Bone Loss and Breast Cancer Treatment: Are You at Risk?

For women having breast cancer treatment

Read this pamphlet to learn about:

• What causes breast cancer treatment induced bone loss
• What to do and how to manage it
• Where to get more information
Important facts:

- Bone loss is a common long-term side effect of breast cancer treatment.
- Women having certain breast cancer treatments have a higher risk of bone fractures (broken bones).
- It is important to keep your bones healthy during and after cancer treatment.

What is breast cancer treatment induced bone loss?

Some breast cancer treatments affect your bones by causing early menopause. Early menopause causes your body to make less of the hormone estrogen.

Estrogen is important because it keeps your body’s ability to build and break down bone. Lower estrogen levels cause the balance to tip so there is more bone loss. This leads to weaker bones.

Women experience more bone loss when they go through natural menopause, but breast cancer treatment can make this happen earlier and faster.

Some breast cancer treatments also speed up normal bone loss in women who have already gone through menopause.
Which breast cancer treatments can cause bone loss?

1. **Chemotherapy**

2. **Hormone therapy**
   - Tamoxifen can cause bone loss in women who have not yet gone through menopause.
   - Aromatase Inhibitors can result in bone loss in both women who have gone through menopause and women who have not.

3. **Surgery to remove the ovaries can cause bone loss.**

Each of these breast cancer treatments can lead to early menopause and/or lower levels of estrogen causing bone loss to happen sooner. This faster rate of bone loss is called **accelerated bone loss**. It can increase the risk of osteoporosis and your chances of breaking your bones.

Talk to your doctor about your risk of accelerated bone loss.

**What is osteoporosis?**

Osteoporosis is a condition where bones become brittle, thin and weak. This raises the risk of broken bones and fractures.

Osteoporosis is sometimes called the “silent thief” because it usually has no symptoms. But, as a woman loses bone mass and her bones become weaker, the risk of breaking bones goes up. In fact, some people do not know they have osteoporosis until they break a bone.
The good news is that following good bone health habits and making some important changes in your life can bring down the risk of breast cancer treatment-related accelerated osteoporosis.

What you can do to manage bone loss caused by breast cancer treatment

Keeping bones healthy is very important for all breast cancer survivors. Here are some ways to help you keep your bones healthy:

1. **Check to see how much calcium and vitamin D** you are already getting from the food and beverages that you have every day. If you are getting lower than the amounts listed below, take calcium and vitamin D pills to make sure that you get enough each day:

   • Calcium: 1,200 to 1,500 mg a day
   • Vitamin D: 800 to 1,000 IU a day
Calcium is measured in **milligrams (mg)** and vitamin D is measured in **International Units (IU)**. Bottles of calcium and vitamin D that you can buy in a pharmacy will have the amount of milligrams or International Units contained in each pill listed on the label.

2. **Make healthy food choices.** Eat the right foods to provide your body with calcium, vitamin D, and other important bone-building nutrients.

Here is a short list of foods and the amount of calcium and vitamin D they contain. For more information, please see the resources listed at the end of this pamphlet.

**Calcium:**
- 1 cup of milk (skim, 1%, 2%) equals 300 mg of calcium
- ¾ cup of plain yogurt equals 295 mg of calcium
- ½ cup of cottage cheese (1%, 2%) equals 75 mg of calcium
- ¾ cup of cooked broccoli equals 50 mg of calcium

**Vitamin D:**
- 1 cup of milk (skim, 1%, 2%) equals 100 IU vitamin D
- 75 g of canned or cooked salmon equals 600 IU vitamin D
- 1 egg yolk equals 20 IU vitamin D

Please see your doctor or a registered dietitian for help finding out if you should be taking calcium and vitamin D pills.
3. **Exercise.** Weight-bearing and strengthening or resistance activities are great for making bones stronger. This includes:
- Walking
- Hiking
- Dancing
- Climbing stairs
- Weight lifting
- Playing tennis

Anything you do on your feet helps to make your bones stronger and slows down bone loss.

If your doctor has tested your bones and said your risk for breaking your bones is high, you must ask your doctor if it is OK for you to:
- Run
- Skip
- Jump
- Do other high impact exercises or activities

Talk to your doctor or your physiotherapist for more information and advice about exercise, activity and bone loss.

4. **Do not smoke.** Smoking is linked to bone loss in women who have gone through menopause. Quitting smoking can help with bone loss.

5. **Drink less alcohol and caffeine.** Too much alcohol (more than 2 drinks a day) or caffeine (more than 4 cups of coffee, tea, or cola a day) can lower bone mass and increase your risk of broken bones and fractures.
6. **Talk to your doctor about having a Bone Mineral Density (BMD).**
   Certain things can help you know if you are at risk of breaking bones, including:
   - results of your bone mineral density test
   - your medical history (for example, if you had a fracture after age 40
   - your risk of falling
   - your age
   - if you use corticosteroid

   **It is important to check if your bones are healthy during and after your breast cancer treatment.**

7. **Diet and exercise can lower, but not stop accelerated bone loss.**
   Depending on the health of your bones and your rate of accelerated bone loss, you may need to take medications (like bisphosphonates). Medication can prevent or stop further bone loss.

   Some of these medications are considered part of the breast cancer treatment in women who have gone through menopause depending on their risks and benefits. Ask your doctor if you would benefit from taking this kind of medication.

**Key points and recommendations**

- Bone loss is a common long-term side effect of breast cancer treatment.
- Bone loss caused by breast cancer treatment increases the chances of getting osteoporosis and bone fractures.
- Make sure you are get enough calcium and vitamin D in your diet.
  - Talk to your doctor about getting a bone mineral density (BMD) test.
  - Have the BMD test done at the same lab to make it easier to compare the results. Depending on the results, you may need to have a BMD every year to check your bone health.
Where to get more information:

Osteoporosis Canada
Website: www.osteoporosis.ca
Phone: 1 800 463 6842

See the calcium calculator tool: https://osteoporosis.ca/bone-health-osteoporosis/calcium-calculator/#page-1

Centre for Osteoporosis and Bone Health
Website: www.womenscollegehospital.ca/programs-and-services/centre-for-osteoporosis-and-bone-health
Phone: 416 323 2663 and 416-323-2663

Prevention and Rehabilitation of Osteoporosis Toronto Rehabilitation Institute
Website: www.torontorehab.com
Phone: 416 597 3422 ext. 3622

Osteoporosis Clinic – Toronto General Hospital
Website: www.uhn.ca
Phone: 416 340 3890

Breastcancer.org
Website: www.breastcancer.org/tips/bone_health

Canadian Breast Cancer Foundation
Website: www.cbcf.org

Dairy Farmers of Ontario
Website: www.milk.org

Willow Breast Cancer Support Canada – provides information and emotional support
Website: www.willow.org
Phone: 1 888 778 3100
There are many more resources about cancer available in The Patient and Family Library at Princess Margaret Cancer Centre (Rm M-508):
Website: www.uhnpatienteducation.ca
Phone: 416 946 4501 ext. 5383
Email: patienteducation@uhn.ca

Although University Health Network (UHN) tries to keep patient education brochures up to date, some information may change. The information in this booklet may not be complete medical knowledge in this area. Talk to your doctor or other health care provider first before acting on any information in this booklet.

Please contact any organizations that may be listed to make sure the information is correct or to find out more about their services. UHN does not recommend one agency or person over another and is not responsible for the care and services provided.

Visit www.uhnpatienteducation.ca for more health information.

Contact us to provide feedback or request this brochure in a different format, such as large print or electronic formats: pfep@uhn.ca