BC WOMEN'S HOSPITAL & HEALTH CENTRE
An agency of the Provincial Health Services Authority

Nutrition for Healthy Bones
(for Adults with or at risk of Osteoporosis)

Nutrition Information Contacts:

Dietitian Services @ HealthLink BC	Phone: 8-1-1 (anywhere in BC)
	www.healthlinkBC.ca – select Dietitian Services
BC Dairy Foundation	(604) 294-3775 or 1-800-242-6455
	www.bcdairyfoundation.ca
Dietitian, Osteoporosis Program, BC Women's	(604) 875-2267

Calcium is an important mineral for bone.

How much calcium do I need?

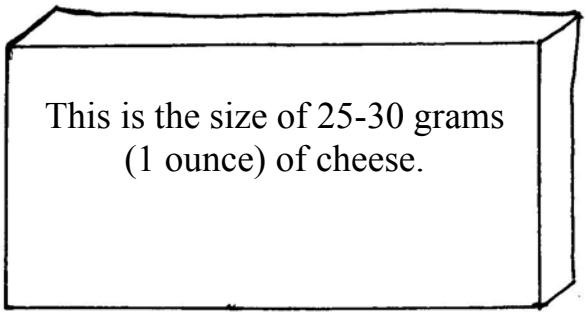
- Adults under 50 need 1000 mg* calcium a day
- Adults 50 and over need 1200 mg* calcium a day
- Some recent evidence suggests that calcium supplements may be associated with an increase in heart attacks, but other studies have not found this. Based on what we know at this time, it is best to get as much of your calcium intake as possible through food, avoiding large doses of calcium supplement. (**From diet plus supplement don't exceed 1500mg per day**)

  * sometimes your doctor or dietitian may prescribe a different amount.

How do I make sure I'm getting enough calcium ?

Dairy products and fortified or enriched soy beverages are rich sources of calcium. **Three choices** from the list below gives you **900mg calcium**. Eating a varied diet based on Canada's Food Guide gives you an added 200-300mg calcium per day.

- 250ml (1 cup) milk or soy beverage labeled as fortified or enriched; skim, 1% or 2% unless doctor or dietitian tells you otherwise
- 175ml (3/4cup) plain or vanilla yoghurt or 250ml (1 cup) fruit flavoured yoghurt; low fat unless doctor or dietitian tells you otherwise
- 1 ½ ounces of hard cheese such as cheddar or edam (1 ½ times the size of this diagram) ♥
- 2 ounces of soft cheese such as mozzarella or brie (2 times the size of this diagram) ♥



♥ Discuss your cholesterol level with your doctor or dietitian before choosing cheese as a calcium source.

If you are not able to include 3 of these choices, look at:

- **The Calcium Calculator** www.bcdairyfoundation.ca, 604 294-3775 or 1-800-242-6455
- **HealthLinkBC File #68e: Food Sources of Calcium and Vitamin D** (www.healthlinkbc.ca/dietitian) 604-732-9191 or 1-800-667-3438 outside lower mainland).

Subtract the amount of calcium you get daily in food from the amount recommended for your age. You will need to increase your intake through food and/or supplement by this amount.

How do I know how much calcium a packaged food is providing?

Food labels may list the amount of calcium as a percentage of the Daily Value (DV) or Recommended Daily Intake (RDI).

Nutrition Facts **Per 250 ml (1 cup) serving**	A DV or RDI of 1100 mg calcium is used on labels, so to calculate the amount of calcium the product contains, multiply the RDI/DV by 30% Example: 1100 mg x 30% = 330 mg
Percentage of Daily Value (DV) or percentage of Recommended Daily Intake (RDI)	
Calcium 30%	

Answers on Calcium Supplements

If I need a calcium supplement what should I consider?

- Take calcium carbonate and calcium phosphate with food. Other forms can be taken anytime.
- Take 500 milligrams (mg) or less at a time.
- Vitamin D and calcium do not have to be taken at the same time.
- If on medications, ask your pharmacist whether calcium can be taken with them.
- There is not a significant difference in the absorption of different kinds of calcium supplements. Select a supplement you like, chewable, or liquid if you don't like swallowing large tablets.

What can happen if I take a large amount of calcium supplement?

