Milk...Does it Do a Body Good???

Actually, no, cow's milk is not a health promoting substance unless you are a calf. Nature created this liquid in perfect proportion to the growing needs of a baby cow. It provides the nourishment to transform a 60-pound calf into a 600-pound cow in six months. All mammals benefit immensely by consuming their mother's milk, and every mammal's milk is different, tailored to the specific nutritional needs of their species. All mammals instinctively wean off of milk as they grow older. We usually stop producing the enzyme lactase, which digests the lactose in our mother's milk, around the age of four, as it is supposed to be unnecessary once we wean. Curiously, humans are the only mammals that drink milk after the age of weaning and are the only mammals to consume the milk of other species.

There are numerous worrisome biological reactions to the ingestion of cow's milk by humans. Here are several things to consider:

Your body strives to maintain a slightly alkaline pH in your blood and body tissues. Dairy provides a huge load of protein and calcium, much more than your body can assimilate at one time. It also creates a slightly acidic environment for your blood and tissues due to the digestion of its sulfur-containing amino acid chains. In order to rebalance your pH, your body leaches calcium from your bones to buffer the acidity. Now the body must work to excrete this excess of protein, calcium, and fixed acid which puts undue stress on the kidneys, one of the body's filtration units. Studies have shown that both calcium and oxalate concentrations in the urine increase sharply when just 89 grams of animal protein is consumed daily by research subjects, well within the average range of the typical American diet. The ongoing excretion of the acid neutralizing calcium and oxalate and its passage through the kidneys also increases the likelihood that the calcium and oxalate will form into very painful kidney stones.

In experimental studies, researchers have found that the body may also breakdown skeletal muscle in order to use glutamine from the muscle to produce the ammonia needed to excrete the volatile acid via the lungs. This process is known as skeletal muscle catabolism.

Consumption of dairy products over time tends to weaken, not strengthen our bones as the body continues to leach calcium from them in its effort to neutralize the acidity. "A Harvard University study of 78,000 women revealed that those who drank the most milk were actually at greater risk of bone fracture than those who drank little or no milk."[1] It may surprise you to learn that osteoporosis is not a disease of inadequate calcium intake, it is a condition of overly rapid calcium loss. One way to hold on to the calcium your bones currently own is to obtain your calcium from safer, biologically appropriate sources such as green, leafy vegetables and legumes (beans, peas, and lentils). Researchers have found that we absorb a greater portion of the calcium found in kale, broccoli, or fortified orange juice than the calcium in cow's milk.

Calcium supplementation is not the answer. Studies have found that no level of calcium supplementation will keep a person in positive calcium balance (retaining more than they are losing) when a person consumes a high protein diet such as the typical American diet. Think of it as trying to fill a bathtub with water without closing the drain. No amount of water is going to fill that bathtub as long as the drain is open. Similarly, no amount of calcium supplementation is going to lead to bone health until the reason for the bone loss is addressed. Calcium supplements may also

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contribute to iron deficiency and excessive calcium supplementation can interfere with parathyroid hormone and with the function of leukocytes, the white blood cells of the immune system. In addition, most calcium supplements have been found to be contaminated with lead.

When one thinks of dairy, calcium immediately comes to mind. However, it is also considered to be a good source of vitamin D, which assists with the absorption of calcium in the digestive tract and has been found to be protective against cancer. Dairy products appear to interfere with activation of vitamin D, the very vitamin that is added to milk. The form of vitamin D found in dairy is an inactive precursor form that needs to undergo changes to its molecular structure in the liver and kidneys in order to be activated in the body. Dairy products contain such a heavy dose of calcium that not only does the body have to work to excrete the excess, but it also does not signal the activation of the vitamin D as it does not detect the need to absorb any additional calcium. This mechanism prevents the body from absorbing too much calcium, which can be toxic. Therefore, high calcium foods such as dairy can cause a substantial drop in the amount of activated vitamin D in the blood.

