Calcium

Fact Sheet for Health Professionals

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This is a fact sheet intended for health professionals. For a general overview, see our consumer fact sheet.

Introduct

Calcium, the m oods, added to others, pres able as a dietary supple

Calcium make lows normal bodily movem e small ionized pool o , and various tissues media ction, blood clotting, nerve

Calcium from active transport and by passive diffusion across the intestinal mucosa [1,3]. Active transport is responsible for most absorption when calcium intakes are lower, and passive diffusion accounts for an increasing proportion of calcium absorption as intakes rise. Vitamin D is required for calcium to be absorbed in the gut by active transport and to maintain adequate calcium levels in the blood [1].

Assessing calcium status

Because almost all calcium in the body is stored in the skeleton, a dual x-ray absorptiometry scan of bone mineral density can assess a person's cumulative

calcium status over their lifetime. Total calcium levels can be measured in serum or plasma, but these levels are not a good reflection of an individual's calcium status.

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Recommended Intakes

The Food and Nutrition Board at the National Academies of Sciences, Engineering, and Medicine has established Recommended Dietary Allowances and Adequate Intakes for calcium. These values range from 1,000 to 1,200 mg for adults and from 200 to 1,300 mcg for infants, children, and adolescents, depending on age.

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Sources

Food

Milk, yogurt, a ondairy foods also co , broccoli, Chinese cabb addition, some nondair ofu, and cereals, are fo s depending on the type of oods is about 30%, while ab to the presence of c

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Dietary supplements

Many dietary supplements contain calcium, usually in the form of calcium carbonate or calcium citrate. The percentage of calcium that is absorbed from supplements depends on a number of factors, including the form of the calcium and the total amount of elemental calcium consumed at one time.

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Medicines

Certain over-the-counter antacid products contain calcium.

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Calcium Intakes and Status

According to data from the National Health and Nutrition Examination Survey, many people in the United States consume less than the recommended amounts of calcium. Non-Hispanic Blacks and non-Hispanic Asians, as well as people living in poverty, are more likely than other populations to have inadequate calcium intakes.

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Calcium Deficiency

Calcium defic fragile bones and increases ets in children and osteomal s are more commonly ca

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Groups at

Certain group m inadequacy. T ls who avoid dairy product

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Calcium and Health

This section focuses on six health conditions and diseases in which calcium might play a role: bone health in older adults, cancer, cardiovascular disease (CVD), preeclampsia, weight management, and metabolic syndrome.

Bone health in older adults

Age-related bone loss can lead to osteoporosis and an increased risk of bone fractures. The U.S. Food and Drug Administration has approved a health claim for the use of supplements that contain calcium and vitamin D to reduce the

risk of osteoporosis in older adults. However, not all clinical trials have found that these supplements improve bone health or reduce the risk of fractures in this population.

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Cancer

Some evidence suggests that calcium may reduce the risk of certain types of cancer, although the relationship between calcium intake and cancer risk remains unclear. Specifically, some observational studies have reported an association between higher calcium intakes and a lower risk of colorectal cancer, but these findings are not always corroborated by the results of calcium supplementation trials. Consuming high levels of calcium from dairy may be associated with a higher risk of prostate cancer; however, the studies that have evaluated the ch as ovarian or breast can

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Cardiovascu

According to r calcium intakes may h atheroscleros ndomized controlled tria night actually increase the r ve found no link between k or outcomes. M ons between dietary calciu ase.

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Preeclampsia

Preeclampsia is a leading cause of maternal and neonatal morbidity and mortality in the United States. Calcium supplements might reduce the risk of preeclampsia in pregnant women who have inadequate calcium intakes.

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Weight management

Whether dietary or supplemental calcium intakes affect weight management is unknown. While some studies have reported a lower prevalence of overweight or obesity or a lower risk of gaining weight among people with higher calcium intakes, others have found no link between calcium intakes and factors such as body mass index, body weight, or body fat.

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Metabolic syndrome

A few analyses and one clinical trial have indicated that higher calcium intakes may reduce a person's risk of developing metabolic syndrome, especially in women, but more evidence is needed to clarify this potential link.

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Health Ri

Higher intake kidney stones. Accor e potential to increase the r s might also increase the r el for calcium ranges from 2 o 3,000 mg for infants, ch

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Interactio

Calcium supp edications may affect ca levothyroxine, lithium, and quinolone antibiotics.

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Calcium and Healthful Diets

In general, a person's nutritional needs should be met primarily through the diet, including fortified foods. Dietary supplements may be useful in cases where it is not possible to meet the needs for specific nutrients through food alone,

especially during certain life stages. The Dietary Guidelines for Americans offers a general description of healthy dietary patterns.

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N)

Resilience & Health Studies

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About ODS

Mission, Origin, and Mandate

Strategic Plan 2025-2029

ODS Leadership

NIH Dietary Supplement Research Coordinating Committee

Staff Publications