HOW GOOD IS COW’S MILK?

DAIRY PRODUCTS IN OUR TIME
# Protein Comparism of Milk in Different Species

<table>
<thead>
<tr>
<th>Species</th>
<th>Mean value for protein content</th>
<th>Time required to double birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>1.2</td>
<td>120</td>
</tr>
<tr>
<td>Horse</td>
<td>2.4</td>
<td>60</td>
</tr>
<tr>
<td>Cow</td>
<td>3.3</td>
<td>47</td>
</tr>
<tr>
<td>Goat</td>
<td>4.1</td>
<td>19</td>
</tr>
<tr>
<td>Dog</td>
<td>7.1</td>
<td>8</td>
</tr>
<tr>
<td>Cat</td>
<td>9.5</td>
<td>7</td>
</tr>
<tr>
<td>Rat</td>
<td>11.8</td>
<td>4.5</td>
</tr>
</tbody>
</table>
• We should strive to use foods... that meet the nutrient needs of the older infants..., yet avoid toxicity. Cow’s milk simply does not meet this standard of quality. *Journal of Pediatric Gastroenterology and Nutrition* 1993; 16(1); 2
• Children raised on cow’s milk have a lower IQ than breast-fed children

• Babies who are fed whole cow’s milk during the second six months of life may experience a 30% increase in intestinal blood loss of iron in their stools. Pediatrics 1992; 89(6); 105:1109
The reason is that the protein-casein is very difficult to digest and it creates an acidic system which irritates the young intestine and therefore bleeds and loses iron in the process. Adults have the same problem. People who have ulcers should never have dairy products because of the irritating nature of the digestive process involved.
‘Adults who consume large quantities of milk and have high lactase activity, suffer repeated small galactose challenges, accumulation of galactitol in the lens, and greater likelihood of developing senile cataracts. *Postgraduate medicine* 1994, 95 (1):115
• The types of protein-casein is hard to digest—you need special enzyme.
• Mother’s milk has human casein and again the baby will find it hard to digest, so the mother produces and a special enzyme which is injected into the breast milk.
Caution

• *Once a mammal is weaned, it should never drink milk again!*
• The Sugar In Milk (Lactose) needs Lactase to digest it— it occurs until you are weaned.

• In Europeans—the enzymes—lactase continues to be produced because of their long use of milk.
• The sugar lactose is split into glucose and galactose.

• In a child, there is an enzyme beta-galactocedase breaks down galactose to glucose as the baby needs it.

• But the trouble is in the adult population, its production stops after you are weaned. This means no human being should ever use galactose as dietary food.
• This galactose now becomes a foreign substance sitting in your body. So you store it in your skin, everywhere including your eyes which then leads to **senile cataracts**.
WHATS WRONG WITH DAIRY PRODUCTS?

1. **Fat and cholesterol:** Dairy products contribute cholesterol and fat in one’s diet. Comparing the cardiovascular status of ovo-lactose-vegetarians and vegans has proven that while both are healthier than meat-eaters, Vegans have better cardiovascular status than vegetarians who consume dairy products’ *JAMA* 1985;234(10) 1337-41; *AM J clinical Nutrition* 1989; 50.280-87
Milk fat has been identified as a (cholesterol-elevating) fat because it contains cholesterol and is primarily saturated. *Journal of Dairy Science 1991, 74 (ii) 402-4012.*
• 2. **Iron Deficiency**: Iron deficiency is more likely on a dairy-rich diet. In addition, clinical studies have shown that infants consuming cow’s milk lose small amounts of blood from their digestive tracts.
• 3. Ovarian cancer: A Harvard study found that when dairy products consumption exceeds the enzymes capacity to breakdown galactose in the blood, there is a build up of galactose in the blood which may affect a woman’s ovaries. *Lancet* 1989; 2:66-71.

• ¼ of the couples’ in the West seek fertility help.
• 4. **Diabetes**: Insulin-dependent diabetes (type 1 or childhood-onset) is linked to dairy products *American Journal of Clinical Nutrition 1990; 51: 489-91*
Cows milk link to diabetes supported;
London (Reuter)

New evidence published Friday adds weight to controversial theory that feeding cow's milk to babies may cause them to develop diabetes in latter life’, the lancet medical journal said…(CNN June 1999)
• Drinking cow’s milk may weaken immune functions in children and lead to problems with recurring infections. Nature 1978 1978; 272 (5654):632
• A young age at the introduction of dairy products and high milk consumption during childhood may increase the child’s risk of developing juvenile diabetes’.

*Diabetologia* 1994; 374); 381-387
HOW DOES THIS HAPPEN?

