

By [Robert Cohen](#) Executive Director

CALCIUM AND BONE DISEASE

Human breast milk is Mother Nature's PERFECT FORMULA for baby humans. Even dairy industry scientists would not be foolish enough to debate this UNIVERSALLY ACCEPTED FACT. In her wisdom, Mother Nature included 33 milligrams of calcium in every 100 grams, or 3 1/2-ounce portion of human breast milk.

Adults do not drink human breast milk. At the end of this column is a list of calcium values in the foods we eat. Each food is compared to human breast milk as the standard. You might be surprised to learn how many foods naturally contain an abundance of calcium. One must wonder why Asians traditionally did not get bone-crippling osteoporosis...that is, until they adopted the "American Diet," a diet of milk and dairy products.

The dairy industry owns the psychological exclusive rights to calcium in foods found in super markets. Few food manufacturers would dare to compete with the dairy message which infers that no other foods contain the calcium contained in milk, and without milk and dairy products you're certain to one day end up with bone-crippling osteoporosis. Tropicana Orange Juice has been marketing a Fruit-Cal orange juice which, according to the Tropicana company, contains a more absorbable type of calcium than other calcium supplements. Each cup of Tropicana's pure premium calcium contains 350 milligrams of calcium as opposed to only 302 in one cup of milk and 172 in one ounce of American cheese. Minute Maid also has a Calcium-Orange Juice product and claims that it contains fifteen times the amount of calcium as contained in an equivalent sample of regular orange juice. Gerber's Baby cereal sells a box of single grain barley upon which they write, "An excellent source of iron and a good source of calcium." The side panel of their box reveals that their cereal contains barley flour and tri and di calcium phosphate. Other than orange juice and baby food, no visible claim to calcium is made by any food manufacturer. The reason, of course, is that milk holds the monopoly. They hold title to and make claim to America's calcium perception. Few would dare challenge that claim.

A tour through a typical American supermarket reveals aisles dedicated to specific food groups...There are fresh fruits and vegetables in one section and meats and poultry in another. Rice and grains are kept separate from beans and canned vegetables. Milk and dairy products (which represent America's most sought after foods) are usually placed furthest from the market's front door. Junk foods are conjointly placed in the same aisle with cookies and potato chips. These high calorie/low fiber snacks are stacked within walking distance of both artificially sweetened and high sugar sodas.

Hostess Twinkies contain calcium. Those golden sponge cakes with creamy fillings are as much a part of our cuisine as they are a part of our national culture. To many, Twinkies represent all that is artificial and unhealthy about our collective fast food diet. To others they epitomize instant snacks, a quick source of energy and mother's easy-to-prepare dessert for her school-age child. When I was in college, Twinkies represented one of the four major food groups (along with French fries, alcoholic beverages and McDonald's hamburgers.) To read a **Twinkies ingredient label** is to marvel at how far mankind has progressed these past twenty-five thousand years, eating fruits and nuts and vegetables and grains, and occasional mastodon steaks, to:

"Enriched wheat flour, (niacin, a "B" vitamin), ferrous sulfate (iron), thiamin mononitrate (B1), riboflavin (B2), water, sugar, corn syrup, high fructose corn syrup, partially hydrogenated vegetable and/or animal shortening (contains one or more of: canola, corn, cottonseed or soybean oil, beef fat), eggs, dextrose. Contains 2% or less of: modified food starch, whey, leavenings (sodium and pyrophosphate, baking soda, monocalcium phosphate), salt, starch, yellow corn flour, corn syrup solids, emulsifiers mono and diglycerides, lecithin, polysorbate 60, dextrin, calcium caseinate, sodium stearoyl, lactylate, cellulose gum, wheat gluten, natural and artificial flavors, caramel color, artificial colors (yellow 5, red 40), sorbic acid (to retain freshness)."

