



Breast Cancer



Breast cancer, and treatments for breast cancer, can impact women’s bone health in several ways. Download this overview of how breast cancer and its treatments can affect the bones.

[**Download - Bone Health and Breast Cancer**](#)

Bone health is important for your overall well-being during your cancer treatment and beyond. Be your own best advocate. Talk to your health care team about how treatment will affect your bones and what you can do to protect your bones. Here is a downloadable list of questions for you to ask your health care provider about bone health.

[**Download – Talking to Your Healthcare Provider about Bone Health for Breast Cancer Survivors**](#)

Effects of Cancer and Cancer Treatments

Below are some details about how cancer and certain breast cancer treatments affect bone health. You will find information about how you can protect your bones during and after treatment.

Hypercalcemia

Calcium is an important building block of bone. Cancer cells release a hormone that can speed up the rate at which bones release calcium. This causes a serious condition called hypercalcemia, which means a high level of calcium in the blood. Hypercalcemia may be associated with cancer and requires treatment. Tell your health care provider if you have [symptoms such as](#) nausea, loss of appetite, thirst, frequent urination, constipation, irregular heartbeat, excessive sleepiness, and confusion. In rare cases, hypercalcemia can cause a coma.

Aromatase inhibitors

Aromatase inhibitors are hormone therapies used to treat estrogen receptor-positive breast cancer in postmenopausal women. These evidence-based treatments keep cancer cells from getting the hormones they need to grow. Side effects of aromatase inhibitors include muscle pain, joint pain, menopausal symptoms and a loss of bone density, which can lead to an increased risk of fractures (broken bones).

How they work

Estrogen is the main hormone that helps certain (estrogen-positive) breast cancer tumors develop and grow. Most estrogen is produced in the ovaries, so after menopause, estrogen levels in the body decrease greatly.

AIs block estrogen from fueling tumor growth. Estrogen, however, is essential for bone health. It regulates the bone cells and how bone tissue is broken down and rebuilt. The effects of AIs increase the risk of bone loss and fractures.

AIs do not block the estrogen produced in the ovaries; that is why they are used mostly for postmenopausal women. They can be used in premenopausal women in combination with other medicines or in women who have had their ovaries removed with surgery.

Common AIs

- Arimidex[®]
(anastrozole)
- Aromasin[®]
(exemestane)
- Femara[®]
(astrozole)

Chemotherapy

Some chemotherapy treatments lower estrogen levels and cause women to go through menopause early. For women who haven't gone through menopause, shutting down the ovaries can help prevent breast cancer from coming back. Both of these situations can lead to bone loss and increased fracture risk.

Ovarian suppression

Estrogen receptor-positive breast cancer needs estrogen to grow. Shutting down the ovaries can slow the growth of these breast cancers in premenopausal women. Ovarian suppression lowers estrogen levels and causes periods to stop. This is similar to what happens in women who go through natural menopause. Some women have their ovaries surgically removed. Other women take medicines to stop the ovaries from producing estrogen. Lower estrogen levels can cause bone loss and increase the risk of broken bones.

LHRH analogs

Premenopausal women undergoing chemotherapy can take medicines called LHRH analogs to stop their ovaries from producing estrogen. These medicines include Zoladex® (goserelin) and Lupron® (leuprolide). The ovaries typically begin working normally again after the woman stops taking an LHRH analog medicine.

Radiation therapy

You might be sent to a radiation oncologist for radiation therapy to treat your breast cancer. This therapy is used to kill cancer cells that may be left in the breast after surgery. Radiation therapy can cause bone loss and fracture risk. In radiation therapy to treat breast cancer, radiation exposure to the ribs increases the risk of rib fractures.

How to protect your bone health

Before you begin treatments for breast cancer that can weaken the bones as described above, . The standard test for bone density is called a [DXA](#). You lie fully clothed on an open table and get a low-dose X-ray. This test will establish your baseline bone density. That way, your health care provider can check your bone density again a few years later to see whether you are losing bone during your treatment.

You should also find out your family bone health history. Tell your health care provider if anyone in your family had osteoporosis or broken bones after age 50.

Assess your risk factors using the [American Bone Health Fracture Risk Calculator™](#). Print a copy of your results, and share the report with your health care provider. Knowing your level of risk will help you and your care team create a bone health plan.

Medicines to protect bones

Your health care provider may prescribe a medicine to prevent bone loss and fractures caused by aromatase inhibitors. There are two types of these “anti-resorptive” medicines:

Bisphosphonates: These medicines are commonly used to treat osteoporosis. Cancer survivors take a larger dose. Bisphosphonates such as alendronate and risedronate are taken daily by mouth. Zoledronate is taken once a year by injection.

