Patient Handouts

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Common Mycoplasmas - Now Weaponized, Pathogenic & Deadly

By Donald W. Scott, MA, MSc © 2001; 12-30-1

Mycoplasma - The Linking Pathogen in Neuro-systemic Diseases

Several strains of mycoplasma have been "engineered" to become more dangerous. They are now being blamed for AIDS, cancer, CFS, MS, CJD and other neuro-systemic diseases.

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PATHOGENIC MYCOPLASMA

A Common Disease Agent Weaponized

There are 200 species of Mycoplasma. Most are innocuous and do no harm; only four or five are pathogenic. Mycoplasma fermentans (incognitos strain) probably comes from the nucleus of the Brucella bacterium. This disease agent is not a bacterium and not a virus; it is a mutated form of the Brucella bacterium, combined with a visna virus, from which the mycoplasma is extracted.

The pathogenic Mycoplasma used to be very innocuous, but biological warfare research conducted between 1942 and the present time has resulted in the creation of more deadly and infectious forms of Mycoplasma. Researchers extracted this mycoplasma from the Brucella bacterium and actually reduced the disease to a crystalline form. They "weaponized" it and tested it on an unsuspecting public in North America.

Dr. Maurice Hilleman, chief virologist for the pharmaceutical company Merck, Sharp & Dohme, stated that this disease agent is now carried by everybody in North America and possibly most people throughout the world.

Despite reporting flaws, there has clearly been an increased incidence of all the neuro/systemic degenerative diseases since World War II and especially since the 1970s with the arrival of previously unheard-of diseases like chronic fatigue syndrome and AIDS.

According to Dr. Shyh-Ching Lo, senior researcher at The Armed Forces Institute of Pathology and one of America's top mycoplasma researchers, this disease agent causes many illnesses including AIDS, cancer, chronic fatigue syndrome, Crohn's colitis, Type I diabetes, multiple sclerosis, Parkinson's disease, Wegener's disease and collagen-vascular diseases such as rheumatoid arthritis and Alzheimer's.

Dr. Charles Engel, who is with the US National Institutes of Health, Bethesda, Maryland, stated the following at an NIH meeting on February 7, 2000: "I am now of the view that the probable cause of chronic fatigue syndrome and fibromyalgia is the mycoplasma..."

I have all the official documents to prove that mycoplasma is the disease agent in chronic fatigue syndrome/ fibromyalgia as well as in AIDS, multiple sclerosis and many other illnesses. Of these, 80% are US or Canadian official government documents, and 20% are articles from peer-reviewed journals such as the Journal of the American Medical Association, New England Journal of Medicine and the Canadian Medical Association Journal. The journal articles and government documents complement each other.

How the Mycoplasma Works

The mycoplasma acts by entering into the individual cells of the body, depending upon your genetic predisposition. You may develop neurological diseases if the pathogen destroys certain cells in your brain, or you may develop Crohn's colitis if the pathogen invades and destroys cells in the lower bowel.

Once the mycoplasma gets into the cell, it can lie there doing nothing sometimes for 10, 20 or 30 years, but if a trauma occurs like an accident or a vaccination that doesn't take, the mycoplasma can become triggered.

Because it is only the DNA particle of the bacterium, it doesn't have any organelles to process its own nutrients, so it grows by uptaking pre-formed sterols from its host cell and it literally kills the cell; the cell ruptures and what is left gets dumped into the bloodstream.

CREATION OF THE MYCOPLASMA

A Laboratory-Made Disease Agent

Many doctors don't know about this mycoplasma disease agent because it was developed by the US military in biological warfare experimentation and it was not made public. This pathogen was patented by the United States military and Dr Shyh-Ching Lo. I have a copy of the documented patent from the US Patent Office.[1]

All the countries at war were experimenting with biological weapons. In 1942, the governments of the United States, Canada and Britain entered into a secret agreement to create two types of biological weapons (one that would kill, and one that was disabling) for use in the war against Germany and Japan, who were also developing biological weapons. While they researched a number of disease pathogens, they primarily focused on the Brucella bacterium and began to weaponize it.

From its inception, the bio-warfare program was characterized by continuing in-depth review and participation by the most eminent scientists, medical consultants, industrial experts and government officials, and it was classified Top Secret.

The US Public Health Service also closely followed the progress of biological warfare research and development from the very start of the program, and the Centers for Disease Control (CDC) and the National Institutes of Health (NIH) in the United States were working with the military in weaponizing these diseases. These are diseases that have existed for thousands of years, but they have been weaponized—which means they've been made more contagious and more effective. And they are spreading.

The Special Virus Cancer Program, created by the CIA and NIH to develop a deadly pathogen for which humanity had no natural immunity (AIDS), was disguised as a war on cancer but was actually part of MKNAOMI.[2]

Many members of the Senate and House of Representatives do not know what has been going on. For example, the US Senate Committee on Government Reform had searched the archives in Washington and other places for the document titled "The Special Virus Cancer Program: Progress Report No. 8", and couldn't find it.

Somehow they heard I had it, called me and asked me to mail it to them. Imagine: a retired school teacher being called by the United States Senate and asked for one of their secret documents! The US Senate, through the Government Reform Committee, is trying to stop this type of government research.

Crystalline Brucella

The title page of a genuine US Senate Study, declassified on February 24, 1977, shows that George Merck, of the pharmaceutical company, Merck, Sharp & Dohme (which now makes cures for diseases that at one time it created), reported in 1946 to the US Secretary of War that his researchers had managed "for the first time" to "isolate the disease agent in crystalline form".[3]

They had produced a crystalline bacterial toxin extracted from the Brucella bacterium. The bacterial toxin could be removed in crystalline form and stored, transported and deployed without deteriorating. It could be delivered by other vectors such as insects, aerosol or the food chain (in nature it is delivered within the bacterium). But the factor that is working in the Brucella is the mycoplasma.

Brucella is a disease agent that doesn't kill people; it disables them. But, according to Dr Donald MacArthur of the Pentagon, appearing before a congressional committee in 1969,[4] researchers found that if they had mycoplasma at a certain strength -- actually, 10 to the 10th power (10-10) -- it would develop into AIDS, and the person would die from it within a reasonable period of time because it could bypass the natural human defenses. If the strength was 10 to the 8th, the person would manifest with chronic fatigue syndrome or fibromyalgia. If it was 10 to the 7th, they would present as wasting; they wouldn't die and they wouldn't be disabled, but they would not be very interested in life; they would waste away.

One salt shaker of the pure brucella disease agent in a crystalline form could sicken the entire population of Canada. It is absolutely deadly, not so much in terms of killing the body but disabling it.

Because the crystalline disease agent goes into solution in the blood, ordinary blood and tissue tests will not reveal its presence. The mycoplasma will only crystallize at 8.1 $_{pH}$, and the blood has a pH of 7.4 pH. So the doctor thinks your complaint is "all in your head".

Crystalline Brucella and Multiple Sclerosis

In 1998 in Rochester, New York, I met a former military man, PFC Donald Bentley, who gave me a document and told me: "I was in the US Army, and I was trained in bacteriological warfare. We were handling a bomb filled with brucellosis, only it wasn't brucellosis; it was a Brucella toxin in crystalline form. We were spraying it on the Chinese and North Koreans."

He showed me his certificate listing his training in chemical, biological and radiological warfare. Then he showed me 16 pages of documents given to him by the US military when he was discharged from the service. They linked brucellosis with multiple sclerosis, and stated in one section: "Veterans with multiple sclerosis, a kind of creeping paralysis developing to a degree of 10% or more disability within two years after separation from active service, may be presumed to be service-connected for disability compensation.

Compensation is payable to eligible veterans whose disabilities are due to service." In other words: "If you become ill with multiple sclerosis, it is because you were handling this Brucella, and we will give you a pension. Don't go raising any fuss about it." In these documents, the government of the United States revealed evidence of the cause of multiple sclerosis, but they didn't make it known to the public--or to your doctor.

In a 1949 report, Drs. Kyger and Haden suggested "the possibility that multiple sclerosis might be a central nervous system manifestation of chronic brucellosis". Testing approximately 113 MS patients, they found that almost 95% also tested positive for Brucella.[5] We have a document from a medical journal, which concludes that one out of 500 people who had brucellosis would develop what they call neuro-brucellosis; in other words, brucellosis in the brain, where the Brucella settles in the lateral ventricles -- where the disease multiple sclerosis is basically located.[6]

Contamination of Camp Detrick Lab Workers

A 1948 New England Journal of Medicine report titled "Acute Brucellosis Among Laboratory Workers" shows us how actively dangerous this agent is.[7] The laboratory workers were from Camp Detrick, Frederick, Maryland, where they were developing biological weapons. Even though these workers had been vaccinated, wore rubberized suits and masks and worked through holes in the compartment, many of them came down with this awful disease because it is so absolutely and terrifyingly infectious.

The article was written by Lt. Calderone Howell, Marine Corps, Captain Edward Miller, Marine Corps, Lt. Emily Kelly, United States Naval Reserve, and Captain Henry Bookman. They were all military personnel engaged in making the disease agent Brucella into a more effective biological weapon.

COVERT TESTING OF MYCOPLASMA

Testing the Dispersal Methods

Documented evidence proves that the biological weapons they were developing were tested on the public in various communities without their knowledge or consent.

The government knew that crystalline Brucella would cause disease in humans. Now they needed to determine how it would spread and the best way to disperse it. They tested dispersal methods for Brucella suis and Brucella melitensis at Dugway Proving Ground, Utah, in June and September 1952. Probably, 100% of us now are infected with Brucella suis and Brucella melitensis.[8]

Another government document recommended the genesis of open-air vulnerability tests and covert research and development programs to be conducted by the Army and supported by the Central Intelligence Agency.

At that time, the Government of Canada was asked by the U.S. Government to cooperate in testing weaponized Brucella, and Canada cooperated fully with the United States. The US Government wanted to determine whether mosquitoes would carry the disease and also if the air would carry it. A government report stated that "open-air testing of infectious biological agents is considered essential to an ultimate understanding of biological warfare potentialities because of the many unknown factors affecting the degradation of micro-organisms in the atmosphere".[9]

Testing via Mosquito Vector in Punta Gorda, Florida

The Government of Canada had established the Dominion Parasite Laboratory in Belleville, Ontario, where it raised 100 million mosquitoes a month. These were shipped to Queen's University and certain other facilities to be infected with this crystalline disease agent. The mosquitoes were then let loose in certain communities in the middle of the night, so that the researchers could determine how many people would become ill with chronic fatigue syndrome or fibromyalgia, which was the first disease to show.

One of the communities they tested it on was the St Lawrence Seaway valley, all the way from Kingston to Cornwall, in 1984. They let out hundreds of millions of infected mosquitoes. Over 700 people in the next four or five weeks developed myalgic encephalomyelitis, or chronic fatigue syndrome.

COVERT TESTING OF OTHER DISEASE AGENTS

Mad Cow Disease/Kuru/CJD in the Fore Tribe

Before and during World War II, at the infamous Camp 731 in Manchuria, the Japanese military contaminated prisoners of war with certain disease agents. They also established a research camp in New Guinea in 1942. There they experimented upon the Fore Indian tribe and innoculated them with a minced-up version of the brains of diseased sheep containing the visna virus which causes "mad cow disease" or Creutzfeldt & Jakob disease.

About five or six years later, after the Japanese had been driven out, the poor people of the Fore tribe developed what they called kuru, which was their word for "wasting", and they began to shake, lose their appetites and die. The autopsies revealed that their brains had literally turned to mush. They had contracted "mad cow disease" from the Japanese experiments.

