



Udderly Ridiculous

*Perhaps when the public is educated as to the hazards of milk,
only calves will be left to drink the real thing.*

— Frank Oski, M.D., Former Professor of Pediatrics,
Johns Hopkins University School of Medicine;
Past President, United States Society for Pediatric Research

There are some 5,400 different species of mammals, including cows, and every one produces milk for their young. In each case, including humans, the milk is nutritionally unique to meet the exact needs of the species. In other words, its nutrient composition — fat, protein, carbohydrate, sodium, phosphorus, and so forth — varies in proportion to factors such as the growth rates of the various species' offspring, which differ dramatically. For example, a mother whale produces exceptionally fatty milk the consistency of mayonnaise, so that her calf can quickly develop the blubber it needs to survive in its ocean environment. Rat's milk, on the other hand, is about 49 percent protein, to support an exceptionally rapid rate of maturation. A baby rat will double its birthweight in a mere four days!

Consider the composition of cow's milk compared to human milk. As you will see in the following table, the two are nutritionally quite dissimilar. This is just one of the reasons why cow's milk is not well suited for humans.

Note the calcium content of mother's milk relative to cow's milk. At a developmentally critical time, nature decided that a fraction of the calcium found in cow's milk was perfectly suited for a newborn or infant child.

Grams of Various Nutrients per 100 Grams of Milk

	Protein	Carbohydrate	Sodium	Phosphorus	Calcium
Human	1.1	9	16	18	33
Cow	4	4.9	50	97	118

Pennington, Jean A. T., *Bowes & Church's Food Values of Portions Commonly Used*, 17th ed. (Philadelphia: Lippincott, Williams & Wilkins, 1998).

Why Not Elephant's Milk?

Where did we get the idea that humans should drink cow's milk? Why is it that so many people find it acceptable to drink cow's milk but not cat's milk, giraffe's milk, dog's milk, or rat's milk for that matter? If I asked you why you don't drink elephant's milk, you would probably reply, "Because elephant's milk is for baby elephants!" Precisely my point.

From a historical perspective, it makes some sense that humans decided to try cow's milk after noticing the nutrition it provided for calves. After all, cow's milk is formulated to enable a calf to double its birth weight in a mere 47 days (as opposed to 180 days for a human), grow to 300 pounds after 12 months, and ultimately reach a body weight of 1,200 pounds! This aspect of cow's milk does not play out well in human beings, especially those who struggle with their weight. Today, this means an estimated 60 percent of the American population, including one in three children are overweight — perhaps the most overweight population on Planet Earth.¹

Comparison of Calories as Protein in the Milk of Various Species²

Milk Source	Percent of Calories as Protein	Number of Days in which Birth Weight Doubles
Human	5%	180
Horse	11 %	60
Cow	15%	47
Goat	17%	19
Dog	30%	8
Cat	40%	7
Rat	49%	4

The chart above shows variation in protein content in the milk of various species. Note the correlation between protein content and the number of days required for the offspring to double its birth weight. The slower-growing the species, the lower the percentage of calories provided as protein.

Nutritional Profile of Cow's Milk

So, does cow's milk provide humans with nutrition? As the following table shows, cow's milk does offer nutrients such as fat, carbohydrates, protein, and calcium. However, there is no essential nutritional factor in cow's milk that humans cannot readily obtain from a healthful food that is better suited to our well-being.

Nutrients Found in Whole Milk

Calcium	Magnesium	Protein	Vitamin A	Vitamin D (added)
Cholesterol	Phosphorus	Riboflavin	Vitamin B ₁₂	
Fat	Potassium	Sodium	Vitamin B ₆	

The primary justification for promoting cow's milk is the abundance of calcium it contains. But cow's milk does not have a corner on the calcium market. As we will see in Chapter Nine, there is a multitude of healthful foods from which we can derive the calcium our bodies need. Indeed, few people are aware that humans can absorb a greater portion of the calcium found in a cup of kale, broccoli, or fortified orange juice than that in a cup of cow's milk.³ As you can see in the following table, humans absorb only 32 percent of the calcium in a glass of milk.

Calcium Absorption of Selected Foods⁴

One Cup	Brussels Sprouts	Kale	Broccoli	Turnip Greens	Mustard Greens	Orange Juice	Whole Milk	Skim Milk
Gross Calcium	19mg	94mg	83mg	106mg	128mg	350mg	291mg	302mg
Calcium Absorption	63.8 %	40.9 %	52.6 %	51.6 %	57.8%	37 %	32.1 %	32.1 %
Calories	60	42	48	28	25	120	150	86

Moreover, neither kale nor broccoli contains the cholesterol or saturated fat found in cow's milk. Both saturated fat and cholesterol are recognized as promoters of heart disease, high blood pressure, and increased risk of stroke. And unlike cow's milk, kale and broccoli are not treated with potentially dangerous hormones such as the infamous rBGH (recombinant bovine growth hormone), a genetically-engineered hormone chemical injected into cows to boost their milk yields.

As the table on page 26 shows, cow's milk also has three times the protein found in mother's milk. Apparently, nature determined that at the time of our most rapid growth, infancy, we need only 5 percent of our calories as protein. As we will see in Chapter Seven, excess dietary protein, another misunderstood and overrated nutrient, is one of the top reasons so many Americans' bones are being robbed of their calcium around the clock.

However, while a comparison of calcium content and absorption rates and protein content is important, these are just a few of the factors that need be observed to make intelligent decisions about the foods that will best nourish our bodies. Strong bones are not formed and kept strong simply because of adequate calcium intake. In the end, calcium, regardless of the source, may not be the key to bone health we've been lead to believe. Numerous other nutrients, as well as lifestyle choices, are critical to the formation and integrity of bone. For example, it has been found the body uses dietary calcium best when the diet also includes a balanced source of magnesium. Some have questioned how effectively our bodies can use the calcium found in cow's milk because it is disproportionate to the magnesium (by a factor of about eight to one).⁵ In Chapter Seven, we'll look at all of the other nutrients required for lasting bone health. In the next few chapters, we'll look in detail at some of the host of health problems correlated to the consumption of cow's milk. These problems includes diarrhea,⁶ iron-deficiency anemia,⁷ gas, eczema,⁸ arthritis,⁹ bloating,¹⁰ migraine headaches,¹¹ asthma,¹² runny nose, lower I.Q.,¹³ sudden infant death syndrome (SIDS),¹⁴ Type I diabetes, acne,¹⁵ fatigue, breast, prostate, and ovarian cancer,¹⁶ growth retardation,¹⁷ psychological disturbances,¹⁸ constipation,¹⁹ and an elevated risk of osteoporosis.²⁰ Some of these health problems are caused by the lactose found in milk, while others are the

result of food allergies caused by ingesting bovine proteins. Others may be due to chronic exposure to hormones and all-too-frequent contaminants found in a glass of milk or a wedge of cheese — including residues of antibiotics and other drugs²¹ and pesticides and herbicides, some of which have been linked to blood diseases, cancer, and death in humans.²² Let's look more closely at some of these diseases and how the consumption of cow's milk may increase the risk of developing them.