

Does Milk Really Do A Body Good?

-The Dangers and Fallacies of Milk Consumption-

by: James E. McKenzie
trimester 10 #9806

advisor: Dr. Donna Mannello

ABSTRACT:

As we grow up in the USA we are fed a lot of fallacies, which are considered the norm. One of these fallacies is that cow's milk is "good for you". The dairy industry would like you to believe this nonsense. Even the public school and government run programs to promote this lie claiming that you need the four food groups, dairy of course is included as one. Case studies based on science and statistical data disagree with the dairy industry and other organizations and businesses that profit from milk consumption. Exposed in this paper will be all the contaminants as well as all the diseases associated with milk. The evidence why cow's milk is not a healthy choice will be clear.

American Consumption and Dairy Lobby

The new motto for the government's Healthy People 2000 initiative is to have at least three cups of milk everyday for everybody. Cow's milk and its derivatives today make up 1/3 of the adult diet and 1/2 to 2/3 of calorie intake in children (1).

The dairy lobby used it's considerable political influence to convince its constituents that milk fat is not detrimental to health and continues to wage war against

the American Heart Association's position. One of the tactics is to diffuse concern about milk fat by acknowledging only its cholesterol but not its saturated fat. This strategy can fool people who associate only cholesterol in food with cholesterol in the blood, unaware that saturated fat is the prime influence on blood cholesterol levels (2).

The American Diabetic Association with grants from the dairy industry continues to publish reports as, "many Asian-American elderly consume inadequate amounts of dietary calcium. Their conclusions were based on milk consumption, not their actual bone density (1).

The FDA enforces tolerances to allow a lot of contaminants to be residues in milk. The tolerances are beyond liberal. No amount of antibiotic, heavy metal, pesticide, detergents, hormones introduced into our bodies via milk is "healthy". No amount should be "tolerated".

Hormonal Contaminants

Contamination of milk can come from three sources, including infection within the udder by a disease the cow carries itself, infection within the udder by organisms accidentally introduced by a human being or direct contamination of the milk itself.

As we cease to ingest milk, the hormonal imbalances causing miscarriages, birth defects and neurological disorders diminish, causing irreversible damage to generations to come.

As of 1995, the FDA approved of the use of BGH (Bovine Growth Hormone) to increase milk volume by up to 1/3 more (5). Cows are injected every 2 weeks (8).

1987 *llk.*

Consumers have also expressed concern about how the use of BGH can lead to high levels of antibiotics in milk. Many farmers are forced to inject their animals with powerful drugs to fight infections and other side effects experienced by cows injected with the BGH (6).

Corticosteroids including glucocorticoids and mineral corticoids were first identified in the 1950's. Stressed cows were shown to exhibit elevated amounts (5).

Estrogen, progesterone, and testosterone are also found in cow's milk. Estrogen is found in several commercial dairy products including non-fat dry milk, butter, whey, and dry curd cottage cheese. Not surprisingly, estrogen is found in high concentrations in whole compared to skim milk. Progesterone is found in many dairy products, with the highest concentration in butter. Levels are influenced by total fat content in milk (5).

GnRH (Gonadotropin Releasing Hormone) has been identified in bovine milk, but is not detectable in infant formula. GnRh may influence the secretion of gonadotrophic hormones in neonates (5).

Other hormones that have been identified include somatostatin, thyrotropin-releasing hormone, lutenizing-hormone and PTHrP (high concentrations) have also been found. Thyroid Gland hormones, such as Thyroxine (T-4) and Triiodothyroxine (T-3) are also found but levels are low (5).

IGFs (Insulin Growth Factors) are part of the insulin family of protein hormones. They included insulin, IGF-1, IGF-2, and relaxin. All are found in milk. Survivability of

IGF's in commercial milk products and to their potential bioactivity in the gastrointestinal tract of the consumer is considerable (5).

TGF (Transforming Growth Factor) including TGF-alpha and TGF-beta are found in bovine milk. Growth inhibitors are also present and inhibit mammary cell growth (5).

Tissue plasminogen activator can be a potential mammary trophic factor and involved in tissue remodeling. Also, tissue plasmin and prolactin have been identified (5).

Prostaglandins of the E and F series including PG, PG-2, PG-alpha, and PGF-alpha have all been identified (5).

Pesticide Contaminants

A large number of environmental contaminants have been detected in bovine milk. These compounds termed xenobiotics by Patton (1986) enter the cow as residues of pesticides, herbicides, feed stuffs, or as drugs given to the cow orally, by injection, or as intramammary infusions for the treatment of mastitis (5).

Found in milk are chlorinated pesticides, organophosphates, herbicides, fungicides, fasciolicides, antibiotics and sulfonamides, detergents and disinfectants, polychlorinated and polybrominated bi-phenyls (PCBs and PBBs), dioxins, mycotoxins, heavy metals, nitrates, somatropins, and radionuclides (5).

Some domestic milk samples showed small amounts of chlorinated pesticide residues (7). The registration for food use for these compounds expired more than 20 years ago, but because they persist in the environment, residues are still found at low

levels. If it has an off-flavor, it may be due to harmful pesticides found in the cow's milk (8).