Constipation and bloating are the most common side effects. To avoid these, drink plenty of fluids, eat a diet rich in fibre, include physical activity and don't take more calcium tablets than needed. (**see page 2 discussion on heart attacks**).

How do I know how much calcium my supplement provides?

Read labels carefully for the amount (**mg**) of **calcium**, **elemental calcium**, or calcium with the source in brackets such as **calcium (carbonate**) a supplement contains**.** Read carefully for number of tablets to provide this amount of calcium.

Example: 2 tablets contains 1000 mg calcium carbonate providing **400 mg calcium**.

How do I know that my supplement is pure and provides what the label says?

Make sure the label has an **NPN** (natural product number).

Vitamin D allows calcium to be taken to the bone.

How much do I need ?

Adults with osteoporosis need 800-2000 IU* Vitamin D a day.

* Sometimes your doctor or dietitian may prescribe a higher amount but do not exceed 2000 IU Vitamin D a day unless they prescribe more.

How do I make sure I am getting enough?

In most of Canada the skin makes vitamin D when it is exposed to sunlight from April through September (if sunscreen is not worn). Vitamin D is in very few foods and the amount from sunlight is usually too little. So, people need a supplement all year long. Check your vitamin D needs below and refer to the table of vitamin D sources.

Food and Supplement Sources of Vitamin D

Food / Supplement	Serving	Vitamin D (IU)
Vitamin D tablets	1 tablet	400/1000 strengths
multivitamins (from drug stores)	usually 1 tablet	usually 400, some brands with 600 and 800
multivitamins (from other sources such as Health Food Stores)	varies	varies
some calcium supplements	varies	varies
cow's milk, fortified/enriched Soy/Rice beverage	250ml (1 cup)	90
margarine	15ml (1 Tbsp)	90
Fish: go to www.healthlinkbc.ca/dietitian – Nutrition & your Medical Condition – Bone Health – HealthLinkBC File #68e: Food Sources of Calcium and Vitamin D		

Are other nutrients useful in treating osteoporosis?

Beyond calcium and vitamin D, many minerals and vitamins have a role in bone-building. Whether supplementing with various mineral and vitamins is beneficial to bone is not clear. Before starting such supplements, discuss their safety and possible side effects with a dietitian.

Vitamin A: Do not take more than 2,500 IU a day through supplements. Research suggests that high intakes lead to bone loss and fractures. Supplement sources of Vitamin A include multivitamins and halibut and cod liver oil. Multivitamins may also contain carotene which is not harmful to bone.

Magnesium: Be careful. Taking over 350-500mg a day may cause loose stools or diarrhea.

Are there things I should do beyond getting adequate nutrients for my bones?

- ***Should I avoid caffeinated beverages?*** You may have read you should stop all caffeine because of it causing calcium to be lost in urine. This effect is small, just make sure you meet your calcium needs and don't let coffee and tea take the place of nourishing foods.

- ***Should I avoid carbonated beverages?*** One study found greater bone loss in women taking cola daily in comparison to those taking it monthly. This was not found in men and other studies have not found this effect on bone. To date, studies on non-cola carbonated beverages have not shown any effect on bone. In the current state of knowledge, those who enjoy carbonated beverages would be wise to select non-cola types with cola types on occasion.

- ***Is it okay to drink alcoholic beverages?*** If you drink alcoholic beverages do so in moderation. Excessive alcohol has a negative impact on bone health.

- ***Is it okay to go on a weight loss diet?*** Dieting can lead to bone loss especially on strict diets causing rapid weight loss. If you would like to lose weight, discuss this with your doctor or dietitian. It is best to take a healthy approach using Canada's Food Guide and regular physical activity.

- ***Should I avoid foods high in fibre?*** No. You may have heard that fibre "binds" calcium to make it "unavailable" to your body, but the small amount of calcium that may be lost is not as important as the benefits of fibre for bowel regularity and heart health.

- ***Should I avoid foods containing oxalates?*** No. Foods with high levels of oxalate such as spinach, rhubarb, beet greens and swiss chard are rich in vitamins and minerals. The calcium that is in these foods is not well absorbed but the oxalate will have little effect on calcium absorption from other foods eaten with them.

References:

- Osteoporosis Society of Canada: 2010 Clinical practice guidelines for the diagnosis and management of osteoporosis.