Dairy products are the number one source of saturated fat in the American diet. Fatty foods encourage the body to increase hormone production and one of the jobs of hormones is to make cells grow. It is important to keep hormone levels low as they not only encourage normal cells to grow, but they also encourage abnormal, or cancer cells to grow. In fact, studies suggest that enzymes in our body can potentially alter these hormones to produce molecules that can damage our DNA, creating an environment for the initiation of cancer.

Dairy also increases the level of insulin-like growth factor 1 (IGF-1) in our blood. IGF-1 is one of nearly 60 different *naturally occurring* hormones and growth factors found in a glass of cow's milk. It is a powerful stimulus for cancer cell growth (mitogenic) and it also prevents programmed cell death (anti-apoptotic). When breast cancer cells are mixed with IGF-1 in a test tube, the cancer cells begin to multiply rapidly. Increased hormone and IGF-1 levels have also been linked to acne and accelerated aging.

Due to the modern practice of milking cows throughout their pregnancy, milk from cows in the later stages of their pregnancy can contain as much as 33 times more estrogen than milk from a cow that is not pregnant.

There are at least twenty published studies which indicate that the consumption of dairy products has been found to be one of the most consistent dietary predictors for prostate cancer in the published literature.

The most comprehensive study on nutrition ever conducted, The China Study, was the culmination of a twenty-year partnership of Cornell University, Oxford University, and the Chinese Academy of Preventive Medicine. The study found that, "Casein, which makes up 87% of cow's milk protein, promoted all stages of the cancer process."[2] "According to traditional regulatory criteria, casein is the most significant chemical carcinogen ever discovered."[2]

When the dairy sugar lactose is digested, it breaks down into its two simple sugars: glucose and galactose. It is suspected that in large concentrations, galactose may be toxic to the ovaries, encouraging infertility and possibly cancer.

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It has been found that infants exposed to cow's milk early in life may be at risk of developing type I diabetes. There is a 17-amino acid sequence in the beta casein protein in dairy that identically matches a 17-amino acid sequence in the insulin producing beta cells in the pancreas. Incompletely digested dairy proteins that enter the bloodstream in infants with a compromised gut barrier (also known as leaky gut), may trigger an autoimmune response. In a misguided attempt to destroy what the body sees as a foreign invader, the partially undigested cow's milk proteins, it mistakenly destroys the cells of the pancreas with the identical 17-amino acid sequence, rendering the infant unable to produce insulin for the rest of his or her life. Some of the autoimmune diseases that have been tied to cow's milk protein include: multiple sclerosis, rheumatoid arthritis, lupus, nephritis, and arteritis.

This same mechanism has been implicated in cases of autism spectrum disorders when a component of some childhood vaccines or other factors causes the gut barrier to become compromised and then partially undigested cow's milk proteins and/or gluten permeate the gut barrier and enter the bloodstream. J. Robert Cade, MD from the University of Florida states, "We now have proof positive that these proteins are getting into the blood and proof positive they're getting into areas of the brain involved with the symptoms of autism and schizophrenia."

The problems with ingesting cow's milk do not stop here. It can also reduce iron absorption and can induce mild, chronic blood loss in the digestive tract. This increases the risk of anemia. Hiner's Syndrome is the most common cause of iron deficiency anemia in young children. Cow's milk protein is virtually devoid of iron and the calcium and phosphorus in cow's milk will complex iron from other sources making them insoluble and unable to be absorbed. Cow's milk protein also makes the gut bleed and cannot be resolved with iron supplementation or blood transfusions. The condition can only be resolved by removing cow's milk from the diet.

It is also a factor in heart disease, diabetes, obesity, autoimmune diseases, macular degeneration, cataracts, and Alzheimer's disease. "Milk was found to have the highest statistical association with heart disease than any food."[1] Dairy consumption has been linked to inflammatory bowel disease, irritable bowel syndrome, Crohn's disease, chronic nasal congestion, fatigue, depression, chronic constipation, especially in children, diarrhea, arthritis, migraines, cataracts, Parkinson's disease in men, menstrual cramps and heavier menstrual flow, recurrent vaginitis, fibroids, increased pain from endometriosis, and is the number one cause of food allergies.