A study showed the results of sampling residues of the organochlorine group of pesticides in whole-pasteurized milk. Organochlorine pesticide residues—mostly DDT (1,1'-{2,2,2-Trichloroethylidene} bis{4-chlorobenzene}), DDE (Dichloroethyl Ether), and dieldrin were found in 398 of the 806 milk samples, but all were below EPA tolerances or FDA action levels (7). DDT is the classical example of an environmental contaminant in milk, which raises concern about neurological disturbances and liver metabolism (5).

Milk contaminated with heptachlor was traced to cattle feed accidentally mixed with pesticides in 1991. The pesticide is a potential carcinogen (5).

Dioxins are some of the most toxic and carcinogenic compounds tested. They are found as impurities in pesticides and herbicides. They are extremely persistent and their presence in the environment is ubiquitous. The most toxic and investigated compound in this group is TCDD (2,3,7,8-Tetrachlorodibenzol {b,e} {1,4} dioxin) (5).

Non-fat skim milk is considered the safest of all dairy choices because it only has 3 pesticide residues contained in it representing 2 pesticide formulations, octochlor and penta (9).

Ice milk had 35 pesticides. The FDA found BHC (lindane), dieldrin and HCB in at least one-fourth of samples and heptachlor, octochlor, and penta less frequently (9).

Milk shakes had 23 pesticides detected in residues, representing 9 formulations. BHC and DDT were detected in at least 1/4 of samples and chlorpyrifos, diazinon, dieldrin, heptachlor, HCB, malathion, and penta were also found (9).

Butter and some cheeses have the highest pesticide concentrations of any dairy foods. The FDA found 101 pesticide residues and industrial pollutants representing 12 pesticides and pollutants. BHC, DDT, deildrin, heptachlor, HCB, octochlor, and penta were found in 1/4 of samples; diphenyl2-ethylhexylphosphate, lindane, methoxychlor, nonachlor, and PCBs (Polychlorinated Biphenyls) also. Butter alone will cause at least several thousand excess cancer cases in the USA, approximately 5,400 people per year (9).

Cottage cheese had 6 pesticides found. Evaporated milk had 49 pesticides. Half-and-half had 66 pesticides and pollutants. Ice cream sandwiches had 81 pesticides. Chocolate ice cream had 70 pesticides. Processed cheese had 98 pesticides. Whole milk had 29 pesticides. Heptachlor was the main pesticide in whole milk. It is a very strong carcinogen and it has been noted to cause birth defects. In 1985 soft cheese caused 48 deaths, including still births. 150 illnesses were noted partly due to the Listeria commonly found in the cheese. Government standards are so pro-industry, that they are, in effect, a license for the wholesale poisoning of America (9).

Antibiotic Contaminants

Cow's milk is heavily adulterated with antibiotics (around 80 different kinds to prevent mastitis), to such an extent that a measurable amount of antibiotics can be detected in the tissue of humans who drink milk (12).

According to Dr. Michael Hanson, a scientist of the Consumers Union said that if you drank milk that had residues of erythromycin (a common antibiotic) in it, then bacteria in your stomach could pick up resistance to that erythromycin. So that if you came down with an illness you wouldn't be able to use erythromycin to treat it (6).

Worn-out dairy cattle are the animals most likely to be diseased and riddled with antibiotic residues. The stresses of industrial milk production make them even more unhealthy than cattle in a large feed lot (10).

Toxins survive most processing systems, even in the hydrolysate used to make sports protein supplements.

Antibiotics can carry over into the milk unless stipulated procedures are followed. Other drugs are given to control endoparasites, ectoparasites and several illnesses and to increase milk production (somatotropins). These carry over into the milk. The concern about carry over of the vet-drugs into milk, especially antibiotics, is their potential for harmful effects on human health. Low-level doses of antibiotics for long periods could result in drug-resistant microorganisms (5).

Antibiotics can destroy or hinder the growth of undesirable microorganisms in cultures used to produce cheese, yogurt, and other fermented dairy products (5).

FDA-approved drugs for intramammary use in lactating cows include amoxicillin trihydrate, cephalixin, cloxacillin, erythromycin, hetacillin, novobiacin, penicillin G, pirlimycin, and salicylic acid (5).

FDA-approved drugs for administration of lactating dairy cattle by injection include: amoxicillin trihydrate, ampicillin, chlorosulon ivermectin, furosemide diethanolamine, penicillin G, tripelannamine HCl, and sulfadimethazine (5).

FDA-approved drugs for oral use in lactating dairy cattle include: chlorosulon, chlorothiazide, dexamethasone, furosemide, sulfabromethazine, sulfaethoxypridazine, thiabendazole, and trichloromethiazide. However, non-approved drugs have been used including gentamycin and ivermectin, which isn't an antibiotic (5).

HEAVY METAL CONTAMINANTS

Heavy metals of concern are lead, cadmium, mercury, arsenic, chromium and nickel. These may be found in fertilizers and sludges applied to fields, foodstuffs for cattle and in post manufacturing exposure such as solder (lead) used to seal cans of evaporated milk (5).

