

## Osteoporosis

### How does healthy bone work?

**There are two things that it are important to know:** First, healthy bone contains cells called osteoblasts. They are in charge of making new bone material. These cells are important all through life because the body constantly removes old worn out bone or damaged bone and rebuilds with new material. Osteoblasts are stimulated to do their work by progesterone.

Second, healthy bone contains cells called osteoclasts. They are in charge of removing old and sick or damaged bone material. If estrogen levels are low, the osteoclasts increase their bone removal efforts.

As early as age 35 or so, many women begin to make less progesterone than is desirable. This means that the osteoblasts get less signals to make new bone material.

Then at menopause, the estrogen production decreases by 40% or so. This means that the osteoclasts get less signals to slow down. So now we have excess bone removal and not enough building of new bone.

The drug companies came up with a brilliant plan: Poison the osteoclasts with chemicals called bisphosphonates so that they cannot take away old bone. The result looks great on bone scans. Bone density appears to be increasing! There may even be a decrease in fractures during the first five years of bisphosphonate use. And this toxin that is worth a few cents a pound as a bathtub cleaner ingredient can now be sold for very high prices.

The problem is that the bones are now rapidly aging and cannot be repaired or replaced with new bone. This is similar to a disease called pycnodysostosis where bones are dense due to low osteoclast activity. In pycnodysostosis, the bone looks strong on bone scans but it is weak and brittle. Legs fracture with little or no provocation. This now appears to be happening to women who have taken bisphosphonates for several years.

Another problem is that many people have small infections in their jawbones. These are called cavitations. In healthy people, the body works on cleaning up these cavitations. Damaged bone is removed and new material is brought in. But with bisphosphonates we have stopped the removal of the damaged bone. The result in many women is that the entire jawbone dies. Bisphosphonates plus dental work also leads to this condition. Bone death is affecting thousands of women. It is not clear to me how this medically produced disaster can be repaired.

### How can we keep our bones healthy?

**Hormones:** Have your health care provider determine if you need to take natural, human-identical progesterone. That would help the osteoblasts in their work of making new healthy bone. And you can have your doctor determine if you need a natural human-

