Understanding **Lactose Intolerance**


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Lactose intolerance is the inability to digest the milk sugar lactose. People with lactose intolerance are missing an enzyme called lactase, which breaks down lactose into its two components, glucose and galactose. When a person who is lactose intolerant consumes milk, it can cause gas, bloating, cramps, and sometimes diarrhea.

Virtually all infants and young children have the lactase enzyme. Prior to the mid-1960s, most U.S. health professionals believed that this enzyme was present in nearly all adults as well. When researchers tested various ethnic groups for their ability to digest lactose, however, their findings proved otherwise.

Today we know that around 65% of the world's population is unable to digest lactose after infancy. Lactose intolerance is most common in people of East Asian descent, affecting more than 90% of adults.[1] Up to 80% of African Americans and Latinos and up to 100% of Native Americans and Asians are lactose intolerant, while 15% of individuals of northern European descent have the condition.[2]

In 1988, the *American Journal of Clinical Nutrition* reported, "It rapidly became apparent that this pattern was the genetic norm, and that lactase activity was sustained only in a majority of adults whose origins were in Northern European or some Mediterranean populations."[3] In other words, Caucasians tolerate milk sugar only because of an inherited genetic mutation. Most of the world's population, nearly 8 billion people, have insufficient amounts of the enzyme lactase.[4] This has resulted in an important change in terminology: Those who could not digest milk were once called "lactose intolerant" or "lactase deficient." They are now regarded as the norm, while adults who retain the enzyme allowing them to digest milk are called "lactase persistent."

Lactase pills and lactose-free dairy products don't always solve lactose intolerance, as some people can still experience digestive symptoms.

There is no reason for people with lactose intolerance to push themselves to drink milk. Milk and other dairy products do not offer any nutrients that cannot be found in more healthful foods.

Bone Health

Milk is primarily thought of as a convenient source of calcium that builds strong bones. However, like the ability to digest lactose, rates of osteoporosis, or bone loss, differ dramatically among ethnic groups, and neither milk consumption nor calcium intake are indicators for good bone health.[5]

The National Health and Nutrition Examination Survey (NHANES III, 2005-2010) reported that the age-adjusted prevalence of osteoporosis was 15.8% in U.S. Caucasian women aged 50 years and older, compared with 20.4% in Hispanic Americans and 7.7% in African Americans. This makes for a total of 43.1% of the population that has osteoporosis, and this number is expected to climb to 57.4% by the year 2030.[6]

Research shows that dairy products have little or no benefit for bones, and in some cases are associated with higher rates of fractures.[7] When researchers tracked the diets, exercise, and stress fracture rates of young girls for seven years, they found that eating dairy products and calcium didn't prevent stress fractures in adolescent girls.[8] The Harvard Nurses' Health Study, which followed more than 72,000 women for 18 years, found similar results: no protection against bone fractures with increased milk intake.[9]

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The original recommendations for U.S. milk consumption came from a small study that evaluated the relationship between calcium intake and excretion in 155 adults over a two- to three-week period. The participants in this study routinely consumed high amounts of calcium and were able to reach balance between intake and excretion at 741 mg per day. Another study of Peruvian men who regularly consumed lower amounts of calcium found the participants reached balance at only 200 mg of dietary calcium each day. This study shows that the body can regulate its needs for calcium to obtain balance based on calcium intake.[10]

Diet and lifestyle factors can increase or decrease calcium loss. A diet high in sodium encourages calcium to pass through the kidneys, while a low-salt, heart-healthy diet improves bone health.[11] Smoking also contributes to calcium loss. A study of twins showed that long-term smokers had a 44% higher risk of bone fracture, compared to a nonsmoking identical twin.[12] Physical activity and getting adequate amounts of vitamins D and K are also important factors in bone health.

Other health concerns related to dairy include iron deficiency, especially in young children,[13] chronic constipation in children,[14,15] type 1 diabetes,[14,16-20] and increased risk of ovarian cancer.[21,22,23]

Healthier Sources of Calcium

Green leafy vegetables such as broccoli, kale, and collards are rich in readily absorbable calcium. In fact, the calcium found in these vegetables is absorbed at twice the rate of the calcium from a glass of milk.[24] In addition to being great sources of calcium, these plant foods provide important vitamins, minerals, antioxidants, phytochemicals, and fiber.

Table 1. CALCIUM IN PLANT FOODS[25]

	Serving	Amount
Nondairy milk, fortified	1 cup	300-370 mg
Almonds	1 ounce	75 mg
Dried figs	10 figs	270 mg
Cereal, calcium fortified	1 cup	200-670 mg
Orange juice, calcium fortified	1 cup	350 mg
Collards, frozen, boiled	½ cup	135 mg
Tofu, raw, firm	½ cup	430 mg
White beans, canned	1 cup	190 mg
Kale, raw	1 cup	90 mg
Orange	1 medium	50 mg
Raisins, golden, seedless	⅔ cup	53 mg
Broccoli, boiled	1 cup	60 mg
Brussels sprouts, boiled	1 cup	60 mg
Dried beans and peas	1 cup	100-200 mg
Hummus	½ cup	65 mg
Sweet potato, medium	1	55 mg

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