Lead inhibits hemoglobin synthesis and has toxic effects on the nervous system. Cadmium interferes with oxidative phosphorylation. It can replace zinc in the metalbzymes. Mercury has toxic neurological effects. Arsenic is a well-known classic poison. The FDA claims the amounts are so small that they don't expect them to ever pose a health risk, but certainly any exposure to these heavy metals is a health risk (5).

OTHER CONTAMINANTS

PBB (Polybrominated Biphenyls), a toxic fire retardant, has been known to mix with livestock feed accidentally in 1973 (5).

Milk and dairy products are a major contributor to the accumulation of radionuclides believed to be hazardous to man. Milk is the only major pathway for ^{131}I , ^{90}Sr , and ^{137}Cs (5).

Mycotoxins are potentially hepatocarcinogens produced during growth of molds on animal foodstuffs and to a much lesser extent, cheeses. Aflatoxin B1, which is the direct, precursor of the Aflatoxin M1 found in milk, can be produced by the molds *Aspergillus flavus* and *A. parasiticus* in foodstuffs. It can usually be detected in milk within 12 hours after the cow consumes contaminated foodstuffs (5).

MUCUS

One of the many problems with milk is that it heavily increased the mucus content. This is due to the casein in milk. The mucus aggravates respiratory and sinus infections. The mucus coating prevents toxins from being removed from the body so they are re-absorbed in the body.

LACTOSE INTOLERANCE

Lactose intolerance is a condition in which the body cannot properly digest the sugar in milk called lactose, due to the lack of the enzyme lactase.

The majority of the world is lactose intolerant. If ones ancestry is non-Caucasian, belonging to the Negroid (30), Mongoloid, Australoid, Amerind or Oceanian races, chances are almost 100% chance of lactose intolerance. Of the Caucasoid race, the members that have the least lactose intolerance and the Northern European (especially Norwegians and other Scandinavians) or Arab populations. Other Caucasoid populations including Central, Southern and Eastern Europeans as well as non-Arab peoples of the

Middle East and populations of the Indian subcontinent are often lactose intolerant. Statistically this number is probably around 75% of the world's population. The dairy industry continues to advertise African Americans on TV as milk drinkers in hopes to blind the people, making them think milk is good for them. Other non-Caucasian groups are also being targeted.

Apparently according to the government, only 30-50 million Americans are lactose intolerant. The numbers must be a lot higher than that. Very few people are even tested. If you have a family member that is lactose intolerant, there's a fair chance you may be also (8).

If someone is lactose intolerant, they should avoid milk. Otherwise symptoms of cramps, bloating, gas and or diarrhea will soon follow.

Microorganisms in Milk

Of all germ-carrying foods, milk is the worst offender, harboring active tuberculosis, human tuberculosis, Diphtheria, Q fever, Brucellosis, Streptococcus, Campylobacter jejuni, Shigella, E. coli, Coxiella burnetii, Bacillus anthracis, Erwinia, Pseudomonas, Staphylococcus aureus, Acinetobacter johnsoni, Micrococcus, Staphylococcus epidermidis, Mycobacterium bovis, Listeria monocytogenes, Hepatitis A and fungi. The first few milliliters of milk that are expelled during the milking process contain some 15,000 bacteria per milliliter (29).

For as far back as 1930 it was apparently a well-known fact that milk was unhealthy. Authors were writing about the dangers of milk. It was said by one author (Kallet) that the handling of milk, is such as to constitute an intolerable and widespread menace to health-almost as though Pasteur had not been born (11).

Unpasteurized milk may be lethal to young children and infants. Raw milk is a source of infection for *Campylobacter jejuni* (8). In April 1986, an elementary school child was cultured for bacteria pathogens (due to bloody diarrhea), and *C. jejuni* was isolated. Food consumption, gastrointestinal questionnaires were administered to other students and faculty at the school. The food questionnaire clearly implicated milk as the common source, and a dose/response was evident. Those drinking more milk were more likely to be ill. 32 out of 172 were having symptoms (7).

Listeria monocytogenes has been associated with foods such as raw milk, supposedly pasteurized fluid milk, cheeses (particularly soft-ripened varieties and ice cream). It's ability to grow at temperatures as low as 30 degrees Celsius permits multiplication in refrigerated foods (7).

Allergies

Food allergies are not digestive problems. They are immune system reactions to certain foods. Your immune system literally creates an antibody that fights a particular food's intrusion into your system. Food intolerances are digestive reactions and can occur for many reasons. Poor quality food, additives, psychological associations, cultural conditioning, or a particular quirk in someone's system can be the cause of an adverse reaction (12).

Cow's milk is the number one food people are allergic to, especially during the first years of life. Alpha (s1)-casein, is a major allergen. Also alpha-lactalbumin and beta-lactoglobulin are suspected to be significant allergens (13).

Cow's milk allergy affects 2.5 percent of children aged less than two years (14). Allergies are likely to be misdiagnosed for years due to symptoms that initially often refer to only one organ system, such as the respiratory tract (15). Allergies to the proteins in milk can lead to fecal soiling (16). The AAP (American Academy of Pediatrics) has announced that at least 50% of children have some problem with dairy products, but they insist children drink milk for the calcium and protein (17).

