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CALCIUM OVERVIEW

Why Do We Need Calcium?

Calcium is the most abundant nutrient in the body making up 1.6% by weight, and performs more biological functions than any other mineral. These include:

- Strengthening bones and teeth, in conjunction with phosphorus magnesium and vitamin D.
- Regulating muscle functioning, such as contraction and relaxation.
- Regulating heart functioning.
- Blood clotting.
- Regulating the endocrine system, including the secretion of insulin (from the pancreas.)
- Transmission of nervous system messages.
- Enzyme function.

More than 99% of total body calcium is stored in our bones and teeth to support their structure while the remaining 1% is found throughout the body in blood, muscle, and the fluid between cells.

Throughout our lifetime, our bones are continually being broken down (resorption) and rebuilt with the new calcium being deposited into the newly built bone (bone formation).

This balance between bone resorption and deposition changes as we grow older. During childhood there is greater amount of bone formation and less breakdown, throughout early and middle adulthood these processes are fairly equal and in older age (especially postmenopausal women) bone breakdown exceeds its formation which results in bone loss and increases the risk of osteoporosis.

How Much Calcium Do I Need?

As you probably know, the body requires varying levels of calcium throughout the different stages of life. Below are a few of the main categories:

Young Children – Growing skeletons have high calcium needs. Depending on their age and sex, children require between 700 – 1000mgs calcium daily.

Teens – Need higher than average calcium levels when going through puberty. Girls need up to 1000mgs per day while boys need 1,200mgs per day.

Adults – Up until your mid 30's your skeleton is still increasing in bone mass so it is important to provide the body with the calcium it needs during these years as to offset calcium related diseases later in life. Men and women need between 800mgs and 1000mgs a day.

Pregnant Women – A developing baby depends on calcium to build it's little bones, which they get through the mothers diet. In the last three months of pregnancy a women needs 1,100mgs a day.

Lactating Women – While breastfeeding, a mother needs not only enough calcium for herself, but for her baby, which is 1,200mg per day.

Old Age – As we get older our body's skeleton loses calcium at varying rates. Due to hormonal changes after menopause, women lose almost double the amount of calcium as men do. Women need 1,000mgs of calcium per day, while men need 800mgs.

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Calcium Requirements Based on Age

Category	Age	Calcium (mg)
Children	1-3 years	700
	4-7 years	800
Girls	8-11 years	900
	12-15 years	1000
	16-18 years	800
Women	19-54 years	800
	54 + years	1000
Pregnancy	The last 3 months	1100
Lactating		1200
Boys	8-11 years	800
	12-15 years	1200
	16-18 years	1000
Men	19-64 years	800
	64+ years	800

Source: National Health and Medical Research Council of Australia

Factors that affect calcium absorption

Calcium absorption refers to the amount of calcium that is absorbed from the digestive tract into our body's circulation. Calcium absorption can be affected by the calcium status of the body, Vitamin D status, age, pregnancy and plant substances in the diet. Other influencing factors include:

- Cigarette smoking
- High salt diet
- Drinks containing caffeine (cola, tea, coffee)
- Excessive alcohol intake
- High animal protein diets
- High phosphates in animal foods (meat products) and soft drinks
- Crash diets
- Very high fibre and phytic acid intakes

What problems might I have taking calcium?

It's very difficult to get too much calcium. Any excess which the body cannot use is excreted from the body in the urine and stool. Daily consumption up to 2,500 mg has been shown to be safe. (1)

If you experience constipation or gas from calcium, your body may be adjusting to the new levels of calcium. If this happens, try starting with a small amount and build gradually to an adequate daily amount. And take your calcium in several doses during the day, for instance at meal times.

(1) The Merck Manual of Medical Information- Second Home Edition-2003 The information supplied is for reference and informational purposes only and should not be used to treat, diagnose or prevent any disease or medical condition without the advice of a competent medical professional.

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