When World War II ended, Dr. Ishii Shiro--the medical doctor who was commissioned as a General in the Japanese Army so he could take command of Japan's biological warfare development, testing and deployment—was captured. He was given the choice of a job with the United States Army or execution as a war criminal. Not surprisingly, Dr. Ishii Shiro chose to work with the US military to demonstrate how the Japanese had created mad cow disease in the Fore Indian tribe.

In 1957, when the disease was beginning to blossom in full among the Fore people, Dr. Carleton Gajdusek of the US National Institutes of Health headed to New Guinea to determine how the minced-up brains of the visna-infected sheep affected them. He spent a couple of years there, studying the Fore people, and wrote an extensive report. He won the Nobel Prize for "discovering" kuru disease in the Fore tribe.

Testing Carcinogens over Winnipeg, Manitoba

In 1953, the US Government asked the Canadian Government if it could test a chemical over the city of Winnipeg. It was a big city with 500,000 people, miles from anywhere. The American military sprayed this carcinogenic chemical in a 1,000%-attenuated form, which they said would be so watered down that nobody would get very sick; however, if people came to clinics with a sniffle, a sore throat or ringing in their ears, the researchers would be able to determine what percentage would have developed cancer if the chemical had been used at full strength.

We located evidence that the Americans had indeed tested this carcinogenic chemical -- zinc cadmium sulphide -- over Winnipeg in 1953. We wrote to the Government of Canada, explaining that we had solid evidence of the spraying and asking that we be informed as to how high up in the government the request for permission to spray had gone. We did not receive a reply.

Shortly after, the Pentagon held a press conference on May 14, 1997, where they admitted what they had done. Robert Russo, writing for the Toronto Star [(11)] from Washington, DC, reported the Pentagon's admission that in 1953 it had obtained permission from the Canadian Government to fly over the city of Winnipeg and spray out this chemical-- which sifted down on kids going to school, housewives hanging out their laundry and people going to work. U.S. Army planes and trucks released the chemical 36 times between July and August 1953. The Pentagon got its statistics, which indicated that if the chemical released had been full strength, approximately a third of the population of Winnipeg would have developed cancers over the next five years.

One professor, Dr. Hugh Fudenberg, MD, twice nominated for the Nobel Prize, wrote a magazine article stating that the Pentagon came clean on this because two researchers in Sudbury, Ontario -- Don Scott and his son, Bill Scott -- had been revealing this to the public. However, the legwork was done by other researchers!

The US Army actually conducted a series of simulated germ warfare tests over Winnipeg. The Pentagon lied about the tests to the mayor, saying that they were testing a chemical fog over the city, which would protect Winnipeg in the event of a nuclear attack.

A report commissioned by US Congress, chaired by Dr. Rogene Henderson, lists 32 American towns and cities used as test sites as well.

Brucella Mycoplasma And Disease

AIDS

The AIDS pathogen was created out of a Brucella bacterium mutated with a visna virus; then the toxin was removed as a DNA particle called a mycoplasma. They used the same mycoplasma to develop disabling diseases like MS, Crohn's colitis, Lyme disease, etc.

In the previously mentioned US congressional document of a meeting held on June 9, 1969,[(12)] the Pentagon delivered a report to Congress about biological weapons. The Pentagon stated: "We are continuing to develop disabling weapons." Dr. MacArthur, who was in charge of the research, said: "We are developing a new lethal weapon, a synthetic biological agent that does not naturally exist, and for which no natural immunity could have been acquired."

Think about it. If you have a deficiency of acquired immunity, you have an acquired immunity deficiency. Plain as that. AIDS.

In laboratories throughout the United States and in a certain number in Canada including at the University of Alberta, the US Government provided the leadership for the development of AIDS for the purpose of population control. After the scientists had perfected it, the government sent medical teams from the Centers for Disease Control--under the direction of Dr. Donald A. Henderson, their investigator into the 1957 chronic fatigue epidemic in Punta Gorda-- during 1969 to 1971 to Africa and some countries such as India, Nepal and Pakistan where they thought the population was becoming too large[(13)] They gave them all a free vaccination against smallpox; but five years after receiving this vaccination, 60% of those innoculated were suffering from AIDS. They tried to blame it on a monkey, which is nonsense.

A professor at the University of Arkansas made the claim that while studying the tissues of a dead chimpanzee she found traces of HIV. The chimpanzee that she had tested was born in the United States 23 years earlier. It had lived its entire life in a US military laboratory where it was used as an experimental animal in the development of these diseases. When it died, its body was shipped to a storage place where it was deep-frozen and stored in case they wanted to analyze it later.

Then they decided that they didn't have enough space for it, so they said, "Anybody want this dead chimpanzee?" and this researcher from Arkansas said: "Yes. Send it down to the University of Arkansas. We are happy to get anything that we can get." They shipped it down and she found HIV in it. That virus was acquired by that chimpanzee in the laboratories where it was tested.[14]

Chronic Fatigue Syndrome/ Myalgic Encephalomyelitis

Chronic fatigue syndrome is more accurately called myalgic encephalomyelitis. The chronic fatigue syndrome nomenclature was given by the US National Institutes of Health because it wanted to downgrade and belittle the disease.

An MRI scan of the brain of a teenage girl with chronic fatigue syndrome displayed a great many scars or punctate lesions in the left frontal lobe area where portions of the brain had literally dissolved and been replaced by scar tissue. This caused cognitive impairment, memory impairment, etc. And what was the cause of the scarring? The mycoplasma. So there is very concrete physical evidence of these tragic diseases, even though doctors continue to say they don't know where it comes from or what they can do about it.

Many people with chronic fatigue syndrome, myalgic encephalomyelitis and fibromyalgia who apply to the Canada Pensions Plan Review Tribunal will be turned down because they cannot prove that they are ill. During 1999, I conducted several appeals to Canada Pensions and the Workers Compensation Board (WCB, now the Workplace Safety and Insurance Board) on behalf of people who have been turned down. I provided documented evidence of these illnesses, and these people were all granted their pensions on the basis of the evidence that I provided.

In March 1999, for example, I appealed to the WCB on behalf of a lady with fibromyalgia who had been denied her pension back in 1993. The vice-chairman of the board came to Sudbury to hear the appeal, and I showed him a number of documents which proved that this lady was physically ill with fibromyalgia. It was a disease that caused physical damage, and the disease agent was a mycoplasma. The guy listened for three hours, and then he said to me: "Mr. Scott, how is it I have never heard of any of this before? I said: "We brought a top authority in this area into Sudbury to speak on this subject and not a single solitary doctor came to that presentation."

TESTING FOR MYCOPLASMA IN YOUR BODY

Polymerase Chain Reaction Test

Information is not generally available about this agent because, first of all, the mycoplasma is such a minutely small disease agent. A hundred years ago, certain medical theoreticians conceived that there must be a form of disease agent smaller than bacteria and viruses. This pathogenic organism, the mycoplasma, is so minute that normal blood and tissue tests will not reveal its presence as the source of the disease.

Your doctor may diagnose you with Alzheimer's disease, and he will say: "Golly, we don't know where Alzheimer's comes from. All we know is that your brain begins to deteriorate, cells rupture, the myelin sheath around the nerves dissolves, and so on." Or if you have chronic fatigue syndrome, the doctor will not be able to find any cause for your illness with ordinary blood and tissue tests.

This mycoplasma couldn't be detected until about 30 years ago when the polymerase chain reaction (PCR) test was developed, in which a sample of your blood is examined and damaged particles are removed and subjected to a polymerase chain reaction. This causes the DNA in the particles to break down. The particles are then placed in a nutrient, which causes the DNA to grow back into its original form. If enough of the substance is produced, the form can be recognised, so it can be determined whether Brucella or another kind of agent is behind that particular mycoplasma.

Blood Test

If you or anybody in your family has myalgic encephalomyelitis, fibromyalgia, multiple sclerosis or Alzheimer's, you can send a blood sample to Dr. Les Simpson in New Zealand for testing.

If you are ill with these diseases, your red blood cells will not be normal doughnut-shaped blood cells capable of being compressed and squeezed through the capillaries, but will swell up like cherry-filled doughnuts which cannot be compressed. The blood cells become enlarged and distended because the only way the mycoplasma can exist is by uptaking pre-formed sterols from the host cell. One of the best sources of pre-formed sterols is cholesterol, and cholesterol is what gives your blood cells flexibility. If the cholesterol is taken out by the mycoplasma, the red blood cell swells up and doesn't go through, and the person begins to feel all the aches and pains and all the damage it causes to the brain, the heart, the stomach, the feet and the whole body because blood and oxygen are cut off.

And that is why people with fibromyalgia and chronic fatigue syndrome have such a terrible time. When the blood is cut off from the brain, punctate lesions appear because those parts of the brain die. The mycoplasma will get into portions of the heart muscle, especially the left ventricle, and those cells will die. Certain people have cells in the lateral ventricles of the brain that have a genetic predisposition to admit the mycoplasma, and this causes the lateral ventricles to deteriorate and die. This leads to multiple sclerosis, which will progress until these people are totally disabled; frequently, they die prematurely. The mycoplasma will get into the lower bowel, parts of which will die, thus causing colitis. All of these diseases are caused by the degenerating properties of the mycoplasma.

In early 2000, a gentleman in Sudbury phoned me and told me he had fibromyalgia. He applied for a pension and was turned down because his doctor said it was all in his head and there was no external evidence. I gave him the proper form and a vial, and he sent his blood to Dr. Simpson to be tested. He did this with his family doctor's approval, and the results from Dr. Simpson showed that only 4% of his red blood cells were functioning normally and carrying the appropriate amount of oxygen to his poor body, whereas 83% were distended, enlarged and hardened, and wouldn't go through the capillaries without an awful lot of pressure and trouble. This is the physical evidence of the damage that is done.

ECG Test

You can also ask your doctor to give you a 24-hour Holter ECG. You know, of course, that an electrocardiogram is a measure of your heartbeat and shows what is going on in the right ventricle, the left ventricle and so on. Tests show that 100% of patients with chronic fatigue syndrome and fibromyalgia have an irregular heartbeat. At various periods during the 24 hours, the heart, instead of working happily away going "bump-BUMP, bump-BUMP", every now and again goes "buhbuhbuh-buhbuhbuhbuhbuhbuh". The T-wave (the waves are called P, Q, R, S and T) is normally a peak, and then the wave levels off and starts with the P-wave again. In chronic fatigue and fibromyalgia patients, the T-wave flattens off, or actually inverts. That means the blood in the left ventricle is not being squeezed up through the aorta and around through the body.

My client from Sudbury had this test done and, lo and behold, the results stated: "The shape of T and S-T suggests left ventricle strain pattern, although voltage and so on is normal." The doctor had no clue as to why the T-wave was not working properly. I analyzed the report of this patient who had been turned down by Canada Pensions and sent it back to them. They wrote back, saying: "It looks like we may have made a mistake. We are going to give you a hearing and you can explain this to us in more detail."

So it is not all in your imagination. There is actual physical damage to the heart. The left ventricle muscles do show scarring. That is why many people are diagnosed with a heart condition when they first develop fibromyalgia, but it's only one of several problems because the mycoplasma can do all kinds of damage.

Blood Volume Test

You can also ask your doctor for a blood volume test. Every human being requires a certain amount of blood per pound of body weight, and it has been observed that people with fibromyalgia, chronic fatigue syndrome, multiple sclerosis and other illnesses do not have the normal blood volume their body needs to function properly. Doctors aren't normally aware of this.

This test measures the amount of blood in the human body by taking out 5 cc, putting a tracer in it and then putting it back into the body. One hour later, take out 5 cc again and look for the tracer. The thicker the blood and the lower the blood volume, the more tracer you will find.