Apparently only 5% of people have allergies based on skin tests and RAST (17). Even in skin tests do not demonstrate a true milk allergy, removing it from the diet often leads to improvement of allergic conditions like asthma, eczema and in auto-immune diseases like rheumatoid arthritis and lupus (18).

A milk allergy (hypersensitivity to the protein in milk), can cause reactions such as eczema, asthma, ear infections, excessive fatigue, diarrhea, or constipation, among others, and is frequently mistaken for symptoms of other health problems (8).

Most dairy products are not favorable for the type A blood type, as this blood type creates antibodies to the primary sugar in whole milk, D-galactose. As you may recall, D-galactose is the essential sugar that forms the Type B antigen (12).

People can actually get a chemical addiction to milk. Stage 2 addiction is apparently symptom free condition achieved especially by consuming foods on a regular interval. Those foods most frequently consumed such as corn, wheat, milk, sugar, and beef are the substances to which most sensitive individuals commonly become addicted (19).

An interesting phenomenon begins when a susceptible person frequently consumes such substances. People who are sensitive to specific foods actually develop

an excessive desire to consume the foods that are capable of causing adverse symptoms under Stage 1 or pre-adaptive conditions becomes exceedingly powerful and is extremely difficult to curtail especially when the person attempts to reduce but not eliminate the intake of these substances as in attempts to lose weight by reducing calorie intake (19).

A case study: a 26-year-old college student, on repeated testings went through a series of physical and behavioral symptoms during the course of a reaction to milk products. At first, she felt enthusiastic and energetic and, in general, was talkative with positive content. Approximately 3 hours after consuming the milk product, she became extremely hungry and reported feeling tense and anxious for no apparent reason. As her reaction progressed, she reported a stomachache, a severe headache, extreme depression, and an inability to concentrate; her verbal content became negative, marked by derogatory statements about herself and others. As in common with many individuals who react to specific foods, she went through an intermediate phase that is characteristic of the manic-depressive syndrome. During the transition from the primary stimulatory to the strictly depressive or withdrawal phase of the reaction, she exhibited extreme mood changes ranging from elation to depression (19).

The addictive eating behavior of individuals who complain of chronic psychological, psychiatric and medical disorders, is interesting to observe. Their diets typically are very irregular and contain few, if any meats or vegetables, and a dominance of milk, wheat, corn and sugar products. However, psychologically and physically healthy individuals may have irregular eating habits and diet, but they may not be susceptible or sensitive. An interaction between susceptibility and exposure shapes individuals increased consumption of addictive substances (19).

WEAKENED IMMUNE SYSTEM INCLUDING CANDIDA, HAY FEVER, HIVES, SLE AND HIV+/AIDS

For those who have weakened immune systems the recommendation is to include no animal protein in the diet. This is largely due to the antibiotics that are so prevalent in these substances (21).

There are 200+ studies linking milk to suppression of the immune system, chronic immune disorders, Type 1 diabetes, and heart disease. The ABBOS epitope of albumin in commercial milk proteins is known to cause immuno-suppression in humans (20).

70% of American herds inherit a protein in their milk called beta-casein A1. This protein is produced by an aberrant variant in their genes called the beta-casein A1 allele, an alternative form of the normal beta-casein A2 allele. It triggers a wide range of disorders by causing the immune system to slowly run amok (20).

Digestive enzymes, beta-protein A1 produces a toxic bioactive peptide called beta-casomorphin-7, which causes immuno-suppression. The healthy beta-casein A2 does not produce this toxin (20).

For candida (yeast infections) it has been recommended to eliminate allergens (21). Milk is the number one offender of food allergens.

The casein from milk is a likely allergen for hay fever. If this is the case it needs to be removed from the diet (21).

The recommendation that for hives is to completely remove dairy products from the diet (21).

For patients with HIV+/AIDS, the recommendation is to completely avoid milk. In fact, all animal protein should be eliminated from the diet. It's important to find out sensitivities to allergens (likely milk) and rid these from their diet (21). Milk lowers the immune system, so its detrimental to consider this when dealing with this type of disease.

SLE (lupus) patients are cautioned to completely avoid milk and look for any improvement of symptoms (21). Anything that lowers the immune system, such as milk, should be avoided by those with auto-immunities.

OSTEOPOROSIS, RICKETS AND OSTEOMALACIA

For rickets or osteomalacia it is recommended by to eliminate allergens (21). If dairy is an allergen it should be removed from the diet. It ranks as number one for food allergies.

In order to discuss osteoporosis, it is important to define it. Webster defines it as a condition that is characterized by a decrease in bone mass with a decrease in density and enlargement of bone spaces producing porosity and fragility and that result from disturbance of nutrition and mineral metabolism (22).

What is bone made of? Bone is made of many things including boron, magnesium, manganese, zinc, vitamin C, fluoride, phosphorus, non-synthetic vitamin D, and lastly calcium (1).

