# Calcium

## An Essential Element of Bone Health

Calcium is a mineral that helps build strong bones and teeth. While you need calcium throughout your life, the amount you need changes over time. You need a lot of calcium during your growing years to build strong bone, a bit less during the middle years to keep your bones strong, and much more later in life to prevent bone loss.

Your body stores ninety-nine percent of its calcium in your teeth and bones. The other 1% is in your blood and soft tissue. If you do not eat enough calcium, your body will take the calcium it needs from the stores in your body. If your body continues to take calcium from your bones for a long time, you will develop osteoporosis. Osteoporosis is a serious disease in which bones become more fragile, making them more likely to break.

One important step in preventing osteoporosis is to consume your daily calcium requirement. By meeting your daily calcium intake recommendations you can promote bone development and help prevent osteoporosis. It is recommended that you do not exceed 2500 mg of calcium daily.

The amount of calcium you need daily depends on your age and gender. The National Academy of Sciences Food and Nutrition Board (NFB) and National Institutes of Health (NIH) have issued the following daily calcium intake recommendations. Use the charts below to determine how much calcium you should be getting daily.

National Academy of Sciences

| Age Group | Calcium - mg |
|---|---|
| Birth - 6 months | 210 |
| 6 months - 1 year | 270 |
| 1 - 3 years | 500 |
| 4 - 8 years | 800 |
| 9 - 18 years | 1300 |
| 19-30 years | 1000 |
| 31-50 | 1000 |
| 51 and older | 1200 |
| Pregnant or nursing | |
| 14-18 years | 1300 |
| 19-50 years | 1000 |

National Institutes of Health

| Age Group | Calcium - mg |
|---|---|
| Birth - 6 months | 400 |
| 6 months - 1 year | 600 |
| 1 - 10 years | 800-1200 |
| 11-24 years | 1200-1500 |
| 25-50 years | 1000 |
| 51-64 years | 1000 |

| | |
|---|---|
| (women on HRT & men) | |
| 51-64 (women not on HRT) | 1500 |
| 65 or older | 1500 |
| Pregnant or nursing | 1200-1500 |

## Vitamin D

Your body needs Vitamin D to absorb calcium. The recommended daily allowance of Vitamin D is 400-800 IUs. Good sources of Vitamin D:

| | | |
|---|---|---|
| Sunshine, 15 minutes/day | Cod liver oil | Liver |
| Milk fortified with Vitamin D | Egg yolks | Multivitamins |

Remember -- getting enough calcium is only one of the steps to build and maintain healthy bones. Talk with your doctor about other steps you can take to prevent osteoporosis.

## How to Get Calcium Every Day

The best way to get the right amount of calcium is to eat enough calcium-rich foods every day. Dairy products and calcium-fortified foods are the best sources of calcium. Certain brands of fruit juices, cereals and breads have extra, added calcium. Non-fat and low-fat dairy products have equal amounts of calcium. Here are some good examples of calcium-rich foods.

### Sample Daily Menu with 1360 mg of Calcium

| **Breakfast** | | **Calcium (mg)** |
|---|---|---|
| Skim milk, 1 cup | | 302 |
| Fortified whole wheat cereal, 1cup | | 48 |
| English muffin, 1 | | 96 |
| | **Subtotal** | **446** |
| **Lunch** | | |
| Baked potato with 1 oz. part-skim mozzarella cheese | | 227 |
| Minestrone soup, 1 cup | | 34 |
| Orange, 1 | | 52 |
| | **Subtotal** | **313** |
| **Dinner** | | |
| Salmon, 3 oz. | | 181 |
| Broccoli, 1 cup | | 178 |
| Enriched white rice, 1 cup | | 33 |
| Strawberries and yogurt, 1 cup | | 219 |
| | **Subtotal** | **601** |
| Note: Your body may not be able to absorb all of the calcium present in these foods. | **Total** | **1360** |

# Calcium Supplements

If you do not get your recommended daily calcium intake from food, you may need a calcium supplement. Between the food you eat and your supplement, you should not consume more than 2500 mg of calcium daily. Several different types of supplements are available.