The Dairy Industry and milk processors invest hundreds of millions of dollars each year to guarantee that Americans will continue to drink milk and eat dairy products, investing their money to continually let Americans know that milk tastes good and the intake of milk and dairy products must be continued to insure good health. Milk mustaches are stylish. Drink milk and you're beautiful! Gorgeous models, actors, actresses, sports heroes, even President Clinton and Bob Dole have posed for milk advertisements. All have asserted by

the milky white goo artificially applied to their upper lip that drinking milk is healthful and wholesome. Who would argue with such an overwhelming endorsement? Billboards spanning America ask the question, "Got milk?" Cal Ripken of the Baltimore Orioles broke Lou Gehrig's record for consecutive major league baseball games played. Ripken, holding a baseball bat, smiles from inside the front cover of a "GOT MILK" brochure proclaiming, "With all the skim milk I drink, my name might as well be Calcium Ripken, Jr."

Common knowledge of osteoporosis is based upon false assumptions. American women have been drinking an average of two pounds of milk or eating the equivalent milk in dairy products per day for their entire lives. Doctors recommend calcium intake for increasing and maintaining bone strength and bone density which they call bone mass. According to this regimen recommended by doctors and milk industry executives, women's bone mass would approach that of pre-historic dinosaurs. This line of reasoning should be equally extinct. Twenty-five million American women have osteoporosis. Drinking milk does not prevent osteoporosis. Milk contains calcium. Bones contain calcium too. When we are advised to add calcium to our diets we tend to drink milk or eat dairy foods.

In order to absorb calcium, the body needs comparable amounts of another mineral element, magnesium. Milk and dairy products contain only small amounts of magnesium. Without the presence of magnesium, the body only absorbs 25 percent of the available dairy calcium content. The remainder of the calcium spells trouble. Without magnesium, excess calcium is utilized by the body in injurious ways. The body uses calcium to build the mortar on arterial walls which becomes atherosclerotic plaques. Excess calcium is converted by the kidneys into painful stones which grow in size like pearls in oysters, blocking our urinary tracts. Excess calcium contributes to arthritis; painful calcium buildup often is manifested as gout. The USDA has formulated a chart of recommended daily intakes of vitamins and minerals. The term that FDA uses is Recommended Daily Allowance (RDA). The RDA for calcium is 1500 mg. The RDA for magnesium is 750 mg.

Society stresses the importance of calcium, but rarely magnesium. Yet, magnesium is vital to enzymatic activity. In addition to insuring proper absorption of calcium, magnesium is critical to proper neural and muscular function and to maintaining proper pH balance in the body. Magnesium, along with vitamin B6 (pyridoxine), helps to dissolve calcium phosphate stones which often accumulate from excesses of dairy intake. Good sources of magnesium include beans, green leafy vegetables like kale and collards, whole grains and orange juice. Non-dairy sources of calcium include green leafy vegetables, almonds, asparagus, broccoli, cabbage, oats, beans, parsley, sesame seeds and tofu.

Osteoporosis is NOT a problem that should be associated with lack of calcium intake. Osteoporosis results from calcium loss. The massive amounts of protein in milk result in a 50 percent loss of calcium in the urine. In other words, by doubling your protein intake there will be a loss of 1-1.5 percent in skeletal mass per year in postmenopausal women. The calcium contained in leafy green vegetables is more easily absorbed than the calcium in milk, and plant proteins do not result in calcium loss the same way as do animal proteins. If a postmenopausal woman loses 1-1.5 percent bone mass per year, what will be the effect after 20 years? When osteoporosis occurs levels of calcium (being excreted from the bones) in the blood are high. Milk only adds to these high levels of calcium which is excreted or used by the body to add to damaging atherosclerosis, gout, kidney stones, etc.

Bone mass does not increase after age 35. This is a biological fact that is not in dispute by scientists. However, this fact is ignored by marketing geniuses in the milk industry who make certain that women this age and older are targeted consumers for milk and dairy products. At least one in four women will suffer from osteoporosis with fractures of the ribs, hip or forearm. In 1994, University of Texas researchers published results of an experiment indicating that supplemental calcium is ineffective in preventing bone loss. Within 5 years of the initial onset of menopause, there is an accelerated rate of loss of bone, particularly from the spine. During this period of time, estrogen replacement is most effective in preventing rapid bone density loss.