Who is at risk according to WIC? WIC gives out information from the St.Louis Dairy Council. Here is what it says: "There is no cure for osteoporosis, but you CAN take steps to prevent it or slow its progress." Then WIC goes on to say dairy foods are

the richest source of calcium and vitamin D, as if to say that if you added these 2 things, you could slow down osteoporosis. Their recommendation is for children ages 1 to 3 to have 2 glasses of milk per day, which should be 500 mg of calcium. They recommend for children ages 4 to 8 to have 3 glasses of milk per day, which should be 800 mg of calcium. For children ages 9 to 18, the recommendation is to have 4 glasses of milk per day which is approximately 1300 mg of calcium. For adults ages 19 to 50, they recommend 3 glasses saying that they need 1000 mg of calcium each day. Finally adults ages 50+ are asked to drink 4 glasses of milk each to in order to obtain 1200 mg of calcium (23).

WIC has a Bone Robbers Checklist. The questions from it are as follows:

- 1) Are you a female? If so, you are 5 times more likely to suffer from this condition.
- 2) Are you Caucasian or Oriental and of small frame? This increases chances.
- 3) Do you have a family history? This increases chances.
- 4) Are you going through menopause? Apparently the condition decreases after menopause.
- 5) Do you drink heavily? Alcohol reduces calcium absorption.
- 6) Do you smoke? This also reduces calcium absorption.
- 7) Do you exercise 3 times per week? If not, chances are increased.
- 8) Do you eat fewer than 3 servings of dairy foods per day? If yes, they claim it increases the risk of osteoporosis (23).

Americans have the highest osteoporosis rates in the world, while their dairy intake is among the highest. The milk-drinking populations around the world are the ones who have osteoporosis as a major problem (1).

The animal proteins of meat and dairy products cause calcium loss. For many of the high animal protein diets of Americans, it may not be possible to consume enough calcium in the diet to compensate for the amount lost to these high acid proteins.

Doubled animal protein causes 50% more calcium loss. Yet, when a high protein intake is soy-based a positive calcium balance can be maintained with only 450 mg of calcium per day (1). Studies show that 75 gm of daily protein causes a negative calcium balance. More calcium is lost through the urine than ingested in the diet. This is even true if dietary calcium intake is above 1400 mg per day (4).

The WIC program recommends dairy products because they consider them to be good sources of calcium, even though science doesn't prove it. Therefore they provide milk and cheese and recommend ways of fitting dairy foods in daily life (24). They actually mention in their literature that children younger than 2 years of age should drink whole milk.

Various studies on calcium intake have found very interesting data such as the fact that calcium intake did not correlate with their bone mineral levels. The calcium intake during the second year of life proved to be the strongest predictor of bone hardness at age 5 (1).

7-year-old children were given calcium supplements to bring their calcium intake up to 800 mg. Over 18 months no increases were seen in height or arm or leg bone density beyond those not supplemented, although some improvement in spinal bone density was seen. At ages 12 to 13, calcium intake did not correlate to bone mineral content, except that the girls who consumed the higher levels of calcium had lower bone density in their arms (1).

A USA study on child twins found some increases in bone density in the arms and spine with calcium supplements, but milk wasn't the source. Once puberty began, however, calcium provided no benefit (1).

In 1986, a Harvard researcher produced a graph that demonstrated a nearly direct relationship between calcium intake and hip fractures- the more calcium, the more fractures. A 1987 study of 106 adult females suggested that calcium intake between 500 and 1400 mg per day led to no difference in bone mineral densities. A larger Italian study found that in women who consumed between 440 and 1025 mg of calcium per day, a slightly increased number of hip fractures occurred with higher milk intakes. A recent study of 78,000 nurses found that women who drank more than one glass of milk per day had a 45% greater chance of hip fractures. The rate of hip fractures in the USA for people of many races and ethnic origins is exactly inverse to their rates of lactose intolerance. Non-Hispanic white women have 139 fractures per 100,000 people. Mexican Americans have 67 per 100,000. African-Americans average 55 per 100,000 (1).

People tend to rely on milk as a sole source of calcium. Adults and growing children need 800 to 1200 mg of calcium daily. Three 8 ounce glasses of milk will give you only 776 mg of calcium. This is not enough and certainly not worth the 360-mg of sodium, 33 mg of cholesterol, 15 g of saturated fat and 577 calories you'll get with them. Exchanging whole milk for skim milk or low fat milk, or buttermilk, will cut back on calories, but still won't be enough calcium (8).

The mechanism for calcium loss due to high animal protein intake is as follows: Protein ingestion leads to protein metabolism/breakdown which leads to increased BUN

(Blood Urea Nitrogen), which acts as a diuretic, which increases water/urea excretion, which leads to calcium excretion (4).

Patients that do have osteoporosis are cautioned to completely avoid milk. Those that want to prevent it are recommended to increase their physical activity. This will increase bone mineral density (1).

VITAMIN, MINERAL AND NUTRIENT INTERFERENCE

Pasteurized milk is so devoid of nutrients that if fed to a baby cow, that cow would die in less than a month. Human milk has 5% of calories as protein compared to cow's milk, which has 15% protein. Human milk allows the baby to double size in 180 days. Cow's milk does it in 47 days (we are of course talking about unpasteurized whole milk) (4).

