

PREVENTING OSTEOPOROSIS – 2/1/2010

One can hardly get through a day without being bombarded about osteoporosis and bone health in some way or another. Famous actresses talk about bone health on T.V.; orange juice and yogurt are touting the addition of calcium to their formulas, and even the prosaic antacid tablet is hawked more for its calcium content than for its ability to resolve heartburn. Every doctor's office has signs and posters of progressively shrinking and slouching patients deep in the throes of age related osteoporosis. Despite all this, osteoporosis is no joke; is a major health care concern and poses a tremendous burden on the health care system in terms of dollars spent directly and in lost productivity. When women over sixty are asked "what is one of most feared events during aging?" they reply "fear of falling". Falling and the potential to break bones, especially that of the hip results in loss of independence, grave side effects from corrective surgery, and emotional duress.

So, what is osteoporosis? Simply put, as bones get older they lose more bone than they gain. Osteoporosis is when bones become so thin and fragile that they can break easily. Women are especially vulnerable because estrogen protects against bone loss. As a woman nears menopause her body produces less estrogen and the symptoms become more manifest. Bones become thin and brittle because more bone is lost than formed. A great deal of bone must be lost before the symptoms appear and these will be back pain or tenderness, a loss of height, and a slight curving of the upper back. As the spinal bones (vertebra) weaken, they can collapse and this causes the curving or "dowager's hump". Osteoporosis affects roughly 25 million Americans per year—most of whom are women. This results in close to 1.2 million fractures chiefly of the hip, wrist and spine with attendant pain and disability. The resultant inactivity can cause death secondary to blood clots and pneumonia.

Women are at greater risk of osteoporosis because their bones are smaller and lighter.

The following factors can increase the risk:

- 1) Menopause because the ovaries have stopped making estrogen which helps prevent bone loss.
- 2) Removal of ovaries before menopause.
- 3) Low calcium diet
- 4) Race (white women and Asian women are at highest risk).
- 5) Lack of exercise.
- 6) Slender build
- 7) Eating disorders such as anorexia nervosa and bulimia
- 8) Family history
- 9) Medications such as steroids and anticonvulsants.
- 10) Alcohol and tobacco use.

With these risk factors mind certain aspects of prevention become obvious. Hormone replacement therapy with estrogen can prevent bone loss. Women have great fears of this

given the slightly increased risk of heart disease, cancer, and stroke with long term estrogen. However, it must be remembered that the risks of osteoporosis might very well outweigh the risks of estrogen administration. Exercise is very important in the prevention of osteoporosis because just as exercise strengthens muscle, it strengthens bone by having the muscles pull on them. The exercise should be weight bearing such as step aerobics, tennis and ellipse machines. No age is too old to start exercising. Certain medical conditions should warrant consult with a physician to plan the safest exercise program. Increased calcium in diet can slow the rate of bone loss. Good sources of calcium are dairy products, green leafy vegetables, and seafood. Most women only get half the calcium they need through diet. A once a week trip to the Dairy Queen is inadequate. Frequently calcium supplements are necessary and physicians usually recommend 1,000 milligrams/day in a divided dose since one can only absorb 750 milligrams at a time. In the absence of vitamin D absorption cannot occur. Milk and sunlight increase vitamin D levels and most commercial products have vitamin D added. If osteoporosis has already been diagnosed by a bone scan then bone can be slowly returned with the use of relatively new products taken once monthly or given by intravenous once yearly. There are side effects, especially worsening chronic heartburn so this must be discussed with your health care provider before seeking a prescription. For those women who cannot take pills there is even a nasal spray that has minimal side effects.

Women diagnosed with osteoporosis should try to reduce risks of injuries from falls through good posture, avoidance of twisting, bending, and lifting, and by making their homes safe by using handrails, nonskid backing of rugs, good lighting, etc.

Many women will live as many years in the menopause as premenopausal years and to increase the chances of staying healthy bone loss must be prevented. Exercise, diet, calcium all add to the empowerment of a healthy woman. You should talk to your health care provider to discuss the pros and cons of hormone replacement therapy as there are risks and every woman has a different health profile. Lists of foods containing calcium are readily available through physicians, the internet, and through nutritionists.