• The protein casein is poorly digested so it gets broken down into smaller chunks. Although you get energy from it as some is ingested into the blood as pieces. All of a sudden, your body recognises this abnormal protein. Bear in mind that some part of the cow’s casein has amino acid sequence where one part of the molecule which is very similar to the sequence of the amino acid on the beta cells of the pancreas.
What happens is that when the body recognise this strange protein it makes antibodies which will then attack the strange protein. But it then attacks and destroys your own pancreas and that leads you with no insulin producing mechanism. And when this happens, one now has diabetes type I.

The Japanese babies problem.
• ‘Early cows milk exposure may increase Juvenile diabetes risk by about 1.5 times

*Diabetes Care* 1994;17(1) 13
• Diabetes does not occur in diabetes–prone rodents reared on a diet free of cow’s milk for the first two to three months of life, indicating that cow’s milk protein can trigger the diabetes. *New England Journal of medicine* (1992;327(5). 302-307
Researchers from Rome and London said that they studied 47 patients who had recently developed insulin-dependent diabetes mellitus (IDDM) and found that 51 percent of them had immune cells that grew and replicated when exposed to a protein called beta casein found in cow’s milk. Only 27 percent of healthy people in a controlled group had immune cells that reacted to the cow’s milk protein.
Daniel w. Crammer of Harvard medical school and his co-workers.

- Five years ago crammer linked galactose consumption with increased risk of ovarian cancer. To look for link that this sugar might also affect fecundity, his team compared published data from 36 countries on rates of fertility, per capita milk consumption, and hypolactasia-the adult’s inability to digest lactose.
In the Feb, In American journal of epidemiology, they now report a correlation between high rates of milk consumption and waning fertility, beginning in women just 20 to 24 years old.
• The strength of that association and the rate of fertility decline grew with each successively older age groups studied. In Thailand for instance, where 98% of adults are hypolactasic –average fertility in women 35-39 is only 26% lower than peak rates (at age 25 to 29). By contrast in Australia and the United kingdom, where hypolactasia affects only about 5% of adults, average fertility by 35-39 is fully 82% below peak rates.
5. Cataracts

- Cataracts are also linked to dairy products
- Galactose also appears to damage the lens of the eye, leading to cataracts.

*Digestive Disease and sciences 1982;27:257-64*
• 6. Lactose Intolerance
7. Food Allergies

- Milk is one of the most common food allergies, migraine, asthma
8. Toxins

• Like other products from animals, breast secretion contain frequent contaminants from pesticides to drugs. About a third of milk products are contaminated with antibiotic traces.
# Lactose Deficiency in Healthy Adults

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashkenazi Jews</td>
<td>78%</td>
</tr>
<tr>
<td>American Blacks</td>
<td>70%</td>
</tr>
<tr>
<td>Peruvians</td>
<td>70%</td>
</tr>
<tr>
<td>Israeli Jews</td>
<td>58%</td>
</tr>
<tr>
<td>Indians</td>
<td>50%</td>
</tr>
<tr>
<td>Finns</td>
<td>18%</td>
</tr>
<tr>
<td>Danes</td>
<td>2%</td>
</tr>
<tr>
<td>Arabs</td>
<td>78%</td>
</tr>
<tr>
<td>Greenland Eskimos</td>
<td>80%</td>
</tr>
<tr>
<td>Taiwanese</td>
<td>85%</td>
</tr>
</tbody>
</table>
# Lactose Deficiency in Healthy Adults

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Greek</td>
<td>85%</td>
</tr>
<tr>
<td>Japanese</td>
<td>85%</td>
</tr>
<tr>
<td>Thai’s</td>
<td>90%</td>
</tr>
<tr>
<td>Filipinos</td>
<td>90%</td>
</tr>
<tr>
<td>African Blacks</td>
<td>90%</td>
</tr>
</tbody>
</table>
Lactose Intolerance

- Milk will produce lower abdominal cramps, gas and watery stools in lactose deficient individuals.
<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>% Intolerant</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Black</td>
<td>95-100</td>
</tr>
<tr>
<td>Indians</td>
<td>90-100</td>
</tr>
<tr>
<td>Asians</td>
<td>90-95</td>
</tr>
<tr>
<td>Native American</td>
<td>70-90</td>
</tr>
<tr>
<td>Mexican Americans</td>
<td>70-80</td>
</tr>
<tr>
<td>Mediterranean Peoples</td>
<td>60-75</td>
</tr>
<tr>
<td>North American Whites</td>
<td>10-15</td>
</tr>
<tr>
<td>White Europeans</td>
<td>5-10</td>
</tr>
</tbody>
</table>
• The Zulu nations almost 100% intolerance
Lactose Metabolism

- Lactose
- \[ \text{Lactase} \]
- Glucose + Galactose
- \[ \beta\text{-Galactosidase} \]
- Glucose
9. Osteoporosis

- Kolata G. How important is dietary calcium in preventing osteoporosis? Science 1986: 2333: 519-20
10. Colic