The analysis of one of my clients stated: "This patient was referred for red cell mass study. The red cell volume is 16.9 ml per kg of body weight. The normal range is 25 to 35 ml per kg. This guy has 36% less blood in his body than the body needs to function." And the doctor hadn't even known the test existed.

If you lost 36% of your blood in an accident, do you think your doctor would tell you that you are alright and should just take up line dancing and get over it? They would rush you to the nearest hospital and start transfusing you with blood. These tragic people with these awful diseases are functioning with anywhere from 7% to 50% less blood than their body needs to function.

Undoing The Damage

The body undoes the damage itself. The scarring in the brain of people with chronic fatigue and fibromyalgia will be repaired. There is cellular repair going on all the time. But the mycoplasma has moved on to the next cell.

In the early stages of a disease, doxycycline may reverse that disease process. It is one of the tetracycline antibiotics, but it is not bactericidal; it is bacteriostatic -- it stops the growth of the mycoplasma. And if the mycoplasma growth can be stopped for long enough, then the immune system takes over.

Doxycycline treatment is discussed in a paper by mycoplasma expert Professor Garth Nicholson, PhD, of the Institute for Molecular Medicine.[15] Dr. Nicholson is involved in a US$8-million mycoplasma research program funded by the US military and headed by Dr. Charles Engel of the NIH. The program is studying Gulf War veterans, 450 of them, because there is evidence to suggest that Gulf War syndrome is another illness (or set of illnesses) caused by mycoplasma.

Endnotes:

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The Journal of Degenerative Diseases (Donald W. Scott, Editor), The Common Cause Medical Research Foundation (Box 133, Stat B., Sudbury, Ontario, P3E 4N5), Canada (quarterly journal; annual subscription: US$25.00 in USA, $30 foreign).

Additional Contacts:

Ms Jennie Burke, Australian Biologics, Level 6, 383 Pitt Street, Sydney NSW 2000, Australia tel +61 (0)2 9283 0807, fax +61 (0)2 9283 0910. Australian Biologics does tests for mycoplasma.

Consumer Health Organization of Canada, 1220 Sheppard Avenue East #412, Toronto, Ontario, Canada M2K 2S5, tel +1 (416) 490 0986, website www.consumerhealth.org/.

Professor Garth Nicholson, PhD, Institute for Molecular Medicine, 15162 Triton Lane, Huntington Beach, CA, 92649-1401, USA, tel +1 (714) 903 2900.

Dr Les Simpson, Red Blood Cell Research Ltd, 31 Bath Street, Dunedin, 9001, New Zealand, tel +64 (0)3 471 8540, email rbc.research.limited@xtra.co.nz. (Note: Dr Simpson directs his study to red cell shape analysis, not the mycoplasma hypothesis.)

The Mycoplasma Registry for Gulf War Illness, S. & L. Dudley, 303 47th St, J-10 San Diego, CA 92102-5961, tel/fax +1 (619) 266 1116, fax (619) 266 1116, email mycoreg@juno.com.

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Donald Scott, MA, MSc, is a retired high school teacher and university professor. He is also a veteran of WWII and was awarded the North Atlantic Star, the Burma Star with Clasp, the 1939&endash; 1945 Volunteer Service Medal and the Victory Medal. He is currently President of The Common Cause Medical Research Foundation, a not-for-profit organization devoted to research into neurosystemic degenerative diseases. He is also Adjunct Professor with the Institute for Molecular Medicine and he produces and edits the Journal of Degenerative Diseases. He has extensively researched neuro-systemic degenerative diseases over the past five years and has authored many documents on the relationship between degenerative diseases and a pathogenic mycoplasma called Mycoplasma fermentans. His research is based upon solid government evidence.

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X-Rays, Cancer and Heart Disease

John Gofman, M.D., Ph.D., is one of the leading experts in the world in these issues. He is a nuclear physicist and a medical doctor.

The evidence presented in his book, Radiation from Medical Procedures in the Pathogenesis of Cancer and Ischemic Heart Disease, strongly indicates that **over 50% of the death-rate from cancer today, and over 60% of the death-rate from Ischemic Heart Disease today, are x-ray-induced.**

The finding means that x-rays (including fluoroscopy and CT scans) have become a necessary co-actor -- - but not the only necessary CO-actor -- in **causing most of the death-rate from cancer** and from Ischemic Heart Disease (also called Coronary Heart Disease, and Coronary Artery Disease).

In multi-cause diseases such as cancer and ischemic heart disease, more than one necessary CO-actor per fatal case is very likely. Absence of any necessary CO-actor, by definition, prevents such cases. The concept of x-ray-induced cases means cases which would be absent in the absence of exposure to x-rays.

X-rays and other classes of ionizing radiation have been, for decades, **a proven cause of virtually all types of mutations** -- - especially structural chromosomal mutations (such as deletions, translocations, and rings), for which the doubling dose by x-rays is extremely low. Additionally, x-rays are an established cause of genomic instability, often a characteristic of the most aggressive cancers.

Not surprisingly, a host of epidemiologic studies have firmly established that x-rays and other classes of ionizing radiation are a **cause of most varieties of human cancer.** We have a high level of confidence that our findings, about the important causal role of medical radiation in both cancer and IHD, are correct.

Reduction of exposure to medical radiation can and will reduce mortality rates -- - from cancer with certainty, and with very great probability from Ischemic Heart Disease too.

Part 2. Some Key Facts about X-rays and Ionizing Radiation in General

Most physicians and other people appreciate the imaging capability of the x-ray, but -- - through no fault of their own -- they are taught very little about the biological action of those x-rays which never reach the film or other image-receptor.

Capacity To Commit Mayhem Among The Genetic Molecules

The biological damage from a medical x-ray procedure does not come directly from the x-ray photons. The damage comes from electrons, which those photons "kick" out of their normal atomic orbits within human tissues. Endowed with biologically unnatural energy by the photons, such electrons leave their atomic orbits and travel with high speed and high energy through their home cells and neighboring cells.

Each such electron gradually slows down, as it unloads portions of its biologically unnatural energy, at irregular intervals, onto various biological molecules along its primary track (path).

The molecular victims include, of course, chromosomal DNA, and the structural proteins of chromosomes, and water. Even though each energy-deposit transfers only a portion of the total energy of a high-speed high-energy electron, the single deposits very often have energies far exceeding any energy-transfer which occurs in a natural biochemical reaction. Such energy-deposits are more like grenades and small bombs.

The Free-Radical Fallacy

There is no doubt that, along the path of each high-speed high-energy electron described above, the energy-deposits produce various species of free radicals. Nonetheless, it is a demonstrated fallacy to assume equivalence between the

biological potency of x-rays and the biological potency of the free radicals which are routinely produced by a cell's own natural metabolism.

The uniquely violent and concentrated energy-transfers, resulting from x-rays, are simply absent in a cell's natural biochemistry. As a result of these "grenades" and "small bombs," both strands of opposing DNA can experience a level of mayhem far exceeding the damage, which metabolic free-radicals (and most other chemical species) generally inflict upon a comparable segment of the DNA double helix.

Ionizing Radiation: A Uniquely Potent Mutagen

The extra level of mayhem is what makes x-rays (and other types of ionizing radiation) uniquely potent mutagens. Cells cannot correctly repair every type of complex genetic damage, induced by ionizing radiation, and sometimes cells cannot repair such damage at all. Not all mutated cells die, of course. If they all died, there would be very little cancer and no inherited afflictions. Indeed, certain mutations confer a proliferative advantage on the mutated cells. Exposure to x-rays is a proven cause of genomic instability -- - a characteristic of many of the most aggressive cancers.

Unlike some other mutagens, x-rays have access to the genetic molecules of every internal organ, if the organ is within the x-ray beam. Within such organs, even a single high-speed high-energy electron, set into motion by an x-ray photon, has a chance (far from a certainty) of inducing the types of damage which defy repair. That is why **there is no risk-free (no safe) dose-level.**

There is widespread agreement that, by its very nature, ionizing radiation at any dose-level can induce particularly complex injuries to the genetic molecules. There is growing mainstream acknowledgment that cellular repair processes are fallible, or entirely absent, for various complex injuries to the genetic molecules.

The Very Low Doubling-Dose for X-ray-Induced Chromosomal Mutations

The inability of human cells, to repair correctly every type of radiation-induced chromosomal damage, has been demonstrated in nuclear workers (who received their extra low-dose radiation at minimal dose-rates) and in numerous studies of x-ray-irradiated human cells at low doses.

Besides demonstrating non-repair or imperfect repair, such studies have established that x-rays have an extremely low doubling-dose for structural chromosomal mutations. (The doubling dose of an effect is the dose which adds a frequency equal to the preexisting frequency of that effect.)

For instance, the doubling-dose for the dicentric mutation is in the dose range delivered by some common x-ray procedures, such as CT scans and fluoroscopy -- i.e., in the dose range of 2 to 20 rads. The rad is a dose-unit which is identical to the centi-gray. We, and many others, prefer the simpler name: Rad.

X-rays are capable of causing virtually every known kind of mutation -- from the very common types to the very complex types, from deletions of single nucleotides, to chromosomal deletions of every size and position, and chromosomal rearrangements of every type. When such mutations are not cell-lethal, they endure and accumulate with each additional exposure to x-rays or other ionizing radiation.

Medical X-rays as a Proven Cause of Human Cancer

Ionizing radiation is firmly established by epidemiologic evidence as a proven cause of almost every major type of human cancer. Some of the strongest evidence comes from the study of medical patients exposed to x-rays -- even at minimal dose-levels per exposure.

Mounting mainstream evidence indicates that medical x-rays are 2 to 4 times more mutagenic than high-energy beta and gamma rays, per rad of exposure.

No Doubt about Benefits from Medical Radiation

Radiation was introduced into medicine almost immediately after discovery of the x-ray (by Wilhelm Roentgen) in 1895.

There is simply no doubt that the use of radiation in medicine has many benefits. The findings in this book provide no argument against medical radiation. The findings do provide a powerful argument for acquiring all the benefits of medical radiation with the use of much lower doses of radiation, in both diagnostic and interventional radiology.

(Interventional radiology refers primarily, but not exclusively, to the use of fluoroscopy to acquire information during surgery and during placement of catheters, needles, and other devices.).

Within the professions of radiology and radiologic physics, there are mainstream experts who have shown how the dosage of x-rays in current practice could be cut by 50%, or by considerably more, in diagnostic and interventional radiology -- without any loss of information and without eliminating a single procedure.

Role of Medical Radiation in Causing Cancer and IHD, Past and Present

This monograph has produced evidence with regard to two hypotheses.

Hypothesis-1:

Medical radiation is a highly important cause (probably the principal cause) of cancer mortality in the United States during the Twentieth Century. Medical radiation means, primarily but not exclusively, exposure by x-rays -- including fluoroscopy and CT scans. (Hypothesis-1 is about causation of cancer, so it is silent about radiation-therapy used after a Cancer has been diagnosed.).

Hypothesis-2:

Medical radiation, received even at very low and moderate doses, is an important cause of death from Ischemic Heart Disease (IHD); the probable mechanism is radiation-induced mutations in the coronary arteries, resulting in dysfunctional clones (mini-tumors) of smooth muscle cells. (The kinds of damage to the heart and its vessels, observed from very high-dose radiation and reported for decades, seldom resemble the lesions of IHD).

These Hypotheses in Terms of Multi-Cause Diseases

Cancer and Ischemic Heart Disease are well established as multi-cause diseases. In efforts to prevent these multi-cause diseases, reduction or removal of any necessary CO-actor is a central goal. The evidence in this book is that medical radiation has become a necessary CO-actor in a high fraction of the U.S. mortality rates from both diseases. Fortunately, dosage from medical radiation is demonstrably reducible without eliminating a single procedure.

