

National Calcium Recommendations

In August, 1997, the Food and Nutrition Board of the Institute of Medicine, National Academy of Sciences (NAS) updated national calcium recommendations for Americans and Canadians.¹ Differences between previous recommendations and this update included:

- A shift in focus from prevention of deficiency diseases to an emphasis on beneficial effects of healthy eating and chronic disease prevention;
- Upper level (UL) guidelines to reduce the risk of adverse health effects from over-consumption of nutrients;
- Consideration of research showing calcium plays a role in lowering blood pressure and preventing certain types of cancer, as well as its traditional role in bone health;
- More distinct age groupings, expanded to include the age category of those older than 70 years.

The updated calcium recommendations are shown below:

Age (years)	AIs (mg/day)
1-3	500
4-8	800
9-18	1300
19-50	1000
51-70	1200
71+	1200

Adequate Intake

Adequate Intake levels (AIs) were established for those nutrients for which there was insufficient scientific evidence available to determine a Recommended Dietary Allowance (RDA). The levels reflected in AIs are considered sufficient to promote optimal health and to prevent chronic disease. *Individuals should use the AI as a goal for intake where no RDAs exist.* There is no established benefit to consuming above the RDA or AI.

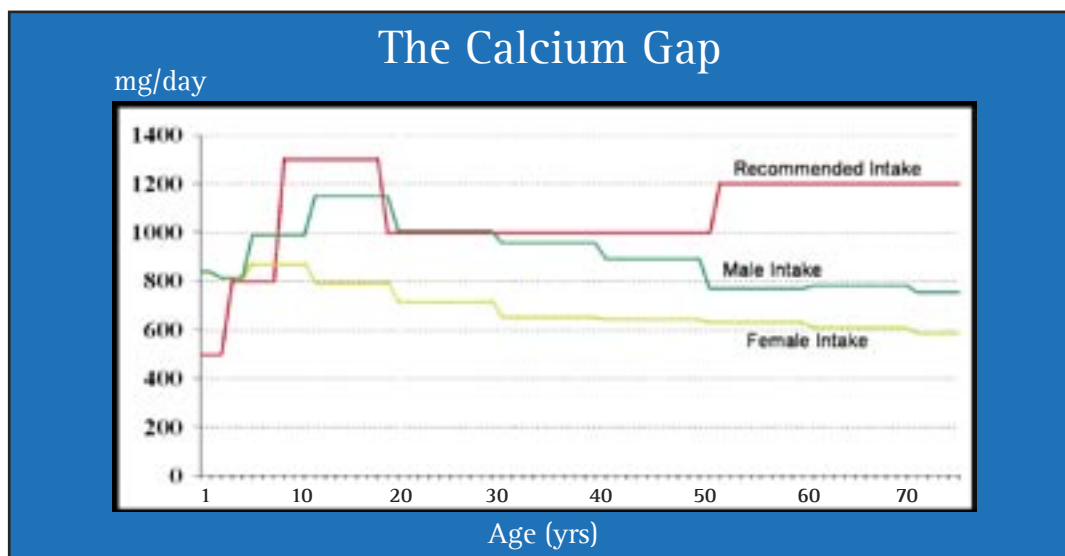
Tolerable Upper Levels

Tolerable Upper Levels (ULs) represent the maximum intake that is unlikely to pose a risk of adverse health effects in almost all healthy individuals. ULs were established for all nutrients out of concern that people may be approaching toxic intake levels with increased use of supplements and fortified foods. The calcium UL was set at 2500 mg/day for all age groups.

Recommendations vs. Actual Intakes

While an estimated 70 percent of Americans fail to get enough calcium, the most serious deficiency is among adolescent girls ages 11 and older. USDA figures show that 91 percent of teen girls and 69 percent of teen boys do not meet their AI levels.² As more than half of adult bone mass is formed during the pre-teen and teenage years, this time period represents a critically important “window of opportunity” to maximize bone health.

The graph below shows how current consumption levels of calcium lag behind the recommendations in both genders and across many age groups.³



Food vs. Supplements

Although the NAS report does not take a position on whether calcium recommendations should be obtained through natural foods, supplements or fortified foods, a NAS news release states:

“Obtaining RDAs and AIs from food has the advantage of providing intakes of other beneficial nutrients and food components for which RDAs and AIs may not be determined, and of the potential enhancement of nutrient utilization through interactions with other nutrients simultaneously.”⁴

Other leading health organizations, including a National Institutes of Health (NIH) expert panel, recommend that people opt for foods first to meet their calcium needs. Strict vegetarians and people with milk allergies, however, may need to rely on calcium-fortified foods and/or supplements to meet their needs.

High-Calcium Food Sources

Milk and dairy products are a concentrated source of well-absorbed calcium, providing approximately 75 percent of the dietary calcium in the U.S. Other non-dairy food sources of calcium can help meet the recommended totals. Following is a list of high-calcium foods and the amount of calcium per serving.

	Ca (mg)
1 cup plain yogurt	435
1 cup milk	300
1/2 cup tofu, calcium-set	250
1 ounce cheese	200
1 cup kale	93
2 sardines	92
1 ounce almonds	80
1 cup cooked beans	70
1 cup spinach	54
1 cup broccoli	75

Call to Action

As a health professional, you are in an ideal situation to take an active role in helping your clients bridge the gap between their current calcium intakes and the recommendations. This is critical for clients of all ages and both genders. Addressing calcium needs will help to optimize bone health by improving deposition in early adolescent and teenage patients, maintaining bone density in adults, and minimizing bone loss in older patients. Clients should be informed that calcium is also known to play a preventative role in hypertension and possibly some cancers, as well as in weight-management efforts.

References

- ¹ *Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D and Fluoride*. Standing Committee on the Scientific Evaluation of Dietary Reference Intakes, Institute of Medicine. National Academy Press, 1997.
- ² Moshfegh, A., et. al. 2005. *What We Eat in America, NHANES 2001-02: Usual nutrient intakes for food compared to Dietary Reference Intakes*. U.S. Department of Agriculture, Agricultural Research Service.
- ³ Combined results from USDA's 1994 and 1995 Continuing Survey of Food Intakes by Individuals and 1994 and 1995 Diet and Health Knowledge Survey. Food Surveys Research Group, Beltsville Human Nutrition Research Center, USDA, 1997.
- ⁴ News Release: *“New report recasts dietary requirements for calcium and related nutrients.”* National Academy of Sciences, Office of News and Public Information, Washington, D.C., Aug. 12, 1997.



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