What Breast Cancer Survivors Need to Know About Osteoporosis

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Bone Diseases ~
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The Impact of Breast Cancer

The National Cancer Institute reports that 1 in 8 women in the United States (approximately 13 percent) will develop breast cancer in her lifetime. In fact, next to skin cancer, breast cancer is the most common type of cancer among U.S. women.

While the exact cause of breast cancer is not known, the risk of developing it increases with age. The risk is particularly high in women over the age of 60. Because of their age, these women are already at increased risk for osteoporosis. Given the rising incidence of breast cancer and the improvement of long-term survival rates, bone health and fracture prevention have become important health issues among breast cancer survivors.

Facts About Osteoporosis

Osteoporosis is a condition in which the bones become less dense and more likely to fracture. Fractures from osteoporosis can result in significant pain and disability. It is a major health threat for an estimated 44 million Americans, 68 percent of whom are women.

Risk factors for developing osteoporosis include:

- being thin or having a small frame
- having a family history of the disease
- for women, being postmenopausal, having an early menopause, or not having menstrual periods (amenorrhea)

- using certain medications, such as glucocorticoids
- not getting enough calcium
- not getting enough physical activity
- smoking
- drinking too much alcohol.

Osteoporosis is a silent disease that can often be prevented. However, if undetected, it can progress for many years without symptoms until a fracture occurs. It has been called “a pediatric disease with geriatric consequences” because building healthy bones in one’s youth is important to help prevent osteoporosis and fractures later in life.

The Breast Cancer – Osteoporosis Link

Women who have had breast cancer treatment may be at increased risk for osteoporosis and fracture for several reasons. First, estrogen has a protective effect on bone, and reduced levels of the hormone trigger bone loss. Because of chemotherapy or surgery, many breast cancer survivors experience a loss of ovarian function, and consequently, a drop in estrogen levels. Women who were premenopausal prior to their cancer treatment tend to go through menopause earlier than those who have not had the disease.

Studies also suggest that chemotherapy may have a direct negative effect on bone. In addition, the breast cancer itself may stimulate the production of osteoclasts, the cells that break down bone.

Osteoporosis Management Strategies

Several strategies can reduce one’s risk for osteoporosis or lessen the effects of the disease in women who have already been diagnosed.

Nutrition: Some studies have found a link between diet and breast cancer. However, it is not yet clear which foods or supplements may play a role in reducing breast cancer risk. As far as bone health is concerned, a well-balanced diet rich in calcium and vitamin D is important. Good sources of calcium include low-fat dairy products; dark green, leafy vegetables; and calcium-fortified foods and beverages. Also, supplements can help ensure that the calcium requirement is met each day. The Institute of Medicine recommends a daily calcium intake of 1,000 mg (milligrams) for men and women between the ages of 19 and 50, increasing to 1,200 mg for those over 50.

Vitamin D plays an important role in calcium absorption and bone health. It is synthesized in the skin through exposure to sunlight. Some individuals may require vitamin D supplements in order to achieve the recommended intake of 400 to 800 IU (International Units) each day.

Exercise: Like muscle, bone is living tissue that responds to exercise by becoming stronger. The best exercise for bones is weight-bearing exercise that forces you to work against gravity. Some examples include walking, climbing stairs, lifting weights, and dancing. Regular exercise such as walking may help prevent bone loss and provide many other health benefits. Recent research suggests that exercise may also reduce breast cancer risk in younger women.

Healthy lifestyle: Smoking is bad for bones as well as the heart and lungs. In addition, smokers may absorb less calcium from their diets. Some studies have found a slightly higher risk of breast cancer in women who drink alcohol, and evidence also suggests that alcohol can negatively affect bone health. Those who drink heavily are more prone to bone loss and fracture, because of both poor nutrition and an increased risk of falling.

Bone density test: Specialized tests known as bone mineral density (BMD) tests measure bone density at various sites of the body. These tests can detect osteoporosis before a fracture occurs and predict one's chances of fracturing in the future. A woman recovering from breast cancer should ask her doctor whether she might be a candidate for a bone density test.

Medication: There is no cure for osteoporosis. However, medications are available to prevent and treat this disease. Bisphosphonates, a class of osteoporosis treatment medications, are being studied and have demonstrated some success in their ability to treat breast cancers that have spread to bone.

Another osteoporosis treatment medication, raloxifene, is currently being evaluated for its ability to decrease breast cancer risk. Raloxifene is a selective estrogen receptor modulator (SERM) that has been shown to reduce the risk of breast cancer in women with osteoporosis. The National Institutes of Health is currently sponsoring the Study of Tamoxifen and Raloxifene, known by the acronym STAR. The study compares the effectiveness of raloxifene with that of tamoxifen in preventing breast cancer in postmenopausal women who have a high risk of developing the disease.

Resources

For additional information on osteoporosis, visit the National Institutes of Health Osteoporosis and Related Bone Diseases National Resource Center Web site at www.niams.nih.gov/bone or call 1-800-624-2663.

For additional information on breast cancer, visit the National Cancer Institute Web site at www.cancer.gov or call 1-800-4-CANCER.

For information on studies sponsored by the National Institutes of Health, visit the following Web sites:

- **ClinicalTrials.gov:** www.clinicaltrials.gov
- **CRISP (Computer Retrieval of Information on Scientific Projects):** www.crisp.cit.nih.gov

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For Your Information

This publication contains information about medications used to treat the health condition discussed here. When this fact sheet was printed, we included the most up-to-date (accurate) information available. Occasionally, new information on medication is released.

For updates and for any questions about any medications you are taking, please contact the U.S. Food and Drug Administration at 1-888-INFO-FDA (1-888-463-6332, a toll-free call) or visit their Web site at www.fda.gov.