Denosumab: This is a monoclonal antibody taken by injection at a medical office two or more times a year. Its brand name is Prolia®. ***It is very important not to stop taking this medicine without starting a bisphosphonate.*** Stopping denosumab can cause rapid bone loss that has been shown to increase the risk of broken bones in the spine.

Studies have shown that both of these types of medicines can prevent bone loss and even help increase bone density. Data show that denosumab can help prevent fractures.

Nutrition

A balanced diet of whole foods, including protein, fats and carbohydrates, is important for bone health. Try to include a variety of foods on your plate to get your essential nutrients. You should be able to get most of the nutrients your body needs from your diet rather than from supplements.

Good nutrition will not only keep your bones strong but also help you keep up your weight, which is important for preventing fractures.

There are three nutrients that are especially important for bone health. You need to pay special attention to make sure you get enough of these nutrients.

1. **Calcium:** Many foods contain calcium, but dairy products contain the most calcium per serving size. The amount of calcium you need [changes with age](#). Try to consume one calcium-rich food per meal. If you don't consume dairy products, you will need to work hard to get enough calcium in your diet. You might need to take a calcium supplement to make up the difference.
2. **Vitamin D:** Although vitamin D can be made in the skin when it is exposed to sunshine, the sun is not a reliable source of vitamin D for most people. To maintain a good level of vitamin D, people need anywhere from 15 mcg to 50 mcg (600 to 2,000 international units) a day. For healthy adults, the National Academy of Medicine suggests 15–20 mcg (600–800 IU). However, if you have a metabolic bone disease such as osteoporosis, the Endocrine Society suggests a higher level — up to 50 mcg (2,000 IU) per day. There are not many foods that are rich in vitamin D. You will probably need to take a supplement to get enough vitamin D.
3. **Magnesium:** This mineral helps your body regulate calcium and vitamin D. It is found in green vegetables, nuts and seeds, legumes, whole grains and avocados. The RDA — Recommended Dietary Allowance — for adult men is 420 mg and 320 mg for women.

You should consume protein with every meal. Protein helps build and repair muscles. Keeping your muscles strong will support your bones as you age. Good muscles help prevent falls and injuries.

How much protein you need depends on your age and weight. The USDA recommends .36 gram per pound of body weight. A person who weighs 150 pounds needs about 54 grams of protein a day, according to that formula. People who are more active need more protein.

How much protein?

- 4 oz. turkey - 33 g
- 4 oz. grilled salmon - 25 g
- 2 scrambled eggs - 12 g
- 1/2 cup cooked beans - 7 g

Protein from lean meats and dairy products is higher quality than protein from plants. Animal proteins contain all the necessary amino acids. To get complete proteins from a plant-based diet, you need to combine foods to get all your amino acids. For example, pair black beans with brown rice or whole-grain bread.

Quit smoking and vaping. Limit alcohol to no more than one drink per day.

Exercise

Weight-bearing exercise can help preserve your bone health. Some examples are running, jumping rope and weight training (such as calisthenics or weightlifting). When you do weight-bearing exercise, you put stress on the bones. That triggers the bone cells to build more bones, which can lead to increased bone strength. This process is called "[osteogenic loading.](#)"

Bicycling and swimming are good cardiovascular activities, but they don't put weight on the bones, so they don't build bone strength.

and then work up from there. If you're walking, pick up the pace. If you're running, try adding higher-impact activities. Consult a health care provider before starting an exercise program. Work with a professional on any activity that adds load to your bones.

Avoid exercises that increase your risk of falls. Be careful about flexing or extending your spine to avoid vertebral fractures.

Check your balance. If you can't stand on your dominant leg for 11 seconds, that means you are at risk of falling and getting injured.

Exercises can improve your balance and leg strength. Consider tai chi or yoga. Some instructors offer courses designed specifically to be safe on the bones.

Why this is important

There are more than 3.8 million breast cancer survivors in the United States. This includes people who are undergoing treatment and people who have completed

treatment. Most of them are women who have gone through menopause and would already be at risk of osteoporosis and fractures. Some treatments for breast cancer, however, increase the risk of fractures even more than natural menopause.

As breast cancer survival rates increase, and as survivors live longer, good bone health remains a vital part of maintaining quality of life. Preventing fractures will help survivors stay mobile and independent and able to enjoy the life they fought so hard to save.

View this content on our website here - <https://americanbonehealth.org/cancer-survivors-guide-to-bone-health/>

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