

## **Bone Health in Postmenopausal Women**

Bone is living tissue made up of specialised bone cells, and like the rest of the body, it is constantly being broken down and renewed. Osteoporosis is a decrease in bone mass and bone density (when bone being broken down is faster than being renewed), resulting in an increased risk and/or incidence of fracture. Women can expect to lose around 1% of their bone mineral density each year in the years beyond their menopause (postmenopausal). If healthy bones are not being maintained, postmenopausal women will most likely develop osteoporosis as they age.

The risk of osteoporosis in postmenopausal women can be further increased by family history, smoking, diet, chemotherapy, long-term corticosteroids and some hormonal therapies that lower estrogen. Women who have an early menopause (for e.g. induced by chemotherapy) are also at higher risk.

Women with osteoporosis may be put on specific treatment, such as bisphosphonates. In order to gain maximal effect from their osteoporosis treatment, these women need to ensure they have adequate calcium in their diet, sufficient vitamin D levels and maintaining physically active.

In general, postmenopausal women should maintain healthy bones by following the guidelines below.

### **Maintaining healthy bones**

#### *Physical Activity:*

Being physically active will improve bone mass and increase muscle strength, coordination and balance and thereby reducing falls and fractures. Weight bearing exercise is best; examples include walking, dancing, aerobics, skating and weight lifting.

#### *Calcium & Vitamin D:*

Calcium and vitamin D are essential for maintaining strong bones. A daily dose is the total of what you consume from food sources **and** from supplements. For postmenopausal women, the recommended daily dose is 1500 mg of elemental calcium and 800 IU of vitamin D.

Calcium intake from all sources should not exceed 2500 mg per day.

#### *Some Food sources\* of Calcium:*

<i>Food Source</i>	<i>Portion Size</i>	<i>Elemental Calcium (mg)</i>
Cheese (Swiss)	50 g (2 oz)	440
Cheese (Cheddar/Mozzarella)	50 g (2 oz)	390
Milk (skim, 1 or 2% MF or whole)	250 ml (1 cup)	300
Buttermilk, or Chocolate milk	250 ml (1 cup)	300
Yogurt, plain	175 ml ( 3/4 cup)	300
Milk powder, dry	45 ml (3 Tbsp)	280
Fortified Beverages (soy, rice, orange juice)	250 ml (1 cup)	300
Parmesan Cheese	15 ml (1 Tbsp)	90
Sardines, with edible bones	24 gm	90
Cottage cheese, 2% MF	125 ml (1/2 cup)	80
Figs, dried, uncooked	3	80
Orange, raw	1 medium	50
Broccoli, frozen, boiled, drained	250 ml (1 cup)	50

For more information on Bone Health in Postmenopausal Women, please speak with your Cancer Centre doctor or nurse or pharmacist.

*Some Food sources\* of vitamin D:*

<i>Food Source</i>	<i>Portion Size</i>	<i>Vitamin D (IU)</i>
Fish, Herring	100 gm (3 oz)	900
Fish, mackerel or salmon	100 gm (3 oz)	650
Fish, sardines or tuna	100 gm (3 oz)	250
Milk or Soy Beverage, fortified	250 ml (1 cup)	90
Margarine, fortified	5 ml (1 tsp)	55
Egg	1 large	25

\*Adapted from the Manual of Clinical Dietetics, 6th Edition (p.746-747), by American Dietetic Association et al, 2000

*Vitamin and Mineral Supplements:*

If you can't meet the recommended amounts with food alone, consider a supplement. Calcium carbonate is the least expensive calcium supplement and is well tolerated by most people when taken with food. The absorption of calcium from supplements is most efficient at doses of 500 mg or less. Some calcium supplements also include vitamin D (check the label for the exact amount). A standard multivitamin and mineral supplement provides approximately 175 mg of calcium and 400 IU of vitamin D and other nutrients.

*Protein:*

Adequate protein is required to maintain bone health. Include one of the following protein rich foods at each meal: meat, fish, poultry, beans, lentils, nuts, eggs, milk, yogurt and cheese.

*Avoid Smoking:*

Women, who smoke, lose bone strength faster than women who do not smoke. To protect bones, it is advisable not to smoke.

*Caffeine and salt:*

Excess caffeine and salt can have a negative effect on bone. Caffeine is found in coffee and also tea, chocolate (cocoa) and some soft drinks. For optimal bone health limit coffee to less than 4 cups per day.

Foods high in salt generally include processed foods such as canned soups, snack foods, crackers, pastas and sauces. Check the nutrition label on processed foods and limit salt to less than 2100 mg per day.

Adapted from BCCA : [Patient Guidelines for the Prevention of Osteoporosis in Women](#)