Milk is not a good source of iron, which is necessary for metabolism of B-vitamins. Milk that contains synthetic vitamin-D can deplete the body of magnesium. Heavy milk drinkers need to increase the manganese in their diets (8). Boron, magnesium, copper, manganese, zinc, vitamin-C, and proper fluoride levels are just as important as calcium for optimal bone growth. None of these are high in cow's milk, so none of these are advertised as important for bones. Phosphorus is important for bone development as well, but cow's milk has too much of this, causing decreased calcium availability (1).

CHICKEN POX AND MUMPS

Febrile infants shouldn't consume any cow's milk. Cow's milk lowers the immune system and worsens the condition (21).

People with mumps are recommended to completely avoid milk (21). Cow's milk also lowers their immune systems.

CIRRHOSIS AND GALLBLADDER DISEASE

Patients with cirrhosis are recommended to have no animal protein in their diets including dairy (21).

Those with gallbladder diseases/disorders are cautioned to avoid full-fat dairy products (21).

PSORIASIS, SEBORRHEA, ACNE, DERMATITIS, ROSACEA, SEBACEOUS CYSTS, DANDRUFF AND BEDSORES

The condition of psoriasis has been correlated with milk consumption. Milk contains arachidonic acid, a natural substance that promotes the inflammatory response and makes the lesions turn red and swell.

The recommendation for patients with seborrhea is to avoid dairy completely (21).

There are 4 ways that milk consumption may actually lead to acne. One is by creating an acidic pH in the blood, which creates a pro-inflammatory state. Another is if it's an allergen to the patient, creating inflammation through the skin. Also, steroids and

hormones from milk may effect the bodies hormonal balances leading to acne. Finally, the more fat in the milk or any dairy product, the more the acne may worsen.

For the condition of dermatitis, it is recommended for these patients to avoid dairy altogether. Studies showed that patients with milk allergy and atopic dermatitis had a significant greater percentage of CLA+T cells ($P<0.01$) than controls with milk-induced enterocolitis, allergic eosinophilic gastroenteritis, or non-atopic healthy controls (25).

People that suffer from various dermatological conditions, including rosacea, sebaceous cysts, dandruff and bedsores are recommended to avoid and eliminate all dairy products (21).

BRONCHITIS, ASTHMA, SINUSITIS, CYSTIC FIBROSIS, EMPHYSEMA AND PNEUMONIA

It has been recommended that for bronchitis to avoid mucus-forming foods, including dairy products (11). The casein in milk and other dairy products stimulates mucus production, which aggravates bronchitis (18).

In the case of asthma, it is recommended to use an elimination diet to rid aggravating factors (21). It is likely milk is a culprit. You may want to rid the diet of milk anyway, because the casein in milk stimulates mucus production which aggravates asthma (18).

Also, if you are of a Type A blood type, it is likely you tend to secrete a lot of mucus when you eat dairy foods. If you suffer from a sinus condition or asthma, eliminate milk altogether from the diet (12).

Those patients with sinusitis should avoid mucus-forming foods like milk which contains casein. This substance stimulates mucus production which aggravates sinusitis (18).

Patients with cystic fibrosis should include no dairy foods in the diet, because they stimulate mucus secretion (21).

Just like a lot of other respiratory conditions those patients with emphysema and pneumonia are highly recommended by to avoid excess mucus forming foods, such as dairy (21).

**CROHNS DISEASE, CELIAC DISEASE, CONSTIPATION, DIARRHEA,
DIVERTICULITIS, PEPTIC ULCERS, IRRITABLE BOWEL DISEASE,
INDIGESTION, GERD, HEMORRHOIDS AND LEAKY GUT**

For Crohn's disease, there are 3 main reasons to eliminate dairy from the diet. One of those reasons is milk contains carrageen in it. Carrageen is a colloid extracted from various red algae and Irish mosses. It's used as a suspending agent and as a clarifying agent in beverages. This induces ulcerative colitis. Milk is also high in histamine. Crohn's patients tend to be histamine intolerant (28). To make matters worse, leaky gut permeability is increased in most patients with Crohn's disease and in 10 to 20% of their clinically healthy relatives. This leaky gut condition heightens the

possibility of having allergic reactions to dairy products and promotes a continuous inflammatory condition (28).

Patients with Celiac disease are similar to Crohn's patients in that they have an increased permeability of the intestinal gut, therefore they should eliminate milk from their diets. There's also an association between Celiac disease and lactose intolerance (28).

All patients that suffer from constipation should have no dairy products in their diets. Intolerance to cows milk protein has recently been shown to be a cause of severe constipation, refractory to laxatives and behavioral management. Intolerance to cows milk protein occurs in up to 7.5% of otherwise normal infants and 6% of them will have constipation due to cow's milk protein allergy (16).

Also, an interesting study showed fecal soiling may be secondary to cows milk protein intolerance. Thus cow's milk should be eliminated from the diet (16).

