderly women after nine months. Weight lifting also brought an increase in density.
>
> In a study of contrasts it was shown that gymnasts showed an increase in bone density while a similar group of joggers had a decrease in density.

Muscle strength had a greater correlation to bone density than aerobic capacity.

Loss of bone can be correlated with bone dis-use.

In a group of sedentary woman, those who were assigned resistance exercise had a significant increase of bone mass while those who did nothing showed no change.

High impact aerobics showed greater increase in bone density than low impact.

One study showed specifically, that calcium is not the key to osteoporosis correction. Two groups were put on similar calcium programs, half of the group was sedentary while the other was put on high impact exercise. The second group had an increase in bone mass due to the stimulation of the fibrous support structure (spider web) that was then mineralized by a dietary intake of minerals.

Physical activity has also been shown to be essential for the proper development of bone in children.

Secondly, we have the proper intake of **nutrition.** This includes all of the minerals necessary for bone health and growth. Minerals here include silica, magnesium, zinc, manganese, copper, selenium, iodine, boron, and phosphorus as well as calcium. Vitamin D is also essential for bone health.

(a side note on Vitamin D. Currently, there is a craze in the medical world for vitamin D testing. While this is a good thing, in general, it is important to note that many people are being tested on their storage form of vitamin D-25 OH and being prescribed vitamins based on this. It is essential to know the actjyeform score, 1,25-OH before beginning an aggressive approach to vitamin D supplementation. Just because your storage form may be on the low side, if there is enough vitamin D in your blood, you may simply have an effective system that gets D out of storage into your blood easily and not really lacking vitamin D to any large degree. Also, it is interesting to ask, why there are so many people deficient in vitamin D. Here there are likely three factors. (1) People spend too much time indoors, away from natural sunlight (2) The intake of synthetic vitamin D in foods and pasteurized dairy products may inhibit or block your body's uptake of real vitamin D (3) The phobia against cholesterol and the foods that contain them. Cholesterol is essential as a precursor to vitamin D in the body.)

One other note: while a good balance of nutrients is essential for everyone, people who have imbalances like those mentioned above, in the beginning of this report, will have additional needs that must be met for bone health and health in general. Further, even when taking in the "right stuff", there are things you can do which may make bone health difficult or impossible. For example, **caffeine** and **unsaturated vegetable**

oils, both have a negative effect on bone density and strength. We also know that **refined sugar,** including **fructose** can interfere with mineral usage in the body.

That's It

That's the program to reverse and/or prevent osteoporosis. The correct exercise and the right nutrients, depending on your own individual needs.

We should probably mention one thing about the bisphosphonates, the popular drugs, such as fosomax, used to "correct" osteoporosis. Basically, they work just like estrogen. They stop the work of the osteoclasts, leaving brittle, dead cells in the bone. This has the benefit of making your x-rays or bone density scan look better. Unfortunately, it does not provide clinically stronger bones. And, oh, those potential side effects!

So, What to Do?

Well, it's not that complicated. Resistance exercise, right eating, minimizing those things which deplete you, and get some real time outdoors. If you have one of the imbalances mentioned above, get those things balanced as soon as possible. The best way I know of doing that is with objective nutritional testing using Nutri-Spec procedures.