One out of every five babies suffers from colic. Paediatricians learned long ago that cow’s milk was often the reason. We know that breast-feeding mothers can have colicky babies if the mothers are consuming cow’s milk. *Paediatrics 1991:87 (4):439-444*
• Osteoporosis is caused by a number of things, one of the most important things being too much dietary protein. *American Journal of Clinical Nutrition* 1974;27(9):916-925. *Journal of Nutrition* 1981;111(3) 545-525,553-502. *Science* 1986;233(4763) 519-520
• A high ratio of dietary animal to plant protein increases the rate of bone loss and the risk of fracture in postmenopausal women. *Selmeyer et al 2001, ATCN 73(1): 118-122*
‘Women in the highest quintile of ratio of animal to vegetable protein intake (>3.17) had nearly four fold greater risk of fracture compared with women with low ratios, independent of other risk factors, including age, calcium intake, weight, oestrogen use, smoking status alcohol use and total protein intake’.
Leukaemia

• Bovine leukaemia virus (BLV) antibodies were present in 59% of newborn calves tested; *Canadian J. of comparative medicine* 1979;43(2)173-179
Human T-cell leukaemia virus can be transmitted from humans to animals, such results suggested that, a milk-borne infection being transferred from a mother to a baby is very plausible. Whether it can pass from a cow to human is being studied.

*Japanese J of cancer Research* 1985; 76(6) 481-487
• Iowa a dairy state has higher rates than the national average for human Leukaemia. *American Journal of Epidemiology* 1980: 112 (1): 80-92
• Pennsylvania Veterinarian have been able to grow BLV in human cells in the laboratory. A 1980 study showed an increase in human leukaemia in areas with high levels of bovine leukaemia. *Science 1981: 213 (4511):1014-1016*
Cows infected with BLV had “a significant greater production of milk” than their non-BLV infected herd mates. Which could mean that more BLV tainted milk is being produced than previously estimated. 

*Proceedings of the National Academy of Science of USA 1989: 86(3): 993-996*

*Did you know 80% of cows here have BLV?*
These data confirm the presence of BLV in milk and identify the potential for lactogenic (milk) transmission of the virus. 

Multiple Sclerosis (MS)

• The present data indicate MS patient exhibit an…antibody activity against BLV. *ATCA Neurological Scandinavia 1990*

• Many amyotrophic lateral sclerosis (Lou Gerhig disease) patients reported consuming “large quantities of milk”. *Neurology 1976: 26(2): 167-172*
Other Diseases

- Many diseases such as tuberculosis, brucellosis, diphtheria, scarlet fever, Q-fever, and gastro-enteritis are transmissible by milk products. *Journal of Dairy Science 1988: 71; 2809-2816*
Milk is an excellent vehicle of infection because its fat contents protect pathogens from gastric acid, and being fluid, it has a relatively short gastric transit time. *Journal of the American Medical Association* 1983: 252:2048-2052
• Listeria organisms excreted in cow’s milk escaped pasteurisation, grew well at refrigerator temperatures, and were ingested (by consumers). *New England Journal of Medicine* 1984; 312(7): 439
• These results support the hypothesis that the human Listeriosis can be food-borne disease and raise questions about the ability of pasteurisation to eradicate a large inoculums of Listeria from contaminated raw milk. *New England Journal of Medicine* 1985 312(7) 404
Books

- Mooooye over milk
- Milk the deadly poison
High Infant Death Rates from Cow’s Milk

• Improved medical treatments have changed this picture and currently the deaths are similar for breast and cow’s milk formula fed babies infants except in lower economic groups and unsanitary conditions. *Nelson Textbook of Paediatrics 14th edition, 1992, p. 116-117*
Even in our era of antibiotics in the USA infant fed formula are 80% more likely to develop diarrhoea and 70% more likely to develop ear infections when compared to breast-fed infants. Scariati, P.D. et al Paediatrics 1997 June 99 (6): p.5
Milk Associated Conditions

- Chronic Fatigue
- Tension Headaches
- Muscular skeletal Pain
- Hyperactivity
- Bedwetting
- Allergies and Congestion
- Rheumatoid Arthritis
- Asthma and Respiratory Difficulties
- Early Arteriosclerosis from oxidised cholesterol coronary artery
- Juvenile Diabetes
- Acne
- Neuralgic Disease
Known Advantages of Breast Feeding

- Mother’s antibodies are passed on to the baby
- Mother’s white blood cells are passed on to baby
- Breast milk contains lactoferrin which blocks E.Coli bacteria growth
- Breast milk is usually sterile, unlike cow’s milk
Low absorption of calcium from milk

• Only 25% of the calcium in cow’s milk is absorbed by the body.
• Human milk although contains less than half the calcium in milk, is a better source of calcium because of its high absorption.
• Kale, turnip greens or sesame seeds are better sources as well for the same reason.
Other Disadvantages of Cow’s Milk in Infants

- The fat in cow’s milk is not so easily digested
- Cow’s milk is deficient in vitamins C & D
- Cow’s milk is high in both protein and phosphorus
- Cow’s milk is linked to Prostate, Ovarian, Rectal and Breast Cancers
What is coming with milk for breakfast?

