



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:

| Age/Lifestage Group | New Calcium Goal (mg/day) |
|--|----------------------------------|
| 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 |

The Institute of Medicine of the National Academy of Sciences, Washington, DC: National Academy Press, 21 01 Constitution Ave. NW, Washington, DC 20418; 1997.

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:

| Group | Examples |
|-------------------|---|
| 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, broccoli, calcium-fortified orange juice |
| Grains | pancakes, calcium-fortified breads and cereals |
| 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.

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. 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) |
|-----------------------------|---------------|--------------|
| Milk, skim | 8 oz. | 302 |
| Yogurt, low-fat fruit | 8 oz. | 350 |
| Yogurt, plain | 8 oz. | 450 |
| Yogurt, frozen | 8 oz. | 278 |
| Cheese, American | 1 oz. | 202 |
| Cheese, low-fat cottage | 4 oz./1/2 cup | 69 |
| Cheese, cream | 1 oz. | 30 |
| Cheese, cheddar | 1 oz. | 204 |
| Cheese, mozzarella | 1 oz. | 203 |
| Cheese, swiss | 1 oz. | 273 |
| Cheese, parmesan | ¼ cup | 250 |
| Cheese, colby/monterey jack | 1 oz. | 200 |
| Ice cream, low-fat | 4 oz./1/2 cup | 100 |
| Pudding | 4 oz./1/2 cup | 150 |

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 add 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) |
|---------------------------------|---------------|--------------|
| Broccoli, cooked | 4 oz./1/2 cup | 47 |
| Spinach, cooked* | 4 oz./1/2 cup | 122 |
| Greens, cooked | 4 oz./1/2 cup | 55 |
| Tofu, raw, firm - calcium - set | 4 oz./1/2 cup | 258 |
| Instant Oatmeal | 1 package | 150 |
| Pancakes, buttermilk | 1 | 80 |
| Sardines | 2 | 90 |
| Salmon, canned, with bones | 3 oz. | 203 |
| Taco with cheese | 1 large | 340 |

Non-Dairy Sources & Others: (continued)

| Food | Serving Size | Calcium (mg) |
|---------------------------------|----------------------|--------------|
| Quiche with cheese | 1/8 of 8-inch pie | 115 |
| Macaroni and cheese, box | 1 cup | 100 |
| Pizza with cheese | 1/8 of 12-inch pizza | 115 |
| Breads and Cereals | 1 slice or ½ cup | 30 |
| Tortilla, corn | 1 medium | 45 |
| Tomato soup, prepared with milk | 8 oz. | 186 |

* 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.
- Do exercise - it increases bone density (especially weight-bearing exercise).
- Use skim milk in soup 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.
- Avoid or limit alcohol - it can increase calcium loss.

References

K. Chapman-Novakofski & L. Tussing. University of Illinois Cooperative Extension, 2001.

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.uiuc.edu>