Bone Mass is Genetically Determined

In December of 1994 a study, published in the American Journal of Clinical Nutrition, revealed that skeletal size and bone mass are genetically programmed. Optimal skeletal size is achieved through adequate calcium intake in an individual's youth. However, excess calcium has an effect upon bone mass. Once enough calcium is introduced, the excess is either excreted in the urine or absorbed by the kidneys, arteries and liver. This excess calcium can cause great damage. The decrease in skeletal mass associated with osteoporosis in women is primarily caused by the age-dependent decrease in hormonal steroid secretion by the ovaries. While

optimal calcium intake in childhood and adolescence is important for achieving proper bone density, calcium intake in adulthood has little significance.

An overview based upon recent findings regarding the pathogenesis of osteoporosis was published in Germany in 1994 and translated into English where the abstract appeared on MEDLINE, a computer service containing scientific abstracts of research. The premise of this study is that osteoporosis is an unavoidable consequence of aging for which no prevention was previously possible. However, recent hormonal therapies have slowed down the process of rapid bone loss. The lack of estrogen and progesterone play an important role in the development of osteoporosis.

Human breast milk contains 33 milligrams of calcium per 100-gram portion and potato chips contain 40 milligrams! **GOTMILK? GOT BONE DISEASE!** Find your favorite snacks on the following list and substitute them for pus-filled, antibiotic laden, allergenic and hormonal MILK.

Calcium content of foods (per 100-gram portion)

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1. Human Breast Milk	33(lowest!)
2. Almonds	234 mg
3. Amaranth	267 mg
4. Apricots (dried)	67 mg
5. Artichokes	51 mg
6. Beans (can: pinto, black)	135 mg
7. Beet greens (cooked)	99 mg
8. Blackeye peas	55 mg
9. Bran	70 mg
10. Broccoli (raw)	103 mg
11. Brussel Sprouts	36 mg
12. Buckwheat	114 mg
13. Cabbage (raw)	49 mg
14. Carrot (raw)	37 mg
15. Cashew nuts	38 mg
16. Cauliflower (cooked)	42 mg
17. Swiss Chard (raw)	88 mg
18. Chickpeas (garbanzos)	150 mg
19. Collards (raw leaves)	250 mg
20. Cress (raw)	81 mg
21. Dandelion greens	187 mg
22. Endive	81 mg
23. Escarole	81 mg
24. Figs (dried)	126 mg
25. Filberts (Hazelnuts)	209 mg
26. Kale (raw leaves)	249 mg
27. Kale (cooked leaves)	187 mg
28. Leeks	52 mg
29. Lettuce (lt. green)	35 mg
30. Lettuce (dark green)	68 mg
31. Molasses (dark-213 cal.)	684 mg
32. Mustard Green (raw)	183 mg
33. Mustard Green (cooked)	138 mg
34. Okra (raw or cooked)	92 mg
35. Olives	61 mg
36. Orange (Florida)	43 mg
37. Parsley	203 mg
38. Peanuts (roasted & salted)	74 mg
39. Peas (boiled)	56 mg
40. Pistachio nuts	131 mg
41. Potato Chips	40 mg
42. Raisins	62 mg
43. Rhubarb (cooked)	78 mg
44. Sauerkraut	36 mg
45. Sesame Seeds	1160 mg
46. Squash (Butternut)	40 mg
47. Soybeans	60 mg

48. Sugar (Brown)	85 mg
49. Tofu	128 mg
50. Spinach (raw)	93 mg
51. Sunflower seeds	120 mg
52. Sweet Potatoes (baked)	40 mg
53. Turnips (cooked)	35 mg
54. Turnip Greens (raw)	246 mg
55. Turnip Greens (boiled)	184 mg
56. Water Cress	151 mg