Some people get constipated from milk, while some others get diarrhea instead. Patients with diarrhea should have no dairy products in their diet, because dairy products are highly allergenic. Diarrhea depletes the enzyme lactase, which digests lactose. Also, milk has been associated with the diarrheal type food poisoning.

Patients with diverticulitis are recommended to eliminate dairy, because it aggravates the condition (21).

Some people think cow's milk soothes ulcers, but it actually does the opposite. It aggravates peptic ulcers by stimulating the acid associated with ulcers (8). Those patients with peptic ulcers are cautioned by to completely avoid milk (21).

Patients with irritable bowel disease need to avoid all dairy products (21). Mucus stimulated from the dairy products prevents uptake of nutrients. Also, all allergens should be eliminated. All too often dairy products are the allergens.

People with indigestion should have no dairy products. Excess mucus from dairy products results in inadequate digestion of protein.

Patients with GERD should avoid all acid forming foods, including milk (21).

Patients with hemorrhoids should avoid all animal products, including dairy (21).

Leaky gut is a term used to describe a condition in which the lining of the intestinal tract becomes perforated and irritated. Tiny particles of partially digested food enters the bloodstream causing an allergic reaction. Milk is the biggest culprit. Those that need to be careful are infants, toddlers and people with other obvious gastrointestinal disorders.

CANCER

Patients with cancer should consume no animal protein including dairy products. Milk may actually cause some forms of cancer. European countries have banned bovine growth hormone used in the dairy industry, due to the fact that it had been linked to cancer. Even pasteurized milk can transmit a common virus known as papillomavirus that may be involved in a number of human cancers (18). Diet is blamed for 30% of cancer cases (21).

Patients with breast or prostate cancer are cautioned that all dairy products, if consumed, should be organic. Several studies link growth hormones to the genesis of breast cancer in women and prostate cancer in men (12).

Tumor patients are allowed to have yogurt, but should completely avoid all other dairy products, especially milk (21).

BRUXISM

Patients with bruxism need to eliminate all allergens. This will likely include milk and other dairy products (21).

MIGRAINE HEADACHES

Migraine sufferers should completely avoid milk (21). That is the recommendation due to the tyramine that often causes migraines.

VARICOSE VEINS AND THROMBOPHEBITIS

No animal protein should be consumed by patients with varicose veins, including dairy products (21).

Patients with thrombophlebitis are recommended to completely avoid milk (21).

ARHRITIS

To manage arthritis, patients should completely avoid milk and rid all food allergens from their diet. These patients shouldn't consume any dairy foods, especially milk (21).

DIABETES AND HYPOGLYCEMIA

Milk shouldn't be consumed by those with diabetes or those likely to get diabetes, especially Type 1. Bovine insulin is present in pasteurized cow's milk and in milk proteins used in infant formulas. The National Public Health Institute in Helsinki, Finland showed that bovine insulin caused the human immune system to form antibodies against it, which then attack human insulin. The child given formula or cow's milk is put at risk of diabetes. Casein is a trigger substance for autoimmune disease, particularly Type 1 diabetes (20).

Case studies showed that 40% of patients with diabetes showed detrimental immune reactions to alpha-casein and beta-casein and 1/3 of healthy control subjects also showed these immune reactions (20).

In New Zealand, the milk does not contain the aberrant beta-casein A1. Interestingly enough, the correlation between milk consumption and Type 1 diabetes was small, only 16% (20).

Hypoglycemics are recommended to use a rotation diet to eliminate food allergens. This may include milk (21).

DEPRESSION, ANXIETY AND MANIC DEPRESSION

For people who suffer from depression, should eliminate all food allergens (21). These allergens may actually lead to depression.

Patients with anxiety are recommended to limit animal protein, including milk. These food products may actually trigger anxiety attacks. One suggestion was to eliminate dairy products from the diet for 3 weeks. Then gradually reintroduce them and wait for symptoms of nervousness to return (21).

Often patients with manic depression suffer from food allergies. Milk is usually the biggest culprit. All allergens need to be eliminated from the diet.

AUTISM AND MEMORY PROBLEMS

Those with autism should completely avoid milk. A worsening of neurological symptoms has been reported in autistic patients after the consumption of milk and wheat. A marked improvement in the behavioral symptoms of patients after a period of 8 weeks on an elimination diet and what was found was high levels of IgA antigens specific antibodies for casein, lactalbumin and beta-lactoglobulin and IgG and IgM for casein. Results of experiments suspect a huge relationship between food allergy and infantile autism (26).

If a patient suffers from memory loss problems, it has been recommended to stay off of animal protein, including dairy at least 1 month to see if there's any marked improvement (21).

HOT FLASHES, PMS, HYSTERECTOMY, FIBROMYALGIA, AND ENDOMETRIOSIS

Often when patients with hot flashes avoid milk their symptoms are alleviated. This should be the advice to patients (21). Hormones from milk often interfere with the bodies hormones leading to hormonal imbalances.

PMS sufferers are asked to decrease dairy intake, because dairy products block magnesium absorption and increase urinary excretion. Dairy products may also interfere

with the body's hormonal balances. Avoiding dairy is the recommendation, due to hormones from milk and other dairy products (21).