- Calcium carbonate and calcium citrate are the most common types of calcium supplements. Another type, tribasic calcium phosphate, is also available. Supplements are sold under brand names and as generics. Many common antacids also contain calcium.
- It is best to take calcium carbonate immediately after a meal when stomach acid can assist breakdown. Calcium citrate may be taken any time of day, and is appropriate for people who are allergic to oyster shell.
- Read the label to find the amount of "elemental calcium" per tablet. Elemental calcium is the actual amount of calcium in the supplement that will be made available to your body. This will help you determine how many tablets you need to take to get your target dose.
- Look for the USP mark to make sure the supplement meets standards for purity and quality.
- Avoid taking calcium with high fiber meals or with bulk-forming laxatives. The fiber can reduce the amount of calcium your body can use.

- Your body prefers small amounts of calcium throughout the day. Avoid consuming more than 500-600 milligrams of elemental calcium at one time. This may mean you need to take supplements 2-3 times during the day.
- Iron and calcium supplements should not be taken at the same time because they interfere with each other's absorption.
- Drink plenty of fluids (6-8 glasses a day) to avoid risk of kidney stones.

**Calcium carbonate** brand names – provide 40% elemental calcium.

| Name | Forms available | mg of Calcium per tablet |
|---|---|---|
| Caltrate | Chewable and tablet | 600 |
| OsCal | Tablet | 250 or 500 |
| Viactiv | Chewable | 500 (+ 100 I.U. vitamin D) |
| Calburst | Chewable | 500 |
| Naturemade | Tablet | 500 |

**Calcium carbonate** rich antacids – provide 40% elemental calcium.

| Name | Forms available | mg of calcium per tablet |
|---|---|---|
| Alka-Mints | Chewable | 340 |
| Titralac Extra Strength | Chewable | 300 |
| Titralac Liquid (1 tsp) | Liquid | 400 |
| Tums/Tums EX | Chewable | 200/300 |
| Tums Ultra and Tums 500 | Chewable | 500 |
| Mylanta CalciTabs | Chewable | 400 |

**Calcium citrate** brand names – provide 21% elemental calcium.

| Name | Forms available | mg of calcium per tablet |
|---|---|---|
| Citracal Liquitabs | Liquid capsule | 500 |
| Citracal 950 | Caplet | 200 |
| Citracal Caplets + D | Caplet | 315 (+ 200 I.U. vitamin D) |

# Lactose Intolerance

Some people have trouble digesting milk products because an enzyme that digests milk is missing from their body – a condition known as lactose intolerance. According to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), between 30 and 50 million Americans are lactose intolerant. This condition occurs more often in certain ethnic groups. In fact, up to 75 percent of all adult African Americans and Native Americans and 90 percent of Asian Americans consider themselves lactose intolerant.

Lactose intolerance can be a major roadblock in consuming your daily calcium requirement because milk products, which may cause you gas, bloating or stomach cramps, are especially rich in calcium.

If you are lactose intolerant you can still satisfy your daily calcium requirement in a number of ways:

by incorporating non-dairy, calcium-rich foods into the diet
by taking calcium supplements
by using lactase pills or drops which make milk products digestible

## Tips for Tolerance

New research finds that most people who are lactose intolerant can enjoy some dairy foods daily. Try these tips to help you comfortably consume dairy foods.

**Start small** - Try small portions of dairy foods and gradually increase the serving size. This allows whatever lactase is present to do its job of digesting the lactose before it starts causing problems. When you notice symptoms, that may be your personal limit for the amount of lactose you can tolerate at one sitting.

**Reduce it**- Look for lactose-reduced or lactose-free milk in the dairy case at your store. It has all the nutrients of regular milk.

**Older is wiser** - That's true with cheese! When milk is processed into cheese, most of the lactose is removed in the whey, or liquid. Aged hard cheese, such as Cheddar, Colby, Swiss and Parmesan are particularly low in lactose.

**Get a little "culture"** - Look for cultured milk products such as yogurt or buttermilk. These products contain friendly bacteria that help digest lactose.

**Make it easy** - Look for dairy digestive supplements (lactase caplets) at your drug store. These supplements can help you digest lactose easily. Then you can enjoy dairy foods, in any amount, and get all the nutrients they provide.

*Text adapted from "The Lowdown on Lactose Intolerance," National Dairy Council, 1997*