The Database for Dose: Physicians per 100,000 Population

During the 1985-1990 period, the number of diagnostic medical x-ray examinations performed per year in the USA was approximately 200 million, excluding 100 million dental x-ray examinations and 6.8 million diagnostic nuclear medicine examinations.

The source of these estimates warns that 200 million could be an underestimate by up to sixty percent.

Not only is the number of annual examinations quite uncertain, but the average doses per examination -- in actual practice, not measured with a dummy during ideal practice -- - vary sometimes by many-fold from one facility to another, even for patients of the same size. The variation by facility has been established by a few on-site surveys of selected facilities, because measurement and recording of x-ray doses are not required for actual procedures.

Fluoroscopy is a major source of x-ray dosage, because the x-ray beam stays "on" during fluoroscopy. Such doses are rarely measured.

When fluoroscopic x-rays are used during common diagnostic examinations, the total dose delivered varies with the

operator. When fluoroscopic x-rays are used during surgery and other nondiagnostic procedures, the total dose delivered varies both with the operator and the particular circumstances.

Our monograph is essentially the first, large prospective study on induction of fatal Ischemic Heart Disease by medical radiation. The results are stunning in their strength. Such strong dose-response relationships do not occur by accident.

Our Unified Model of Atherogenesis and Acute IHD Events

Our view (shared by many others) is that the plasma lipoproteins have no physiologic function in the intimal layer of the coronary arteries, and that under normal circumstances, their rate of entry and exit from the intimal layer is in balance. We propose that what disrupts this lifelong egress of lipoproteins from the intima -- with the disruption occurring only at specific locations -- are mutations acquired from medical radiation and from other mutagens.

In our Unified Model, some mutations acquired by smooth muscle cells render such cells dysfunctional and give such cells a proliferative advantage -- so that they gradually replace competent smooth muscle cells at a localized patch of artery (a mini-tumor). And this patch of cells, unable to process lipoproteins correctly, becomes the site of chronic inflammation, resulting in construction of an atherosclerotic plaque -- whose fibrous cap is sometimes too fragile to contain the highly thrombogenic lipid-core within the plaque.

A Personal Word: The X-ray Deserves Its Honored Place in Health

The finding, that radiation from medical procedures is a major cause of both Cancer and Ischemic Heart Disease, does not argue against the use of x-rays, CT scans, fluoroscopy, and radioisotopes in diagnostic and interventional radiology. Such uses also make very positive contributions to health. We deeply respect those contributions, and the men and women who achieve them.

This author is most definitely not "anti-x-ray" or "radio-phobic." As a graduate student in physical chemistry, I worked very intimately with radiation, in the quest for the first three atomic-bombs. Subsequently, in medical school, I considered becoming a radiologist. In the late 1940s, I did nuclear medicine with patients having a variety of hematological disorders. In the 1960s, I did chemical elemental analysis of human blood by x-ray spectroscopy. In the early 1970s, our group at the Livermore National Laboratory induced genomic instability in human cells with gamma rays.

In short, I fully appreciate the benefits and insights (in medicine and other fields) which ionizing radiation makes possible.

But no one honors the x-ray by treating it casually or by failing to acknowledge that it is a uniquely potent mutagen. One honors the x-ray by taking it seriously.

While doses from diagnostic and interventional radiology are very low relative to doses used for cancer therapy, diagnostic and interventional x-ray doses today are far from negligible. The widely used CT scans, and the common diagnostic examinations which use fluoroscopy, and interventional fluoroscopy (e.g., during surgery), deliver some of the largest nontherapeutic doses of x-rays. In 1993, the United Nations Scientific Committee on the Effects of Atomic Radiation warned, appropriately, in its Annual Report:

"Although the doses from diagnostic x-ray examinations are generally relatively low, the magnitude of the practice makes for a significant radiological impact."

In the USA until about 1970, fetal irradiation occurred during ~ 1 pregnancy per 14.

Every Benefit of Medical Radiation: Same Procedures, Lower Dose-Levels

The fact that ionizing radiation is a uniquely potent mutagen, and the finding that radiation from medical procedures is a major cause of both Cancer and Ischemic Heart Disease, clearly indicate that it would be appropriate in medicine

to treat dosage of ionizing radiation at least as carefully as we treat dosage from potent medications. In the medical professions, we do not administer unmeasured doses of powerful pharmaceuticals, and we do not take a casual view of a 5-fold, 10-fold, even 20-fold elevation in dosage of such medications.

By contrast, in both the past and the present, unmeasured doses of x-rays are the rule -- not the exception. When sampling has been done, in which actual measurements are taken, dosage has been found to vary from one facility to another by many-fold, for the same procedure for patients of the same size.

The reason for large variation is obvious from the list of numerous proven ways to reduce dosage. Facilities which apply all the measures can readily achieve average doses more than 5-fold lower than facilities which apply very few measures.

Certain Spinal X-rays: A Dramatic Demonstration

The potential for dose-reduction may far exceed 5-fold for some common x-ray exams. This has already been demonstrated for the spinal x-rays employed to monitor progress in treating idiopathic adolescent scoliosis, a lateral curvature of the spine. An estimated 5% of American children, or more, have this disorder. In a most responsible way, Dr. Joel Gray and coworkers at the Mayo Clinic developed radiologic techniques for scoliosis monitoring which can reduce measured x-ray dose to various organs as follows:

Abdominal exposure: 8-fold reduction.

Thyroid exposure: 20-fold reduction (with a back to front radiograph), and 100-fold reduction (with a lateral radiograph).

Breasts: 69-fold reduction (with a back to front radiograph), and 55-fold reduction (with a lateral radiograph).

They report, "These reductions in exposure were obtained without significant loss in the quality of the radiographs and in most instances, with an improvement in the over-all quality of the radiograph due to the more uniform exposure.

Mammography: A Model of Success

The importance of dose-reduction for the mammographic examination has been recognized, and such doses have been reduced by about a factor of ten in recent years. "Where there is a will, there is a way." In certified mammography centers today, doses are routinely verified periodically, and measurements provide the feedback required, in order to achieve constant dose-reduction instead of upward creep.

The Benefits of Every Procedure -- with Far Less Dose

Dose-reduction can be a truly safe measure. It is clear that average per patient doses from diagnostic and interventional radiology could be reduced by a great deal without reducing the medical benefits of the procedures in any way.

Radiography: Quality-assurance (dose-reduction by an average factor of 2), beam-collimation (by a factor up to 3), rare-earth screens (by a factor of 2 to 4), rare-earth filtration (by a factor of 2 to 4), use of carbon-fibre materials (by a factor of 2), gonadal shielding (by a factor of 2 to 10 for the gonads).

Digital Radiography: Decrease in contrast resolution, when such resolution is not needed (dose-reduction by a factor of 2 to 3), use of a pulsed system (by a factor of 2).

Fluoroscopy: Changes in the operator's technique (dose-reduction by a factor of 2 to 10), variable aperture iris on TV camera (by a factor of 3), high and low dose-switching (by a factor of 1.5), acoustic signal related to dose-rate (by a factor of 1.3), use of a 105mm camera (by a factor of 4 to 5). Additional methods not specified in the list: Use of a circular beam-collimator when the image-receiver is circular, adoption of "freeze-frame" or "last-image-hold capability, and restraint in recording fluoroscopic images.

An Immense Opportunity: All Benefit, No Risk

The evidence in this monograph, on an age-adjusted basis, is that most fatal cases of Cancer and Ischemic Heart Disease would not happen as they do, in the absence of x-ray-induced mutations. We look forward to responses to our findings.

We have also presented findings, from outside sources, that average per patient radiation doses from diagnostic and interventional radiology could be reduced by a great deal, without reducing the medical benefits of the procedures in any way. The same procedures can be done at substantially lower dose-levels.

Does the Public Need a Denial, "For Its Own Good" ?

One type of response to this monograph may be that the findings need to be denied immediately (without examination), lest the public refuse to accept the benefits of x-ray procedures.

This type of response, insulting to the public, would not be consistent with reality. In reality, the public accepts a host of dangerous medications and procedures, in exchange for their demonstrable benefits -- - sometimes, for undemonstrated benefits. Very few people will forego the obvious benefits from diagnostic and interventional radiology, just because such procedures confer a risk of subsequent Cancer and IHD.

The only change will probably be that people will demand that the same degree of care, now exercised with respect to dosage of potent medications, be exercised with respect to dosage of radiation from each procedure. They will want to avoid a dose-level of, say, ten rads -- if the same information could be acquired with one rad. They do not deserve "one useful part of information, and nine unnecessary parts of extra risk of Cancer and IHD." Patients will want more measurements, and fewer assumptions, about the doses delivered. But they will not reject the procedures themselves.

The "Advocacy Issue" and the Hippocratic Oath

It is very often said that, if scientists advocate any action based on their findings, they undermine their scientific credibility. If such scientists stand to benefit financially from the actions they advocate, such suspicion occurs naturally. But even in such circumstances, if their work is presented in a way which anyone can replicate, it should be impossible for their advocacy to diminish the scientific credibility of their work.

Our findings are not encumbered either by financial interests or by any barriers to replication. The findings stand on their own, whether or not we advocate any action.

I have spent a lifetime studying the causes of Ischemic Heart Disease, and then Cancer, in order to help prevent such diseases. So it would be pure hypocrisy for me to feign a lack of interest in any preventive action which would be both safe and benign. And when sources, completely independent from me, set forth their findings that such action is readily feasible -- namely, significant dose-reduction in diagnostic and interventional radiology -- it would be worse than silly for me to pretend that I have no idea what action should occur.

After all, as a physician, I took the Hippocratic Oath: "First, do no harm." Silence would contribute to the harm of millions of people. Why Wait? What Is the Purpose?

Although it is commonly assumed that radiation doses are "negligible" from modern medical procedures, the assumption is definitely mistaken.

An estimated 35% to 50% of some higher-dose diagnostic procedures are currently received by patients below age 45 -- when the carcinogenic impact per dose-unit is probably stronger than it is after age 65 or so.

In diagnostic and interventional radiology, dose-reduction would be wholly safe, quite inexpensive, and guaranteed beneficial -- because induction of Cancer by ionizing radiation has been an established fact for decades.

A Mountain of Solid Evidence That Each Dose Matters

The fact, that x-ray doses are so seldom measured, reflects the false assumption that such doses do not matter. This monograph has presented a mountain of solid evidence that they do matter, enormously.

And each bit of additional dose matters, because any x-ray photon may be the one which sets in motion the high-speed high-energy electron which causes a carcinogenic or atherogenic mutation. Such mutations rarely disappear. The higher their accumulated number in a population, the higher will be the population's mortality-rates from radiation-induced Cancer and Ischemic Heart Disease.

The x-ray is a proven mutagen and a proven cause of Cancer, and the evidence in this book strongly indicates that it is also a very important cause of Cancer and a very important atherogen. From the existing evidence, it is clear that average per patient doses from diagnostic and interventional radiology could be reduced by a great deal without reducing the medical benefits of the procedures in any way.

A Prudent Position from Which No One Loses, Everyone Gains

Whether diseases are common or rare, a prime reason for studying their causation is prevention. Cancer and Ischemic Heart Disease, combined, accounted for 45% of all deaths in the USA during 1993.

If we in the medical professions take the position, that we should not press for reducing doses from medical radiation until every question has been perfectly answered, then we can never undo the harm inflicted during the waiting period, upon tens of millions of patients every year.

