



**Calcium**

**Why We Need Calcium**

You may know that calcium plays an important role in building healthy teeth and bones. What you may not know is that calcium is vital to every cell of the body for muscle function, nerve transmission, blood clotting and many other uses. When you don't get enough calcium in your diet, the calcium stored in your bones is "stolen" to supply the rest of your body. Hence, your bones suffer the consequences of a low-calcium diet and they become more susceptible to fractures.

**Recommendations**

The Dietary Reference Intakes (DRI's) for calcium vary by age and stage of life:

<b>Age/Lifestage Group</b>	<b>New Calcium Goal (mg/day)</b>
Birth - 6 months	210
6 months - 1 year	270
1 - 3 years old	500
4 - 8 years old	800
9 - 18 years old	1300
19 - 50 years old	1000
51 + years old	1200
Pregnant and/or lactating (18 years old and younger)	1300
Pregnant and/or lactating (19+ years old)	1000

Food & Nutrition Information Center, USDA National Agricultural Library web site. Accessed online June, 2010

Many good sources of calcium fit quite well into a healthy, low-fat diet. The following table includes some examples of low-fat sources of calcium from several food groups:

<b>Group</b>	<b>Examples</b>
Dairy	milk (skim or 1%), low-fat and fat-free yogurts, low-fat and fat-free cheeses
Meats/Beans	sardines/salmon with bones, calcium-set tofu
Fruits/Vegetables	collard greens, kale, cooked spinach, broccoli, calcium-fortified orange juice
Grains	pancakes, calcium-fortified breads and cereals, corn tortilla
Combination Foods	cheese pizza (made with reduced-fat cheese), soups prepared with skim milk
Non-food sources	calcium supplements

**Calcium Supplements**

It is not difficult to make low-fat food choices that are also good sources of calcium. Although food is the preferred source of calcium, a supplement may be necessary to help you meet your daily calcium needs. Avoid oyster shell, dolomite and bone meal supplements because they can contain significant amounts of lead and are absorbed less efficiently than calcium carbonate. Calcium carbonate, the most popular form, is chewable and is marketed by a number of companies. Calcium carbonate is best absorbed when taken with food.

Common brand names of calcium carbonate include Tums™, Rolaids™, Viactiv™, Caltrate™, Oscal™ and Titalac™. Other types of calcium supplements are calcium citrate and calcium gluconate. Calcium citrate is better absorbed in people who have reduced stomach acid. Most supplements provide 500 mg of calcium per serving – take no more than 500 mg of calcium at one time to maximize absorption. To avoid calcium toxicity, do not exceed 1500 mg of calcium per day.

**Best Food Sources of Calcium**

One way to increase the amount of calcium in your diet is to consume calcium-rich foods like low-fat milk, cheese, broccoli and others. Many foods are fortified with calcium and are readily available and affordable. Foods like orange juice, cereals and breakfast bars have calcium added to them, so it is easier than ever before to get the recommended level of calcium everyday.

## Dairy Sources

Food	Serving Size	Calcium (mg)	%DV
Milk, skim	8 oz.	302	30%
Yogurt, low-fat fruit	8 oz.	350	35%
Yogurt, plain	8 oz.	450	45%
Yogurt, frozen	8 oz.	278	28%
Cheese, American	1 oz.	202	20%
Cheese, low-fat cottage	4 oz. (½ cup)	69	7%
Cheese, cream	1 oz.	30	3%
Cheese, cheddar	1 oz.	204	20%
Cheese, mozzarella	1 oz.	203	20%
Cheese, swiss	1 oz.	273	27%
Cheese, parmesan	¼ cup	250	25%
Cheese, colby/monterey jack	1 oz.	200	20%
Ice cream, low-fat	4 oz. (½ cup)	100	10%
Pudding	4 oz. (½ cup)	150	15%

Another easy and economical way to boost the calcium content of many meals is to add non-fat powdered dry milk to pudding, homemade cookies, bread or muffins, soups, gravy, casseroles and even a glass of milk. A single Tbsp. of non-fat powdered dry milk adds 52 mg of calcium, and 2-4 Tbsp. can be added to most recipes.

You may add:

- 3 Tbsp. to each cup of milk in pudding, cocoa, or custard
- 4 Tbsp. to each cup of hot cereal before cooking
- 2 Tbsp. sifted into each cup of flour

## Non-Dairy Sources & Others

Food	Serving Size	Calcium (mg)	%DV
Broccoli, cooked	4 oz. (½ cup)	47	5%
Spinach, cooked*	4 oz. (½ cup)	122	12%
Greens, cooked	4 oz. (½ cup)	55	6%
Tofu, raw, firm - calcium - set	4 oz. (½ cup)	258	26%
Instant Oatmeal	1 package	150	15%
Pancakes, buttermilk	1	80	8%
Sardines	2	90	9%
Salmon, canned, with bones	3 oz.	203	20%
Taco with cheese	1 large	340	34%
Quiche with cheese	1/8 of 8-inch pie	115	12%
Macaroni and cheese, box	1 cup	100	10%
Pizza with cheese	1/8 of 12-inch pizza	115	12%
Breads and Cereals	1 slice or ½ cup	30	3%
Tortilla, corn	1 medium	45	5%
Tomato soup, prepared with milk	8 oz.	186	19%

DV = Daily Value. Daily value is used to compare nutrient levels in different foods. The value doesn't reflect individual need. The DV for calcium is 1,000 mg for adults and children aged 4 and older. Foods providing 20% of more of the DV are considered to be high sources of a nutrient, but foods providing lower percentages of the DV also contribute to a healthful diet.

\* contains substances that tend to block calcium absorption

## Fortified foods

Fortified foods are a great way to get dietary calcium. When looking for a calcium-fortified version of a product, look for words on the packaging like “**calcium-fortified**”, “**excellent source of calcium** (more than 200 mg of calcium)” or “**good source of calcium (110-190 mg/serving)**.”

Some examples of calcium fortified foods include: Total Cereal™, select varieties of Crystal Light™ drink, Honey Maid™ Graham Crackers, Cheez-It™ Juniors, Kellogg’s Fruit Loops™, Special K Plus™, Eggo Waffles™, Country Crock Spread™-tub only, select varieties of soy milks, select varieties of orange juice (Minute Maid™ & Tropicana™), select varieties of cranberry juices (OceanSpray™), some grapefruit juices (Ruby Red Grapefruit Juice™), and some apple juices, Wonder Bread™, and Hostess Mini-muffins™. Check packages for exact calcium content.

## Suggestions

- Drink skim or 1% milk with meals or as a snack.
- Increase your intake of calcium-rich foods when under stress.
- Ask your doctor about your medications (some decrease calcium absorption).
- Don't smoke - it decreases calcium absorption.
- Exercise - it increases bone density (especially weight-bearing exercise).
- Use skim milk in soup and oatmeal instead of water.
- Limit caffeine intake; it can decrease calcium absorption.
- Add low-fat cheese to sandwiches, salads, casseroles, etc.
- Eat low-fat yogurt or cheese as a snack.
- Choose calcium-rich desserts, such as frozen yogurt.
- Avoid or limit alcohol - it can increase calcium loss.

## References

Tussing, L. & K. Chapman-Novakofski. “Osteoporosis prevention education: Behavior theories and calcium intake.” *J Amer Dietetic Assoc* 105.1(2005): 92-97.

“Dietary Supplement Fact Sheet: Calcium” Office of Dietary Supplements. National Institutes of Health. 7 Oct 2009. <http://ods.od.nih.gov/factsheets/calcium.asp>

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

**If you are concerned about any difference in your treatment plan and the information** in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.illinois.edu>