

Calcium

Several recent studies have found no association between calcium intake and prostate cancer risk, despite initial evidence to suggest that very high intakes increased risk.

With respect to calcium, it is best to have a moderate intake and avoid excess amounts in your diet or with supplements.

Calcium is the most plentiful mineral in the body, mostly existing in bones and teeth. While it is most well known for playing a vital role in the formation and maintenance of bone, calcium is also necessary for heart function, nerve transmission and blood clotting. In addition, obtaining adequate amounts of calcium is associated with reduced risk of osteoporosis, colon polyps, colorectal cancer, calcium oxalate kidney stones, and can help you control hypertension and cholesterol.

One percent of calcium in our body is present in the blood, and although this amount fluctuates, it is tightly regulated, in part, by vitamin D. When calcium intake is low, vitamin D targets the intestines, kidneys and bones to increase calcium levels back to the desired levels. Conversely, a high calcium intake suppresses the production of vitamin D.

There have been studies that have found that a high level of calcium intake i.e. >2000 mg, has been linked an increased risk of prostate cancer. Scientist have suggested that this increased risk may not be due to the direct effects of calcium, but rather due to the reduction in vitamin D3 levels that accompany very high calcium intakes. The active form of Vitamin D, Vitamin D3 is thought to inhibit cancer cell growth and progression in the prostate. However, results of many

other studies have found that there is no association between calcium, dairy products and prostate cancer increased risk.

Similarly, because calcium is linked to dairy products, there have been studies investigating the relationship between dairy products and prostate cancer. Again, there is no evidence to support an association between dairy intake and the risk of prostate cancer.

To date, no studies have investigated calcium intake and its impact on disease progression and survival among those diagnosed with prostate cancer.

It is important to note that men who are diagnosed with prostate cancer are at risk for bone loss and osteoporosis, particularly those on androgen deprivation therapy (hormone therapy). Thus, it is important to consume adequate amounts of calcium to reduce the amount of bone loss that may occur.

The Adequate Intake (AI) for calcium for men 50 years of age and older is **1200 milligrams (mg) per day**. The average intake of calcium from food and supplements among British Columbian men aged 51 to 70

years is approximately 917 milligrams per day ⁶. For men on hormone therapy, the recommendation for calcium is increased to **1500 milligrams per day**, due to the risk of bone loss. While milk, milk products and milk alternatives are the primary calcium contributors in our diet, other excellent calcium-rich sources include broccoli, almonds, tofu and bok choy

Food item	Serving	Calcium content (mg)
Milk (skim, 1%, 2%, enriched soy)	1 cup (250 ml)	~ 300
Yogurt, low-fat	¾ cup (175 ml)	294
Hard cheese (cheddar, Swiss, gouda)	1.5 oz (50 g)	360 – 400
Orange juice, fortified with calcium	½ cup (125 ml)	185
Salmon, canned with bones	2.5 oz (75 g)	171
Almonds, dry roasted	¼ cup (35 g)	93
Bok choy, cooked	½ cup (125 ml)	84
Cottage cheese, 1%	½ cup (125 ml)	70
Lentils & beans (kidney, garbanzo, lima)	¾ cup (175 ml)	25 – 60
Orange	1 medium	60
Bread, whole grain/multigrain	1 slice	33
Broccoli, cooked	½ cup (125 ml)	32
Antacids (Tums®, Roloids®)	1 tablet	200 – 600

Source: Health Canada, Canadian Nutrient File, 2007b version; www.healthcanada.ca/cnf

The bottom line is to try to get the recommended 1200 milligrams of calcium per day, but **avoid excessive consumption** of calcium-rich sources, especially from supplements, unless specifically prescribed by your doctor, or dietitian. Keep in mind that antacids, such as Roloids® or Tums®, contain upwards of 200 milligrams of calcium in each tablet, and may contribute a significant amount of calcium to your total intake. Extra strength antacids may actually contain as much as 600 milligrams of calcium per tablet! If you take antacids regularly, you may want to discuss calcium-free or calcium-reduced options with your doctor, pharmacist, or dietitian.

The Prostate Education & Research Centre



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