In children, cow's milk has been shown to cause or exacerbate asthma, colic, earaches, eczema, and intestinal obstruction. Some experts are convinced that an allergic reaction to cow's milk may be a primary culprit in Sudden Infant Death Syndrome in some cases.

Children's bed wetting may also have a cow's milk allergy origin. If the child has a compromised gut barrier and incompletely digested milk makes it into the bloodstream, and if is filtered into the bladder, it can cause the bladder to swell up like a giant hive. As a result, the child cannot feel the build-up of urine or the sensation of needing to go to the bathroom.

Eating high on the food chain, meaning eating meat and dairy products, can expose you to the effects of biomagnification. Animals, including humans, store chemicals that they have been exposed to in their fat stores. As you eat higher up on the food chain, chemical exposure is magnified. Chemicals accumulate as animals lower on the food chain are eaten by animals higher up

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and the chemicals stored in the fat of animals lower on the food chain become concentrated in the fat stores of animals higher up on the food chain. Mammals also utilize fat stores to produce milk for their offspring. All of this is important for at least three reasons. First, humans are at the top of the food chain and therefore, consume the collective chemicals stored in the fat of all the animals eaten below them in the food chain. Second, we receive another huge dose of accumulated chemicals when cow's pull from stored fat to produce their milk. Sadly, this phenomenon also occurs in humans. Human chemical exposure is also stored in our fat cells and these very cells are used to make breast milk for our children. So eating as low on the food chain as possible, will limit the amount of chemical biomagnification to which you and your family are exposed.

Perhaps the most startling contaminants that have been found in cow's milk are perchlorate, also known as rocket fuel, polybrominated diphenyl ethers, a flame retardant, perchloroethylene, better known as dry cleaning solvent, and aluminum! Cow's milk also was determined to be the primary route of dietary exposure to radioactive fallout.

Some people choose organic milk as a healthful substitute. While organic milk will not contain introduced hormones such as recombinant bovine growth hormone (rBGH), antibiotics, or pesticides, there can still be as many as 59 *naturally occurring* bioactive hormones and growth factors as well as some very undesirable things:

Cow's milk gets its milky white appearance in part due to the existence of white blood cells, commonly referred to as pus cells. In 1993, the dairy industry established an internal guideline that there could be no more than 750,000 pus cells in 1 ml of milk. 1 ml is about 1/30 of an ounce.

Over 60% of the dairy herds in the U.S. are infected with the bovine immunodeficiency virus (bovine AIDS) and/or the bovine leukemia virus, and they're usually infected with both. Bovine leukemia virus has been shown to infect human cells in test tube experiments and has successfully infected sheep, goats, and chimpanzees with leukemia when exposed to the bovine form of the disease. Researchers at the University of California at Berkeley found that 74% of local residents that they tested had antibodies to the bovine leukemia virus, indicating that they had been exposed to either the living or dead forms of the virus.

Dairy can also be contaminated with salmonella, listeria (which can cause miscarriages), tuberculosis, rabies, and paratuberculosis, which is believed to be involved in the development of Crohn's Disease. These pathogens are supposed to be killed during the pasteurization process. However, paratuberculosis mycobacterium have been found to survive the pasteurization process.

What's even more frightening is that Alicon, a Swiss biotech firm has confirmed the presence of prions in both pasteurized and homogenized milk purchased from supermarkets. The infectious agent in bovine spongiform encephalopathy, or mad cow disease, is believed to be a sort of prion, a malformed or twisted protein. Not all prions cause disease but if those that our innocuous can make it into our milk supply, Dr. Ralph Zahn, Alicon's head of research, cautions that pathogenic prions could as well.

"In the United States, over a five-year period, more dairy products were recalled - chiefly by bacterial agents - than any other food."[1]

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Lastly, 14% of the animals slaughtered for food are found to be too diseased for human consumption. So instead, they are fed to herbivorous animals like cows to increase their milk production.