By contrast, if we take the prudent position that dose-reduction should become a high priority without delay (and if humans do not start exposing themselves to some other potent mutagen), the evidence in this monograph indicates that we will prevent much of the future mortality from Cancer and Ischemic Heart Disease, without causing any adverse effects on health. No one loses, everyone gains.

Radiation from Medical Procedures in the Pathogenesis of Cancer and Ischemic Heart Disease
http://www.ratical.org/radiation/CNR/RMP/chp1F.html

COMMENT:

Dr. Gofman's credentials are astounding. Not only does he have a Ph.D. in nuclear and physical chemistry, but he is also a medical doctor. While a graduate student at U.C. Berkeley, Gofman earned his Ph.D. (1943) in nuclear/physical chemistry, with his dissertation on the discovery of Pa-232, U-232, Pa-233, and U-233, the proof that U-233 is fissionable by slow and fast neutrons, and discovery of the 4n + 1 radioactive series. His faculty advisor was Glenn T. Seaborg (who became Chairman of the Atomic Energy Commission, 1961-1971).

Post-doctorally, Gofman continued research related to the first atomic bombs, particularly the chemistry of plutonium, at a time when the world's total supply was less than 0.25 milligram. He shares patents #2,671,251 and #2,912,302 on two processes for separating plutonium from the uranium and fission products of irradiated nuclear fuel.

After the plutonium work, Gofman completed medical school (1946) at UCSF. In 1947, following his internship in Internal Medicine, Gofman joined the faculty at U.C. Berkeley (Division of Medical Physics), where he began his research on lipoproteins and Coronary Heart Disease at the Donner Laboratory.

In 1954, Gofman received the Modern Medicine Award for outstanding contributions to heart disease research. In 1965, he received the Lyman Duff Lectureship Award of the American Heart Association, for his research in atherosclerosis and Coronary Heart Disease. In 1972, he shared the Stouffer Prize for outstanding contributions to research in arteriosclerosis. In 1974, the American College of Cardiology selected him as one of twenty-five leading researchers in cardiology of the past quarter-century.

Meanwhile, in the early 1960s, the Atomic Energy Commission (AEC) asked Gofman to establish a Biomedical Research Division at the AEC's Livermore National Laboratory, for the purpose of evaluating the health effects of all types of nuclear activities.

From 1963-1965, Gofman served as the division's first director and concurrently as an Associate Director of the full laboratory. Then he stepped down from the administrative activities in order to have more time for his own laboratory research on Cancer and chromosomes (the Boveri Hypothesis), on radiation-induced chromosomal mutations and genomic instability, and for his analytical work on the epidemiologic data from the Japanese atomic-bomb survivors and other irradiated human populations.

By 1969, Gofman and a Livermore colleague, Dr. Arthur R. Tamplin, had concluded that human exposure to ionizing radiation was much more serious than previously recognized.

Because of this finding, Gofman and Tamplin spoke out publicly against two AEC programs which they had previously accepted. One was Project Plowshare, a program to explode hundreds or thousands of underground nuclear bombs in the Rocky Mountains in order to liberate (radioactive) natural gas, and to use nuclear explosives also to excavate harbors and canals. The second was the plan to license about 1,000 commercial nuclear power plants (USA) as quickly as possible. In 1970, Gofman and Tamplin proposed a 5-year moratorium on that activity.

The AEC was not pleased. Seaborg recounts some of the heated conversations among the Commissioners in his book The Atomic Energy Commission under Nixon: Adjusting to Troubled Times (1993). By 1973, Livermore de-funded Gofman's laboratory research on chromosomes and Cancer. He returned to teaching full-time at U.C. Berkeley, until choosing an early and active "retirement" in order to concentrate fully on pro-bono research into human health-effects from radiation.

His 1981, 1985, 1990, 1994, and 1995/96 books present a series of findings. His 1990 book includes his proof, "by any reasonable standard of biomedical proof," that there is no threshold level (no harmless dose) of ionizing radiation with respect to radiation mutagenesis and carcinogenesis -- - a conclusion supported in 1995 by a government-funded radiation committee. His 1995/96 book provides evidence that medical radiation is a necessary cofactor in about 75% of the recent and current Breast Cancer incidence (USA), a conclusion doubted but not at all refuted by several peer-reviewers.

Doctors Are The Third Leading Cause of Death

in the U.S., Causing 250,000 Deaths Every Year

Barbara Starfield, "Is US Health Really the Best in the World?" *JAMA* 2000 284: 483-485.
Referenced in *Journal American Medical Association*, July 26, 2000

The above article published in the *Journal of the American Medical Association (JAMA)* documents the tragedy of the traditional American medical paradigm. This information is a followup of the Institute of Medicine report (12/99), but the data was hard to reference as it was not in peer-reviewed journal. Now it is published in JAMA, the most widely circulated medical periodical in the world. The author is Dr. Barbara Starfield of the Johns Hopkins School of Hygiene and Public Health. She describes how the U.S. health care system may contribute to poor health.

Doctors kill 680 people every day. Imagine 2 Jumbo Jets crashing every day in USA, killing 680 people. Yes, that many dies as a result of wrong treatment.

ALL THESE ARE DEATHS PER YEAR:

- 12,000 ----- unnecessary surgery [8]
- 7,000 ----- medication errors in hospitals [9]
- 20,000 ---- other errors in hospitals [10]
- 80,000 ---- infections in hospitals [10]
- 106,000 --- **non-error, negative effects of drugs** [2]

These total to **250,000 deaths per year from iatrogenic causes**!!

What does the word iatrogenic mean? This term is defined as "induced in a patient by a physician's activity, manner, or therapy". This term is especially used in referring to a complication of a treatment.

Dr. Starfield offers several warnings in interpreting these numbers. First, most of the data are derived from studies in hospitalized patients. Second, these estimates are for deaths only and do not include negative effects that are associated with disability or discomfort. Third, the estimates of death due to error are lower than those in the Institute of Medicine report.[1]

If the higher estimates are used, the deaths due to iatrogenic causes would range from 230,000 to 284,000. In any case, 225,000 deaths per year constitutes the third leading cause of death in the United States, after deaths from heart disease and cancer. Even if these figures are overestimated, there is a wide margin between these numbers of deaths and the next leading cause of death (cerebrovascular disease).

Another analysis concluded that between 4% and 18% of consecutive patients experience negative effects in outpatient settings, with:

- 116 million extra physician visits
- 77 million extra prescriptions
- 17 million emergency department visits
- 8 million hospitalizations
- 3 million long-term admissions
- 199,000 additional deaths
- $77 billion in extra costs

The high cost of the health care system is considered to be a deficit, but seems to be tolerated under the assumption that better health results from more expensive care.

However, evidence from a few studies indicates that as many as 20% to 30% of patients receive inappropriate care. An estimated 44,000 to 98,000 among them die each year as a result of medical errors.[2]

This might be tolerated if it resulted in better health, but does it? Of 13 countries in a recent comparison [3, 4] the United States ranks an average of 12th (second from the bottom) for 16 available health indicators. More specifically, the ranking of the US on several indicators was:

- 13th (last) for low-birth-weight percentages
- 13th for neonatal mortality and infant mortality overall [14]
- 11th for post-neonatal mortality
- 13th for years of potential life lost (excluding external causes)
- 11th for life expectancy at 1 year for females, 12th for males
- 10th for life expectancy at 15 years for females, 12th for males
- 10th for life expectancy at 40 years for females, 9th for males
- 7th for life expectancy at 65 years for females, 7th for males
- 3rd for life expectancy at 80 years for females, 3rd for males
- 10th for age-adjusted mortality

The poor performance of the US was recently confirmed by a World Health Organization study, which used different data and ranked the United States as 15th among 25 industrialized countries.

There is a perception that the American public behaves badly by smoking, drinking, and perpetrating violence. However, the data does not support this assertion:

- The proportion of females who smoke ranges from 14% in Japan to 41% in Denmark; in the United States, it is 24% (fifth best). For males, the range is from 26% in Sweden to 61% in Japan; it is 28% in the United States (third best).
- The U.S. ranks fifth best for alcoholic beverage consumption.
- The U.S. has relatively low consumption of animal fats (fifth lowest in men aged 55-64 years in 20 industrialized countries) and the third lowest mean cholesterol concentrations among men aged 50 to 70 years among 13 industrialized countries.

These estimates of death due to error are lower than those in a recent Institutes of Medicine report, and if the higher estimates are used, the deaths due to iatrogenic causes would range from 230,000 to 284,000.

Even at the lower estimate of 225,000 deaths per year, this constitutes the third leading cause of death in the US, following heart disease and cancer.

Lack of technology is certainly not a contributing factor to the U.S.'s low ranking.

- Among 29 countries, the United States is second only to Japan in the availability of magnetic resonance imaging units and computed tomography scanners per million population. [17]
- Japan, however, ranks highest on health, whereas the US ranks among the lowest.
- It is possible that the high use of technology in Japan is limited to diagnostic technology not matched by high rates of treatment, whereas in the US, high use of diagnostic technology may be linked to more treatment.

Supporting this possibility are data showing that the number of employees per bed (full-time equivalents) in the United States is highest among the countries ranked, whereas they are very low in Japan, far lower than can be accounted for by the common practice of having family members rather than hospital staff provide the amenities of hospital care.

COMMENT: This is a "landmark article" because these stunning, provable statistics were published in JAMA, the largest and one of the most respected medical journals in the world. However, it is curious that the best wire service in the world, Reuter's, did not pick up this article. (Must have been an oversight.)

These statistics prove very clearly that the traditional American medical system is just not working. Americans are desperately in need of a new health care paradigm.

This article makes it quite clear that doctors who practice under our traditional American medical model (i.e. use of drugs, surgery, etc.) create a **medical system that has become the third leading cause of death** in this country, killing nearly a quarter million people a year. The only more common causes are cancer and heart disease.

This statistic is likely to be **seriously underestimated** as much of the coding used for statistical analysis only describes the cause of organ failure and does not address iatrogenic causes at all.

Although advances in medical technology for diagnostic purposes have been spectacular in recent years, just because you diagnose something with it – does not mean that you have to commit to undergoing treatment in the traditional medical paradigm. Natural health care, not drug-oriented medical treatment, is the only real answer. Drugs, surgery and hospitals are rarely the answer to chronic health problems as this article starkly shows.

Facilitating the God-given healing capacity of the human body is the real key. Adopting an organic, whole foods, natural diet with supplemental quantum quality nutritional concentrates, regular exercise and lifestyle changes are the basic requirements. In addition, effective non-drug treatments for the underlying emotional wounding behind many chronic illnesses is also critical to maximizing health and reducing disease.

This article summary and commentary adapted from www.mercola.com
References: Taken from original JAMA article

Alzheimer's Disease (AD): *Key Recommendations*

Antioxidants Can Prevent AD But They Must Be Food-Source

Journal of the American Medical Association, June 26, 2002; 287:3223-3237, 3261-3263

Diets rich in vitamin C and E may delay the onset of memory-robbing Alzheimer's disease.

Free radicals that are released during normal cellular processes can be harmful to body tissues, leading to oxidative damage or stress. **Experts have linked oxidative damage to many illnesses, including cancer, heart disease and Alzheimer's disease.**

Since antioxidants -- including vitamins C and E -- can neutralize free radicals, some experts believe these nutrients may help delay the onset of Alzheimer's disease. Researchers found that those with the **highest intake of vitamin C and vitamin E from food appeared to be the least likely to develop Alzheimer's disease**. Smokers who consumed the most beta-carotene and flavonoids (two types of antioxidants) as found in foods, also appeared to cut their Alzheimer's risk.

