

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.

We as healthcare providers know how scary and worrisome it is for our patients to get a cancer diagnosis. Our patients may shut down and feel completely overwhelmed. Many feel that the diagnosis means death. All these feelings are normal thoughts, but it's important to help them work through the fears, worries and concerns so they can move ahead with treatment.

There are things that we can do to help manage their fears. Encourage them to take time in making a decision. There should be no pressure to decide right away. A few weeks won't change the outcome. Advise your patient to take time to heal. Patients that take the time to recover and heal usually get back to the activities and enjoyment in life that they had before they started. There are several techniques to help reduce stress. Suggest a massage, yoga, prayer or talking to a good listener. Finally, encourage patients to celebrate each step of treatment. It's important for them to look back and see how far they have come. Celebrate life -- it matters.

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Breast Cancer Incidence Among Premenopausal U.S. Woman

African American women under the age of 40 have a higher risk of breast cancer than do white women of a similar age. White women aged 40 and older, however, have a higher incidence than black women aged 40 and older.

The incidence of postmenopausal breast cancer is associated with screening and hormone therapy. The mechanisms that influence the incidence of breast cancer in premenopausal women are less well understood. To get a better understanding of disease trends in younger women, a study which analyzed the incidence of breast cancer among 387,231 women diagnosed between 1992 and 2004 who were included in the Surveillance, Epidemiology and End Results (SEER) database.

The investigators found that the incidence rate of breast cancer was 16.8 per 100,000 for black women under the age of 40, compared with 15.1 per 100,000 for white women under the age of 40. The black-white incidence rate ratio was highest for women under the age of 30, with black women having a 52% higher incidence than white women. During the study years, only white women over the age of 40 had a statistically significant increase in the incidence of invasive breast cancer.

Continued surveillance of trends is needed, particularly for molecular subtypes that preferentially occur among young women.

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