- The cow’s lunch for yesterday and additives
- Bacteria
- Viruses
- Prions
- Antibiotics
- Hormones
- Organic Pesticides
- Growth Stimulants
Bacteria in milk limited to 20,000

- US Public Health Service Regulation
- Milk after pasteurisation, should contain no more than 20,000 bacteria per millilitre of milk and no more than 10 coliform bacteria in each millilitre.
How Good is Cheese?

CHEESE MANUFACTURE

Fermentation

Milk + Culture → Curd + Whey

Cottage Cheese

Soft Cheese

Mature Cheese
• The curd contains high cholesterol, oxidised fat, casein, lactose glucilant, galactose
• After the bacteria’s worked on the cheese and utilised anything that is useful for its energy and thus can’t gain anything else from it, what you are left is “mature cheese”
• When you body has utilised what you have eaten, what does it do with the residue?
• When cheese is ingested into your stomach, it produces acid system—which leads to gastritis and in the long term ulcerates when we eat lots of it.

• Where as a normal plant diet will take just four hours to digest, the digestion time for meat is 6 hours and even longer for cheese—10 to 12 hours.
Cheese is Objectionable

• It should never enter the stomach!
## Acid load in Food

<table>
<thead>
<tr>
<th>Food item</th>
<th>mEq/100mg edible portions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat and its Derivatives</td>
<td>9.5</td>
</tr>
<tr>
<td>Milk &amp; Milk Products</td>
<td></td>
</tr>
<tr>
<td>Soy Milk &amp; non-cheese products</td>
<td>1.0</td>
</tr>
<tr>
<td>Cheese low protein(&lt;15%)</td>
<td>8.0</td>
</tr>
<tr>
<td>Cheese, high protein(&gt;15%)</td>
<td>23.6</td>
</tr>
<tr>
<td>Vegetables</td>
<td>2.8</td>
</tr>
<tr>
<td>Fruit &amp; Fruit Juices</td>
<td>3.1</td>
</tr>
</tbody>
</table>
Soy V Milk Solids

- **Urinary ph**

<table>
<thead>
<tr>
<th>Soy</th>
<th>acidic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Solid</td>
<td>More acidic</td>
</tr>
</tbody>
</table>

Total Faecal Calcium Loss

- Soy X
- Casein X2
TOTAL URINARY CALCIUM LOSS

- **SOY**
- **CASEIN**
- **MILK SOLID**
IMMUNE SYSTEM
(LYMPHOCYTE)
MOIST FAECAL PILLET

![Bar chart showing MLD and SLD values for R1, R2, and M categories. The chart indicates higher values for MLD compared to SLD across all categories.]
Stool Production
Sperm concentration

![Graph showing sperm concentration levels for MLD and SLD categories across R1, R2, and M](image)
Progressive Sperm Motility
Ten animal proteins cause high cholesterol in Rabbits

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Egg Yolk</td>
<td>270</td>
<td></td>
</tr>
<tr>
<td>Skimmed milk</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>Casein</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>176</td>
<td></td>
</tr>
<tr>
<td>Beef</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Chicken</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Pork</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Raw egg white</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Avg. plant protein</td>
<td>67</td>
<td></td>
</tr>
</tbody>
</table>
Fruits, vegetables, nuts, and legumes are good sources of boron, which helps stop calcium loss in the body. Because milk is low in boron, and high in phosphorus and protein, it is not a good osteoporosis-fighting food. *Nutrition Today, Jan/Feb 1988, 4-7* FSAEB Journal 1987; 1: 394-397
• Greens such as broccoli, and bok choy are as good as milk in terms of their calcium absorbability. *Environmental Nutrition, January 1994, p.3. The American Journal of Clinical Nutrition 1990; 656-657*
• Even when eating 1,400mg of calcium daily, one can lose up to 4% of his/her bone mass each year while consuming a high protein diet. *American Journal of Clinical Nutrition* 1979; 32(4) 741-749
• Under controlled conditions the level of dietary protein has profound and sustained effect on urinary calcium (levels)… Federation Proceedings 1981: 40 (9): 2429-2433
• About 50,000 Americans die each year of problems related in some way to osteoporosis. *Osteoporosis International* 1993; 3(3): 148-153
• Dietary protein increases production of acid (in the blood) which can be neutralised by calcium metabolised from skeleton.

Conclusion

Humans like other mammals were designed to have milk after their own kind.

Milk derived from an organic plant source remains the best option for food.

Science has proved the old cliché that “mother’s” milk is still best.