Other researchers found that those with the highest dietary intake of vitamin E had the lowest risk of developing Alzheimer's disease. However, people who carried a gene known to increase Alzheimer's risk did not see any benefit from vitamin E consumption.

Neither of the studies showed any reduction in the risk of developing Alzheimer's among people who took dietary supplements such as daily vitamin pills that contained antioxidants. **The benefits only occurred when the antioxidants were consumed in the form of food.**

Comments Alzheimer's disease, the most common form of dementia which causes loss of brain function, is one of the most costly and devastating disorders among elderly people. The number of sufferers in the United States is expected to grow from 4 million to 14 million over the next 50 years. This is a staggering number. Typical medical approaches offer no real treatment for Alzheimer's disease.

This study was funded by a drug company to draw greater awareness to the problem of Alzheimer's disease and most likely to promote their own drug-based solution. However, medical drugs to not address the real multi-factorial cause of Alzheimer's, including nutritional deficiencies, toxicity from environmental and chemical exposure, heavy metals from dental work and chronic infection.

Key Recommendations (for those with Alzheimer's disease or to help prevent Alzheimer's):

- **Exercise** is a very potent way to help ward off Alzheimer's. Previous research has shown that the odds of developing Alzheimer's were nearly quadrupled in people who were less active during their leisure time between the ages of 20 and 60 compared with their peers. Exercise is recommended several times per week (for a total of at least 3 – 5 hours per week.)
- **Clear toxic dental metals**. Getting the silver fillings (which are really mercury amalgams) out of your teeth is another effective strategy. But beware, don't trade one poison for something worse. Many dental composites are considered to be more toxic than silver fillings, since they are petrochemically based. See our article, "**Making the Right Dental Choice**."
- **Download years of toxic accumulation by using Medi-Body Packs**. This unique therapy is the use of a simple 15-minute externally applied detoxifying "mud" formula. It contains a special moor concentrate (high in humic acid, fulvic acid, rare trace minerals, etc.) which is known for its gentle, but highly effective, deep-seated detoxifying effects. The skin is a highly absorptive organ; when applied to the skin, the moor-enhanced concentrate creates an osmotic exchange in which toxic chemicals are pulled out of the body while minerals and other nutrients are absorbed.

- **Avoid aluminum**. This means avoiding the use of aluminum cookware and utensils, aluminum antiperspirants, and most composite dental fillings (which contain aluminum compounds.)
- **Clear mercury**. Avoid and remove mercury from your diet. (Replace your silver fillings with bio-compatible restorations as well as avoiding the consumption of most commercial fish.)
- **Avoid flu vaccinations**. Vaccines contain toxic preservatives such as mercury. In addition, the the vaccine itself may cause severe stress to the immune system. Research shows that the concept of vaccines (i.e. the idea that they provide immunity against disease organisms) has never been adequately proven. Many elderly people have died after receiving flu vaccinations; many have experienced severe symptoms.
- **Stay active with your mind**. Find favorite activities and do them often, such as reading books, gardening, writing, social events with others, creative activities, etc. Avoid the "TV every night" routine. We recommend a maximum of 1 1/2 hours of TV per day or a total of 10 ½ hours per week. Become a TV connoisseur; carefully select programs you want to watch rather than just watching whatever happens to be on. Record TV programs in advance so you can watch them later and have a quality program to watch. If you are watching TV more than 10 – 12 hours per week, you may be living life through your television rather than living life for yourself.

Nutritional Recommendations: See our General Dietary Recommendations. In addition, include these other key recommendations:

Eat More Vegetables. Eat a diet high in fresh vegetables, both raw and cooked, focusing more on above ground vegetables (such as broccoli, zucchini, etc.) rather than below ground vegetables such as carrots, beets, etc. Eat 15-20 pounds of vegetables a week.

Work up to eating at least 50% of your diet as raw food daily. This includes fresh fruit, raw vegetables, delicious salads, soaked nuts and seeds, homemade raw kefir, fermented vegetables, sunflower seed cheese, etc. Eat "raw" for breakfast and lunch; have part of your evening meal as cooked food.

Key Baseline Nutritional Support

Use the Super Food Trio (3 key products which elegantly support all the classes of nutrition needed for optimal health.): **Q. Coral Complex, Q. Greens Mix** and **Q. EFA Oil Blend**.

Masterful Antioxidant Protection

A) **Q. OPC Complex**: contains grade 10 pine bark extract, rich in proanthocyanidins. Adults: take 3 Vcaps/day.
B) **Q. Adaptogen Comples**: contains grade 10 herbal adaptogens for superb adrenal and hormone support. Adults: take 3 Vcaps/day
C) **Q. Hyssop Complex**: grade 10 herbal formula featuring hyssop, a key herb to help clear toxicity, protect cells and boost immune function. Adults: take 3 Vcaps/day.
D) **Q. CoQ-10**: natural-source CoQ-10 to help protect cellular integrity and function. Adults: take 4 Vcaps/day (25 mg/cap)

Advanced Immune Support and Lymphatic Clearance

Choose from: **Q. Reishi Complex**, **InfectoStat**, **NeemaStat**, **Q. Propolis Complex**, **Q. Multi-Pollen Extract** and more.

Parkinson’s Disease

A Brief Overview: Causes and Effective Solutions

What is Parkinson’s Disease (PD)? PD is a slowly progressive, neurodegenerative disease caused when brain cells that produce dopamine, an important neurotransmitter (message-carrying chemical) which helps control body movement, are destroyed in the part of the brain known as the substantia nigra.

Symptoms: Symptoms generally include tremors in arms and legs, rigid muscles, slowness of movements and impaired balance. PD currently affects more than 500,000 Americans.

Solvents Increase Risk of Parkinson's

Brief summary of medical research article published in Neurology, September 2000;55:667-673.

Exposure to common petroleum-based hydrocarbon solvents, such as paints and glues, may result in the **development of early-onset Parkinson's disease** (PD) symptoms as well as a more severe disease course, say Italian researchers.

"Exposure to hydrocarbon-containing solvents was detected in nearly 20% of all patients with PD in our center," according to lead author, Dr. G. Pezzoli of the Istituti Clinici di Perfezionamento in Milan, and colleagues. "The percentage increased to 30% in men, a finding to be expected in our industrial area where men predominate among the laborers with occupations at risk."

Researchers found that those exposed to hydrocarbon solvents were an average of 3 years younger at first sign of disease symptoms and that the severity of disease symptoms was directly related to the amount of hydrocarbon exposure that was experienced.

Researchers identified **9 occupations** within the study group that accounted for more than **91% of the hydrocarbon solvent exposure**. The most common occupations of those exposed were petroleum, plastic and rubber workers. Other occupations found to have frequent hydrocarbon exposure were painters, engine mechanics and lithographers.

"These findings raise serious questions about specific occupational risk," said study author Gianni Pezzoli, MD, of the Parkinson Institute in Milan, Italy. "This study more than merits further investigation into **job-related Parkinson's risk factors**."

Pesticides May Increase Parkinson's Risk

Brief summary of medical research presented at the Annual Meeting American Academy of Neurology in San Diego May 9, 2000

People exposed to pesticide (bug) sprays in the home may have a higher risk of Parkinson's disease, an incurable neurological disorder. The study is the first to show that **exposure to pesticides in the home may lead to Parkinson's**, although other studies have suggested that **exposure to the chemicals at work is a risk.**

The researchers studied 500 people newly diagnosed with the disease, which is characterized by tremors and problems with walking and keeping balance. People who had been **exposed to pesticides** were **twice as likely to develop Parkinson's disease** as people not exposed to pesticides. “This study is the largest yet of newly diagnosed individuals with Parkinson's disease. It is the first study to show a **significant association between home pesticide use and the risk of developing Parkinson's disease**," Nelson said in a statement.

Parkinson's patients were more than two times as likely to have been exposed to insecticides in the home. People exposed to herbicides also had a higher risk.

Co-Q10 Treats Animal Models of Parkinson’s, ALS, HD

Coenzyme Q10 as a possible treatment for neurodegenerative diseases.

MF Beal fbeal@mail.med.cornell.edu Department of Neurology and Neuroscience, Weill Medical College of Cornell University, New York Presbyterian Hospital, NY 10021

Coenzyme Q10 (CoQ10) is an essential cofactor of the electron transport gene as well as an important antioxidant, which is particularly effective within mitochondria. A number of prior studies have shown that CoQ10 can exert efficacy in treating patients with known mitochondrial disorders.

There researchers investigated the potential **usefulness of coenzyme CoQ10 in animal models of Parkinson's disease** (PD), amyotrophic lateral sclerosis (ALS) and Huntington's disease (HD). CoQ10 has been demonstrated that it **can protect against striatal lesions** produced by the mitochondrial toxins malonate and 3-nitropropionic acid. These toxins have been utilized to model the striatal pathology, which occurs in HD. CoQ10 also protects against 1-methyl-1,2,3,6-tetrahydropyridine (MPTP) toxicity in mice. CoQ10 significantly extended survival in a transgenic mouse model of ALS.

CoQ10 can significantly extend survival, delay motor deficits and delay weight loss and attenuate the development of striatal atrophy in a transgenic mouse model of HD. In this mouse model, it showed additive efficacy when combined with the N-methyl-D-aspartate (NMDA) receptor antagonist, remacemide. CoQ10 is presently being studied as a potential treatment for early PD as well as in combination with remacemide as a potential treatment for HD.

********** Stabilized DHLA **********

An Effective Brain and Nerve Supporting Antioxidant

DHLA (dihydrolipoic acid) is a natural antioxidant which occurs in the body in small amounts. DHLA is the only compound known in history which can quench every known free radical that is generated within the human body. Parkinson's disease is believed to be caused, in large part, by damage from free radical damage. DHLA plays a major role in stopping and preventing free radical damage. DHLA can also increase ATP production inside the body's cells to enhance energy production and repair of damaged cells, including brain and nerve tissue. DHLA helps regenerate the body's tissue levels of CoQ10, glutathione, NADH and NADHP, which affords the most broad spectrum of neurological protection of any natural compound yet discovered.

Stabilized DHLA: Highly Effective Nutritional Protection. For the first time in clinical history, a stabilized form of DHLA is now available in clinically significant amounts for use as a highly effective nutritional supplement. Because of the many protective and healing benefits of this amazing compound, stabilized DHLA (1/2 teaspoon daily) is recommended as an essential part of the daily regimen of anyone who is experiencing neurodegenerative disease, including Parkinson's disease.

OUR COMMENT: These research articles clearly reveal yet one more reason to limit your exposure to chemicals, especially pesticides, glues and paints, as much as possible. On contact with skin or through inhalation, these chemicals enter your body, are absorbed and then stored. Many chemicals act like toxins that poison the body and are difficult for the body to eliminate.

If your body has become toxic (from low-grade exposure over time to many chemicals ever-present in the environment), then you may already be health-compromised with a decreased ability to remove these chemicals from your body. Chemical toxins are frequently stored in your fat and brain – which can compromise the body's normal functioning and detoxification mechanisms, often leading to chronic brain and nerve problems such as Parkinson's disease. Fortunately, there is now available many natural, nontoxic compounds, such as **stabilized DHLA**, that can protect and help regenerate nerve function with highly successful outcomes. (See Nutritional Status section below.)

Avoid chemical exposure.
The first step is to avoid exposure as much as possible to chemical pollutants, such as pesticides, glues, paints, solvents, liquid cleansers, cigarette smoke (which contains over 3,000 known chemicals), synthetic perfumes, spray deodorants with aluminum, foods with toxic chemicals such as aspartame, "natural flavors", MSG, sodium benzoate, etc.