No dairy should be included in the diet of fibromyalgia patients. This is the recommendation (21).

Patients with endometriosis have very imbalanced hormonal levels, therefore dairy products should be avoided, because they're likely to throw off the balance even more (21).

Avoid all animal products including dairy for fibrocystic breast disease, because of added hormonal imbalances induced by these products (21).

EAR INFECTIONS AND MENIERE'S DISEASE

For ear infection the recommendation is to eliminate milk and other dairy for 1 month (21). Children who frequently have problems with ear drainage and inflammation and usually end up receiving drainage tubes in the ears are commonly food sensitive, especially to milk. Nasal and inner ear congestion often is indicative of not only inhalant allergies, but also food and chemical sensitivity as well.

For those with Meniere's disease all food allergens need to be eliminated. Most likely symptoms will improve (21).

METABOLIC ACIDOSIS AND THYROID DISEASES

If $\frac{1}{4}$ of the adult diet is dairy and $\frac{1}{3}$ to $\frac{1}{2}$ of children's diets in America is dairy, we have an imbalance. It should be a 1 to 5 ratio for acid forming foods to alkaline forming foods. If you add the meat and other acid forming foods onto the dairy already

included we really have a problem with the pH of our blood leading to up to 200 degenerative diseases (27) and other symptoms including: frequent sighing, insomnia, water retention, arthritis, migraine headaches, abnormally low blood pressure, acid or strong perspiration, dry stools that are hard, foul smelling stools with a burning of the anus, alternative constipation and diarrhea, difficulty swallowing, halitosis, burning sensation under the tongue, tooth sensitivity and or bumps on the tongue or the roof of the mouth (21). So even if someone followed the food pyramid as a daily rule or regimen, they may actually produce a metabolic acidosis.

If a patient has either hyperthyroidism or hypothyroidism, they should be asked to avoid dairy for 3 months (21). Milk actually has thyroid hormones in it, which may throw off hormonal balance.

AGING AND AGE SPOTS

For the aged patients, it is recommended by to consume less animal protein, including dairy (21). Everyone knows that eating the wrong foods in the wrong quantities can increase weight rapidly. But everyone doesn't know that it can also accelerate aging. Milk, if consumed in large quantities, can inhibit the absorption of manganese, which is essential for the production of anti-aging enzymes SOD(superoxidase dismutase). SOD, which diminishes naturally as we age, fortifies the body against the ravages of free radicals, the destructive molecules that speed the aging process by destroying healthy cells and collagen (8).

ANEMIA

Over consumption of cow's milk, a poor source of iron, can cause microscopic losses of blood from the gastrointestinal tract and lead to iron-deficiency anemia (8). Therefore, it is recommended to avoid all dairy products (21).

HYPERTENSION

Dairy products for these patients are prohibited for 2 reasons. One reason is that fatty particles in homogenized whole milk can pass through the stomach wall into the bloodstream, making arteries susceptible to cholesterol build-up. Another reason is that milk is loaded with high amounts of sodium, which worsens the condition (8).

KIDNEY DISEASE

People with kidney problems should avoid dairy. Excess protein puts stress on the kidneys, thus excess protein accumulates, which may lead to uremia (21).

OBESITY

Obese individuals should avoid whole milk (21). Though it comes in the guise of a liquid, whole milk is food with a whole lot of fat that a whole lot of people are not even aware of. It has 65% saturated fatty acids and only 4% polyunsaturated fatty acids (8).

SMOKING

For smokers, milk should be completely avoided. In fact all animal protein except broiled fish should be avoided. The ill-effects of smoking on the human body are compounded by the intake of milk (21).

FUNGAL INFECTIONS

All mucus-producing foods, especially dairy products should be eliminated from the diet. Milk lowers the immune system, which doesn't help the body's natural immunities in fighting off infections (21).

CATARACTS

People that suffer from cataracts are recommended to avoid dairy (21).

BACKACHE

These patients should be asked to avoid animal products, including dairy products from the diet until symptoms improve (21). All the physicians that specialize in spinal care, such as chiropractic or osteopathic should keep this in mind when treating.

MENINGITIS

These people should avoid mucus -forming foods such as milk (21).

GRADING

When buying milk, avoid any that is not "Grade A" and pasteurized. Raw milk has more vitamin C than processed milk, but since milk is not a prime source of vitamin C, the risk of illness (cattle disease and tuberculosis can be transmitted to people through raw milk) outweighs its benefits (8).

CONCLUSION

As you can see by analyzing the studies on milk, it is clear why milk is a poor choice in our diets.

75% of the world is lactose intolerant, so they shouldn't have cow's milk. Along with the lactose intolerance, people with skin conditions, respiratory problems, thyroid disease, iron-deficiency anemia, metabolic acidosis, back pain, lowered immune systems, gynecological problems, personality disorders, or Type 1 diabetes shouldn't have milk.

If you do not like to ingest hormones, pesticides, heavy metals, antibiotics or possible harmful microorganisms in your diet you shouldn't drink milk.

Who should have cow's milk? Nobody, except baby cows.

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