So do your body a favor and obtain the calcium it needs from safe, healthful sources such as green leafy vegetables and legumes. Exercise, especially weight-bearing exercise, will help to strengthen your bones. Eating plenty of fruits and vegetables will provide vitamin C, which helps to build collagen. "Collagen forms the basic network of tissue within our bones" according to Neal Barnard, MD. Keep sodium to a minimum as it accelerates the passage of calcium through the kidneys and into the urine. Smokers lose calcium more rapidly than those that don't smoke. Lastly, alcohol and caffeine consumption have also been found to be factors that increase the loss of calcium and other bone material.

Vitamin D can be made when our skin is exposed to the UVB rays in sunlight. Vitamin D made in the spring, summer, and fall months is efficiently stored in the body fat and supplies people's needs during winter months. Matthew Lederman, MD of Exsalus Health & Wellness Center in Los Angeles, California, takes the guess work out of adequate and safe sun exposure. He created the following table to assist in determining how much sun is appropriate given your skin type and local climate. You can locate the daily UV Index (UVI) for your zip code at www.weather.com.

Skin Type	UVI: 0-2	UVI: 3-5	UVI:6-7	UVI: 8-10 & Tanning	UVI: 11+
Always Burn & Never Tan	None	10-15 min.	5-10 min.	2-8 min.	1-5 min.
Easily Burn & Rarely Tan	None	15-20 min.	10-15 min.	5-8 min.	2-8 min.
Occas. Burn & Slowly Tan	None	20-30 min.	15-20 min.	10-15 min.	5-10 min.
Rarely Burn & Rapidly Tan	None	30-40 min.	20-30 min.	15-20 min.	10-15 min.
Never Burn & Always Dark	None	40-60 min.	30-40 min.	20-30 min.	15-20 min.

This chart is shared with permission from Matthew Lederman, MD (www.transitiontohealth.com/) and the Center for Nutrition Studies online certificate program (www.nutritionstudies.org).

Luckily, the dairy section of most grocery stores now boasts a fabulous array of soy, almond, and coconut milks and coffee creamers as well as delicious soy, almond, and coconut milk yogurts. Non-dairy Greek yogurt is also now available. There are non-dairy substitutes for sour cream and cream cheese that work well when included in recipes. Whole Foods and health food stores sell cultured nut products which are usually a whole food alternative to cheese. Field Roast now offers CHAO slices that resemble muenster. Daiya makes cheddar and mozzarella cheese shreds that taste delicious when melted. However, they do not taste as good if not heated first. Just be mindful that Daiya cheese is high in fat and should only be enjoyed occasionally, and just be careful not to buy cheese substitutes that contain the highly carcinogenic casein.

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It has never been easier to adopt a plant-based lifestyle, and once you see how good you can feel, I doubt you will ever think of going back to the standard American diet.

This article is a summary of research from doctors in the forefront of nutrition research. It is not intended to replace competent medical advice. Notify your physician when making any significant lifestyle change such as the one described herein as the subsequent improvement in your health may decrease your need for certain medications. It is imperative that you do not alter your medication regimen or stop it entirely without the advice of your physician.

I am a Plant-Based Nutrition Counselor, a graduate of ***the only collegiate program in the country*** *focused on the medical benefits of a plant-based lifestyle from Cornell University, am certified by John McDougall, MD to teach his Starch Solution program, and am board certified by the American Association of Drugless Practitioners. I help people to achieve their wellness goals by providing them with the tools that they need to gain control over their health. If you would like individualized assistance with your weight, with a chronic, degenerative disease, with other health and wellness aspirations, or if you would like me to speak to a group, please email me at traceyeakin@gmail.com or give me a call at 724.469.0693 to arrange a time.*

I can personally attest to this lifestyle. The results are nothing short of dramatic. I had been a vegetarian for 20 years when 7 years ago I adopted an entirely plant-based lifestyle. Since that time, I have lost over 50 pounds and have kept it off and resolved an autoimmune condition known as idiopathic thrombocytopenic purpura or ITP. My body was attacking and destroying my platelets. I could have faced the removal of my spleen or platelet transfusions. I reduced my cholesterol from 197 to 132 without medication. The osteoarthritis in my knee, for which I've had 5 surgeries, has resolved. A low-fat, plant-based lifestyle changed everything for me. My goal is to help as many people as possible to make similar positive changes in their lives.

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