In addition, do not consider painting your home or office as a harmless event. It is best to use low volatile or no VOCs paints and plan to paint during the warmer months when you can ventilate the rooms by keeping the windows open. Afterwards, use an ionizer for 24 hours to thoroughly dissipate the vapors.

Avoid all pesticide use.
Avoid all use of pesticides for the garden, lawn, etc.(whether you apply them yourself or not). Do not allow pesticide agents to be sprayed inside your house. Even if someone else applies the pesticides, you still end up breathing the vapors (including through air currents outside) or coming in contact with them by touching furniture inside your house or grass outside or anything else that has become contaminated with pesticide residues. Pesticide residues are very resistant to breaking down and degrading. Children with their developing nervous systems are particularly vulnerable to nerve damage from pesticide exposure. In addition, switch to eating a healthy diet with high amounts of organic, pesticide-free, natural whole foods.

Maximize Your Nutritional Status

Super Food Concentrates. Next, immediately begin building your nutritional status with high quality, therapeutic-grade nutrients, including **Super Food Concentrates** which have an abundance of naturally occurring vitamins, minerals and antioxidants.

Immune-Boosting and Anti-Infective Agents. Boost your health by consuming a broad variety of well researched health and immune-supporting and nerve-supporting nutrients such as **Stabilized DHLA**, **CoQ-10, NADH, colostrum** and **greens mixes** (nonhybrid grasses and vegetable extracts). When your body is fortified with an abundance of nutrients, it is much easier for the body to detoxify and heal itself – something simply not possible with poor or inferior nutrition.

In addition, key anti-infective agents are essential, since much of the neurodegeneration as seen in Parkinson's disease is linked to increased levels of toxicity first with a subsequent weakening of the person's vital immune forces, and then the nearly inevitable onslaught of infection (commonly missed on medical diagnosis). Key, highly effective, natural anti-infective agents are **olive leaf extract, Holarrhena antidysenterica, wild yew extract, coriolus (fermented mycelial extract), soma latha, hyssop, cat's claw, pau d'arco** and more. Unlike antibiotics, these natural agents can effectively eliminate infection from various pathways in the body without disruption of the intestinal ecology or creating further immune system stress and weakening.

Detoxify your body.
It is critical to use both internal and external nutritional detoxification agents to clear stagnant, toxic pathways so the body's immune system can begin to heal itself once again. Internally, we recommend you begin a cleansing program which includes therapeutic quality, botanical **intestinal cleansers, liver and gallbladder cleansers** and **kidney cleansers**.

For external detoxification, we recommend the use of **moor magna detoxification packs** (powerful toxin-chelating agents applied to the body externally which are later rinsed off) and **castor oil packs** (also applied externally). These highly effective (safe and nontoxic) agents have been used for centuries in many cultures with outstanding success for chemical detoxification – thus, promoting a rapid return to health. They are easy to use, safe, inexpensive, and can be applied in the comfort of your own home. Often, a two-month regimen consisting of 2 detoxification sessions per week can result in clinically profound results. It is well known that as the body becomes more detoxified, it can operate at a higher level of metabolic efficiency and healing.

In Parkinson's Disease, we often find the back of the neck and the back of the head areas have become "stuck" (i.e. a blocked energetic flow exists due to toxic buildup in the connective tissue and lymphatic system) – and thus, the body's biological nerve flow and immune system surveillance has become impeded in those areas because they cannot adequately enter and detoxify these toxic, weakened areas.

We have found that the simple yet elegant external detoxification techniques (mentioned above) can be a great, life-saving help in re-establishing adequate nerve flow and immune system function to those areas so that once again, the body can be strengthened and repair the damage in those areas. Please request free information on these recommended detoxification techniques (which can be done safely and easily at home).

The Mini-Liver Flush

In Parkinson's Disease, we also routinely find liver and gallbladder toxicity. It is important to begin liver/gallbladder cleansing methods as soon as possible. We recommend beginning with a gentle, but effective **Mini-Liver Flush** procedure, a simple, good-tasting detox cocktail taken once per week for several weeks to help gently purify the liver and gallbladder tracts. Once the liver becomes detoxified and is stronger, the body's ability to detoxify and heal itself becomes much stronger.

Brain and nerve healing agents.

There are now available proven brain and nerve growth and regeneration agents, such as the potent medicinal mushroom mycelial extract, **hericium erinaceus**, and many others. Other important nerve growth and rejuvenation nutritional agents are: **phosphatidylcholine, phosphatidylserine, phosphatidylethaolamine, carnosine, fermented mycelial extract of maitake** and more.

Be sure to include these outstanding nutritional nerve support agents in your daily nutritional routine. Start the road back to your own excellent health *today*.

Get started today

Begin to road back to great health by detoxifying your body, boosting your immune system and to maximizing your nutrient levels for the body's most rapid healing progress. Please feel free to request information on the above detoxification procedures and nutritional healing agents.

We have found that the human body is indeed a self-healing, self-regenerating machine – but only if you give it the nutrients it needs in order for this to occur. Don't delay – get started *today*.

So don't delay – start today.

Get started on the road to natural healing and great health.

Enjoy life at its very best!

Major Problems with the Vaccine Procedure

By Bronwyn Hancock of Vaccination Information Service

We have all been repeatedly told that vaccination is both safe and protective of children against dangerous diseases. Many parents upon learning of adverse effects realize that their trust has been betrayed--that vaccines are not safe at all. However, it is common for them to continue to trust that vaccines are effective and that the diseases they purportedly prevent are dangerous. This creates a terrible dilemma for these parents, who end up feeling that either way they are taking a risk.

However, with more investigation increasing numbers of parents are discovering that nature is not so cruel as to force such a difficult dilemma on them. The full reality is that not only do childhood illnesses (provided they are properly managed) have a priming and maturing role in immune system development rather than being dangerous to unvaccinated children[1], but also vaccines have never prevented any diseases. Other factors have clearly been responsible for the declines that have occurred, and the very toxic and invasive nature of vaccines that causes the observed adverse effects also makes them counterproductive for their very purpose of protecting against diseases.

Rather than discussing the statistical evidence, false assumptions and misinterpretations relating to the myth of vaccination effectiveness, which are covered by various books and websites, what is far less widely known, and what I will cover here, is the actual effect that vaccines have on the immune system, which causes them to be counterproductive.

I must give credit for my awareness of this to Dr. Viera Scheibner, who is arguably unsurpassed in her width of knowledge and depth of understanding of the vaccination issue, having studied over 100,000 pages of medical research on the subject. Having worked closely with her over a number of years, I have read much of the most revealing research that she has uncovered.

There are two main causes of the problem: the toxic nature of the ingredients in vaccines and the invasive form of delivery.

Ingredients, the Injection Process and the Result

At the bottom of this article is a brochure that summarizes the subject and starts with a list of the ingredients in vaccines. In respect to these, first there are those that are poisonous by their very nature regardless of how they are administered such as formaldehyde, mercury, aluminum compounds, phenol, acetone and antifreeze. It is well established that such poisons, even on their own, are immune system SENSITIZERS. This means they make the immune system more sensitive, or less able to cope appropriately with foreign substances that it encounters.

Then there are other ingredients such as animal organ tissue and blood that our bodies would not have a problem with IF they entered the body orally because our digestive system breaks down foreign proteins, unusable in that form, into their constituent amino acids, which are then absorbable and useable by the body.

However, our immune systems have not been designed to deal with foreign proteins being injected. In fact the injection of any foreign substance is well known to suppress the immune system[2], and vaccination is no exception.

Effects

The immune system becomes derailed and confused, and often even when these proteins subsequently are encountered by a natural portal of entry (e.g. through the digestive system or lungs), the immune system reacts. This of course is what is known as an allergic response. One manifestation of this, asthma, kills over 10,000 people annually in the United States.

Other effects include more serious “atypical” forms of the targeted diseases[3] and a reversed ratio of T4 and T8 cells[4] that characterizes a host of modern immunodeficiencies including autoimmune diseases, cancer (now in the young), chronic fatigue syndrome and AIDS. All of these conditions were unknown before the vaccination era. (See accompanying brochure for a more complete list of vaccination effects.)

Bypassing Vital Defenses

Another problem with the injection process in respect to any viruses and bacteria that are being administered is that very important outer levels of defense are bypassed, giving them deep access into the body to cause damage. Hence, for example, the now, well known finding of the vaccine strain of the measles virus in the gut of a significant proportion of autistic children.

It has also been found that animal, bacterial and viral DNA, when injected, can be incorporated into the recipient's DNA[5]. No wonder vaccination has been linked to cancer, particularly considering vaccine ingredients even include animal cancer cells (used for the culturing of viruses because they continue to multiply).

Some Babies Just Cannot Cope

Some babies lose the battle against the invasive toxic assault of vaccination in hours, days or weeks. If the parents are "lucky" it is diagnosed as cot death, or if an organ fails it is classified simply as failure of that organ (e.g. kidney failure). However, if injuries such as subdural hematomas or retinal hemorrhages are found, the parents (or other care-giver) find themselves falsely accused of murder in the form of "shaken baby" syndrome.

Vaccine-Induced Antibodies Do NOT Indicate Immunity

What causes confusion to many medical doctors is that part of the sensitization reaction to vaccination is the production of antibodies. This is falsely equated with the opposite, intended effect, which is to bring immunity. The aluminum compounds are even included for this very purpose (as "adjuvants") to artificially force the production of a significant number of virus-specific IgG antibodies, because the immune system does not naturally produce them (in significant levels) on demand by injections[6].

However, the IgG antibodies thus produced only show that there has been exposure to that virus. Their presence does not mean immunity. The secretory IgA antibody, which does NOT get produced by injections because injections bypass the outer level processes of the immune system, has been found to be a far better measure of immunity[7].

This is why contracting tetanus, the well known way being by a deep puncture wound, which is just like an injection, does not bring immunity. The result is even said to be "sensitization" to tetanus in the future. Immunity can develop, however, if the bacteria enter via the natural portals of entry, often without the person even being ill with it. When it comes in through the natural portals of entry it is also in its aerobic form, which does not produce the neurotoxins that cause the characteristic tetanus symptoms such as locked jaw and tetanic spasms.

Variations in Effects Occur, but No One Benefits

The fact that some children do not have noticeable adverse effects to vaccination does not mean that for them the procedure is beneficial, it is just that we have great variations in:

1) level, type and time of manifestation of susceptibility between individuals, and

2) levels of toxins between vaccine batches--there is a lack of control of toxicity levels

The effects are also accumulative, so a child that reacts very little, if at all, after one dose could be badly affected, even killed, by a subsequent dose.

Summary

Vaccination does nothing clever. With all of its good intent, it just ends up being an injection of a large variety of different kinds of poisons deep into the body. The effect is an increase, not decrease, in susceptibility to the very disease it is trying to prevent; a host of immune system problems and damage to any organ. Even its purpose is unwanted interference -- an attempt to prevent diseases that have an important role in immune system development.

