

# Calcium & Osteoporosis Guide

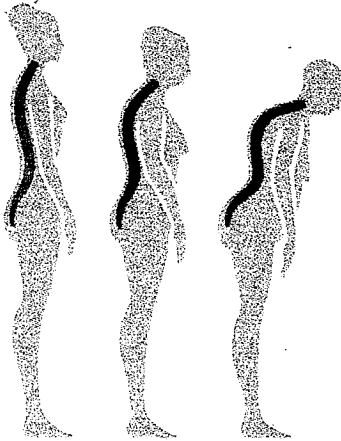
## Calcium's Role in the Body

Calcium plays a vital role in nerve and muscle function, clotting of blood, enzyme regulation, insulin secretion and overall bone strength. Bones and teeth store 99% of the body's calcium.

The calcium level in blood is kept at a steady level by the continual exchange of calcium between blood and bone. When insufficient calcium is obtained from food the body draws calcium out of the bones.

This bone loss over a period of years may lead to **osteoporosis** – thinning of the bones (porous bones).

The bones become weak, brittle and easy to fracture, particularly the bones of the wrist, hips and spine. Loss of height and curvature of the spine may also result, as may periodontal disease - the deterioration of the jaw bones that support the teeth.



*As osteoporosis progresses after menopause, vertebrae may collapse causing the spine to curve and shoulders to hunch.*

## Common in Women & Men

While osteoporosis also occurs in men, women are particularly vulnerable (1 in 4 by age 60). They have about 30% less bone than men, and a greater bone loss at menopause when oestrogen levels drop. Slender framed women are at greater risk. (A woman in her eighties can have lost up to two thirds of her skeleton.)

Insufficient dietary calcium during pregnancy and breastfeeding will see bone reserves drawn upon, increasing the risk of osteoporosis in later years.

**Hip fractures** account for 300,000 hospitalizations each year. One in 5 older Americans with hip fracture die within a year – and 1 in 5 end up in a nursing home.

## Causes of Osteoporosis

The major factors associated with the bone loss of osteoporosis appear to be:

- hormone changes of menopause
- inadequate dietary intake of calcium and other bone nutrients such as magnesium, vitamin D, zinc and protein
- insufficient exercise (weight bearing - such as walking, cycling ~ 30-60 minutes daily)
- family history of osteoporosis

### Other contributing factors may include:

- excessive cola (regular or diet) and alcohol intake
- cigarette smoking
- some drug medications (e.g. steroids, thyroid)

## Early Prevention Important

Gradual loss of bone begins in the thirties after maximum bone mass is reached. The stronger the bones at that time, the less trouble is likely to occur later. The earlier that prevention or treatment begins the greater the benefit. The key to prevention is to build strong, dense bones early in life. By age 16, some 80% of peak bone mass is already reached.

### Young women may lessen the risk by:

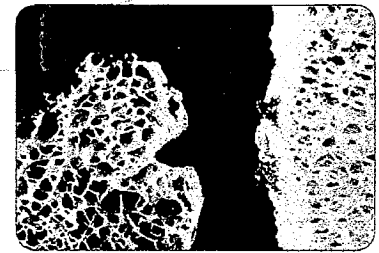
- eating high-calcium foods as well as adequate fruits, vegetables, wholegrains and nuts
- drinking less soda, and more milk
- not engaging in extreme dieting that results in menstrual period cessation (via less estrogen)
- taking regular exercise and not smoking

## Good Dietary Sources of Calcium

(Eat 3-4 servings a day of calcium-rich foods)

- Milk, Yogurt, Cheese
- Flavored Milk Drinks & Fruit Smoothies
- Ice Cream (low-fat), Frozen Yogurt (low-fat)
- Soy Drinks (calcium-enriched)
- Orange Juice (calcium-fortified)
- Tofu (with calcium coagulant), Miso, Tempeh
- Canned Salmon or Sardines (with edible bones)
- Breakfast Cereals (calcium-enriched): *Total, Wheaties*
- Broccoli, Dried Beans, Baked Beans
- Almonds, Brazil nuts, Hazelnuts, Seeds

GOOD SOURCES OF CALCIUM (MILLIGRAMS)	
<b>MILK</b> 8 fl.oz 250	<b>YOGURT</b> 6 oz 200
<b>CHEESE</b> 1 oz 200	<b>RICOTTA CHEESE</b> Part Skim ½ cup 160
<b>SOY DRINK</b> Calcium Enriched 8 fl.oz 250	<b>SALMON</b> w. Bones 3 oz 220
<b>BROCCOLI</b> 1 Cup 100	<b>ALMONDS</b> 1 oz 70
	<b>BAKED BEANS</b> ½ cup 70



▲ Osteoporotic Fragile Bone      ▲ Healthy Dense Bone

## Calcium Supplements

Because absorption of dietary calcium decreases with age, prescribed high doses of calcium (1500-2000mg/day) may benefit persons with osteoporosis - as well as vitamin D (preferably in D3 form, not D2), vitamin K, magnesium and zinc. Check with your doctor.

## RECOMMENDED DAILY INTAKE OF CALCIUM

**Children:** 1-3 yrs ~ 500mg  
4-8 yrs ~ 800mg  
9-12 yrs ~ 1300mg

**Teenagers:** 13-18 yrs ~ 1300mg

**Adults:** 19-50 yrs ~ 1000mg  
51+ yrs ~ 1200mg

**Women:** Pre-menopausal ~ 1000mg  
Menopausal (beginning) ~ 1200mg  
Post-menopausal ~ 1500mg  
Pregnant & Breast-feeding  
14-18 yrs ~ 1300mg  
19+ yrs ~ 1000mg

## Calculating Calcium From Food Labels

The calcium content of packaged foods and drinks is shown in the Nutrition Facts label as a percentage of the DRI (dietary reference intake) of 1000 mg calcium.

To convert this percentage into milligrams of calcium, simply multiply the percent figure by 10 (or add a zero).  
Examples: 5% = 50 mg calcium; 35% = 350 mg calcium.

Food Calcium Counter ~ [www.CalorieKing.com](http://www.CalorieKing.com)