

Use It or Lose It - Osteoporosis and Exercise

(Note: the treatment options listed here is by no means complete, and is not intended to replace the advice of your doctor. Please see your physician before making any decisions on how best to treat osteoporosis, or any other medical condition. The information in this article is for educational purposes only.)

Imagine that you are renovating your kitchen. You've chosen the contractor to do the work, and you've picked out all the materials and colors that will make your kitchen beautiful and functional. You can hardly wait for the finished product. However, on the day the work is supposed to begin, something unusual happens: the materials are delivered to your house, but no one shows up to build. You call the contractor, but you get no response. At the end of the day, you have the exact same kitchen you started with, and you have a lot of expensive, unused materials lying around, as well.

What does all of this have to do with osteoporosis? Well, if you're taking calcium supplements and *not* exercising, maybe everything. Calcium is like the materials needed to renovate your kitchen - calcium is necessary, but it can't do the job by itself, anymore than tile, wood, and drywall can make a new room by themselves. In the case of your kitchen, skilled workers are needed to do the job, and in the case of your bones, your body needs a stimulus to enable your body to use the calcium. The stimulus is exercise – not just any type of exercise, but specifically, progressive resistance exercise, or weight training. Before discussing progressive resistance exercise let's first answer one important question: why is it so important to keep our bones strong?

Osteoporosis literally means “porous bones”. In other words, over time, the bones lose some of their density, which opens up pores, or holes in the bone. Once bone density drops by about 30%, the bones may break under normal stress, such as a rib breaking while trying to stifle a sneeze. This leaves the body in a very vulnerable situation, especially around the wrist, lower back, and hip. Of the three, hip breaks are the most serious, due to potentially fatal complications such as pneumonia or blood clots. Clearly, we're not merely talking about a simple broken bone anymore, and with estimates running as high as half of all women at risk for an osteoporosis-related fracture, this is a condition that must be taken seriously.

What can be done, then, to prevent or treat osteoporosis? Nutrition is important – just as the body will not use calcium without an exercise stimulus, exercise without sufficient calcium intake is also ineffective. Besides adequate calcium intake, smoking, and excessive alcohol and caffeine intake can cause bone loss. Changing these habits, if necessary, can be a relatively easy and inexpensive first step toward regaining (or at least stopping the loss of) bone mass. Your doctor may prescribe estrogen replacement, or non-hormonal drugs, as well. Your physician will be able to determine which treatment is best for you.

Where does exercise fit in all of this? Exercise stimulates the body to strengthen the muscles. As the muscles get stronger, they exert greater pull on the bones around the area of attachment (i.e., where tendons connect the muscles to the bones). While the exact processes are not yet fully understood, it is believed that as the muscles and tendons are required to handle progressively heavier weight, the bones are stimulated to increase their density, so as to be able to handle the increased loads.

The key word in all of this is *progressive*. This means ~~that~~, for resistance training to be effective, the body must get stronger over time, which calls for exercise with heavier weights over time. If the weights used in your workout don't challenge your muscles, they won't challenge your bones, and your body will not be protecting itself from the effects of osteoporosis. A qualified personal trainer is often crucial in choosing the appropriate amount of resistance, and in knowing when and how to vary that resistance so you remain safe while maximizing your battle against osteoporosis.

The benefits of resistance exercise go well beyond stronger bones. You will likely experience better flexibility, an improved cholesterol profile, and even more energy day-to-day. In other words, your body will be more healthy, enabling you to do the things you need to do - and fit, allowing you to do and try the things you want to do. If you're not already involved in a productive exercise program, please speak with your physician or an experienced personal trainer today. You have a lot to gain – *and* too much to lose.