For more information on vaccination, visit the Vaccination Information Service Web site and get a copy of their Vaccine Information Service General Brochure (PDF)

References:

[1] Ronne 1985 Lancet:1-5; West 1966 Cancer:1001-1007; Wrensch et al. 2001 Am J Epidemiology;154:161-165; Alm et al. Lancet 353: 1485-1488; Johnston and Openshaw BMJ 2001 322:377-378
[2] Mosby's Medical, Nursing and Allied Health Dictionary - see "anaphylaxis" (=sensitization)
[3] Ibid – see "atypical measles"
[4] Eibl 1984 NEJM: 198-199; Rook and Zumla 1997 Lancet:1831-1833
[5] Stroun, M; Anker, P.(Department of Plant Physiology,University of Geneva) World Medicine, September 22, 1971 and (same authors) International Review of Cytology, 1977, Volume 51.
[6] Dirty Secrets, New Scientist, 2 Nov 1996, pp 26-29
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Drug-Induced Nutrient Depletions

Prescription Drug Category	Nutrients Depleted
Female hormones	
Estrogen replacement therapy	Vitamin B6, magnesium
Oral contraceptives	Vitamins B1, B2, B3, B6, B12, C, folic acid, magnesium, selenium, zinc, tyrosine
Blood pressure regulators	
Hydralazine	Vitamin B6, Coenzyme Q10,
Loop diuretics	Calcium, magnesium, potassium, sodium, zinc, vitamins B1, B6, vitamin C
Thiazide diuretics	Magnesium, phosphorus, potassium, sodium, zinc, Coenzyme Q10
Potassium-sparing diuretics	Folic acid, calcium, zinc
Blood pressure regulators	Zinc
Cholesterol-lowering drugs	
Hydromymethylglutaryl	Coenzyme Q10, coenzyme A reductase inhibitors (statins)
Bile acid sequestrants	Vitamins A, D, E, K, B12, beta-carotene, folic acid, calcium, iron, magnesium
Gemfibrozil	phosphorus, zinc, fat ("fibrates" deplete vitamin E, Vitamin B12, copper, zinc) Coenzyme Q10, vitamin E
Anticonvulsants	
Phenobarbital and barbiturates	Vitamin D and K, biotin, folic acid, calcium
Phenytoin	Vitamin D, Vitamin K, folic acid, vitamins B1 and B12, biotin, calcium
Carbamazepine	Vitamin D, folic acid, biotin
Primidone	Biotin, folic acid, vitamins D and K
Valproic acid	Folic acid, carnitine
Anti-inflammatory drugs	
Corticosteroids	Vitamins A, C, D, B12, folic acid, calcium, chromium, magnesium, potassium selenium, zinc
Gout medications	Beta-carotene, vitamin B12, calcium, sodium, potassium, phosphorus
Sulfasalazine	Folic acid
Indomethacin	Folic acid, iron
Other nonsteroidal anti-inflammatory drugs	Folic acid
Antibiotics	
Antibiotics (General)	Acidophilus and Bifidus, all B vitamins, vitamin K
Tetracycline antibiotics	Calcium, magnesium, iron
Tuberculosis drugs	Vitamin B3, vitamin B6, vitamin D
Neomycin	Beta-carotene, calcium, magnesium, iron, potassium, vitamin A, vitamin B12
Trimethoprim	Biotin, folic acid, inositol, B vitamins, vitamin K

Anti-diabetic drugs	
Sulfonylureas	Coenzyme Q10, vitamin E
Biguanides	Coenzyme Q10, vitamin B12, folic acid
Ulcer medications	
H2-receptor antagonists	Vitamin B12, folic acid, vitamin D, calcium, iron, zinc (protein)*
Proton pump inhibitors	Vitamin B12 (protein)*
Other categories and/or commonly prescribed drugs	
Digoxin	Calcium, magnesium, phosphorus
Beta blockers	Coenzyme Q10, melatonin
Tricyclic antidepressants	Coenzyme Q10, vitamin B2
Phenothiazines	Coenzyme Q10, vitamin B2, melatonin
Potassium chloride supplementation	Vitamin B12
Chemotherapeutic drugs	Most nutrients
Theophylline	Vitamin B6
Anticoagulants	Vitamin K
Reverse transcriptase inhibitors	Copper, zinc, vitamin B12, carnitine
Over-the-counter drugs	
Aspirin	Vitamin C, folic acid, iron, potassium
NSAIDs	Folic acid
Laxatives-mineral oil	Vitamins A, D, E, K, beta carotene
Laxatives-bisacodyl	Potassium
Magnesium and aluminum antacids	Calcium, phosphate, folic acid, (protein)*
Sodium bicarbonate	Folic acid, magnesium, potassium, (protein)*
Ulcer medications	Vitamin B12, folic acid, vitamin D, zinc

*Problems with the digestion of proteins with use of these drugs have not been documented by scientific studies. However, it is well known that stomach acid is required for proper protein digestion. Therefore, drugs that either neutralize stomach acid or suppress the production of stomach acid are likely to have a negative effect on protein digestion. The passing of undigested protein from the stomach into the small intestine may also cause health problems in its own right.

-- From *Drug Nutrient Depletions*, Ross Pelton, R.Ph., Ph.D. and James B. LaValle, R.Ph.

Calcium Channel Blockers

How These Blood Pressure Drugs Cause Early Death and Promote Cancer

Dangerous Drugs

Among the top 10 drugs prescribed in the U.S. are blood pressure drugs called calcium channel blockers. Calcium channel blockers are prescribed for hypertension (high blood pressure), heart arrhythmias (irregular heart beats), and angina (chest pain.)

Unfortunately, research shows that these drugs make one far more susceptible to dying of a heart attack (resulting in early death) as well as potentiating cancer. These expensive drugs allow the sick to get sicker as well as leading the way to cancer.

What are calcium channels?

Each body cell has an outer membrane with a sandwich of fats called lipids. The layers in the sandwich contain a wonderful host of protective nutrients, including EPA (eico-sapentaenoic acid), phosphatidyl choline, vitamin E and others. The cell's membrane is studded with pores called "calcium channels," which pump calcium ions into the cell from outside the cell.

In normal daily operation, calcium ions pass back and forth through the calcium channels in the cell's membrane, repeatedly, many thousands of times per day. Inside the cell, calcium is needed in the mitochondria (where energy is made) and in the endoplasmic reticulum (where drugs, toxins, hormones, etc. are detoxified). Outside the cell, calcium is used in hundreds of bodily reactions.

Calcium can passively flow out of the cell, but for calcium to re-enter, the cell requires the use of the calcium channel pump. Pumping calcium through the calcium channel requires: a) energy and b) depends upon the cell's membrane sandwich to have the exact types of layers in the membrane. The channel partly runs on an electric current that is generated by the polarized side arms that protrude from the cell's sandwich. If the right layers are not in the sandwich, the electric current cannot flow properly to open the calcium channel. Hence, the calcium pump will not work correctly. In effect, it is broken.

Normally, the synchronized contraction of the heart muscle is brought about by the flow of ions through these channels. Many nutrients that feed and nourish the cell also flow through these channels. When a cell is damaged from toxins or junk foods (such as hydrogenated oils) or lacks critical nutrients, such as phosphatidyl choline, the calcium pump will not work well. Massive amounts of calcium leak back into the cell and cannot be pumped out again. With its interior flooded with calcium and no way to get it out, the cell malfunctions at first, then later dies.

How do calcium channel blocker drugs work?

Calcium channel blocker drugs are designed to block the channel where the calcium is leaking into the cell. These drugs slowly close off these crucial regulatory channels, but over time, the calcium channel essentially stops functioning at all. At first, symptoms of high blood pressure or chest pain may improve, but later on, these drugs so badly poison the channels that they are known to cause many terrible symptoms, including heart failure, risk of cancer and early death.

Blocking the flow of calcium is dangerous since calcium is essential for normal cell life and operation – as well as for the whole body. Without sufficient calcium, you cannot live.

60% Increased Risk of Heart Attack

The Wall Street Journal (winter, l996) reported that patients who took calcium channel blockers had 60% more chance of dying of a heart attack. This is because calcium channel blocker drugs take a system that is functioning poorly and damage it even more.

Many previous studies have associated calcium channel blockers with increased heart attacks, increased risk of breast cancer, increased suicide risk, and increased gastrointestinal bleeding. Short-acting versions of these drugs have been previously shown to be dangerous and now long-acting versions are being shown to be possibly dangerous as well.

In August, 2000, a report from the "Meeting of the European Society of Cardiology in Amsterdam (Netherlands)" showed that despite lowering blood pressure, calcium channel blockers did not reduce the death rate. The real goal of a therapy should not be only to reduce blood pressure or to control any other bodily parameter. The real goal should be to help achieve a longer, healthier, happier life.

You may wonder how long it takes for a person on calcium channel blockers to experience a catastrophy, such as a heart attack, stroke, cancer, etc. It depends on the person's physical strengths (such as their total nutrient reserves) and their weaknesses (such as their total load of toxic stressors). The poorer the person's nutrition, and the greater their toxic load, the more likely they will develop further problems.

How do calcium channel blockers lead to cancer?

Closely related to calcium channels are structures called gap junctions. Although these act somewhat like channels, they are actually little protein tubules that connect cells one to another. Normal cells have fully functioning gap junctions. Through these gap junctions, cells are able to communicate with each other and give each other constant feedback to be able to keep the body working in harmony. No cell should work alone, cut off from the others.

To initiate cancer, several steps are involved. First, calcium channel blocker drugs work by intentionally poisoning the calcium channels. This in turn, leads to a break down in the closely allied gap junctional proteins. As the gap proteins are damaged more and more, cell-to-cell communication begins to falter. In cancer, the cancer cells have lost their gap junctional proteins. Signals that should run from cell to cell are absent, so cells do not know when to stop growing. With cell-to-cell communication lost, cancer cells can grow wildly out of control.

Many toxic compounds can poison cells and cause them to lose their cell-to-cell communication link. In addition to calcium channel blocker drugs, pesticides and environmental toxins can damage gap junctions. To reverse the process, many nutrients can help repair and regenerate the gap junctions. (See "Key Nutrients.")

What should you do?

Taking calcium channel blocker drugs for high blood pressure ignores the real problem: the need to improve the nutrient supply to repair the cell's membrane. Key nutrients are needed to re-establish normal cellular functioning. First, you must identify the nutrient deficiencies that have created the problem in the first place, then use high quality nutrients to repair and rebuild the cells. By using targeted nutrients along with an improved diet, we have repeatedly seen many cases of high blood pressure resolve, eliminating the need to use drugs.

If you are taking a calcium channel blocker for high blood pressure, we urge you to discuss with your doctor switching to a less dangerous blood pressure drug. If your doctor does not want to switch medications, you

may want to seek a second opinion. Since the use of calcium channel drugs is potentially dangerous and even life-threatening, the time for you to act is now. However, do not try to discontinue these drugs on your own. You need to be under the supervision of a medical doctor.

For a list of safer blood pressure drugs to use, please see the consumer-friendly book, Best Pills, Worst Pills (ed. Sidney M. Wolfe, M.D.), in which a panel of over 50 medical doctors evaulate various blood pressure drugs and recommend the ones with the safest track record. In the meantime, begin using top quality nutrients to begin to rebuild faulty cell membranes and re-establish normal cell function so your body can regulate its own blood pressure just as it was designed.

The Heart and Blood Pressure Support Program

I. Key Nutrients

To help the body heal itself, rebuild faulty cell membranes and restore normal blood pressure, the following key nutrients are highly recommended for daily use:

1) **Coral mineral powder** (which contains unique, highly ionized calcium and magnesium as well as many trace minerals) to alkalinize the cell's pH to help establish normal blood pressure and artery function (The coral ratio should be 25% calcium to 13% magnesium.)

2) **USP grade Norwegian cod liver oil**, mercury-free (which naturally contains EPA and DHA) to help rebuild and strenthen cell membranes

3) **All 4 phosphatidyl complexes** from non-GMO soy (including phosphatidyl choline, serine, inositol and ethanolamine) which help to rapidly rebuild and strengthen cell membranes

4) **Anti-infective herbs**, such as grade 10 Italian olive leaf extract, a key herb proven to help normalize elevated blood pressure

5) **Key heart-regulating herbs**, which help target anti-infective herbs such as olive leaf extract to the heart

6) **Organic colostrum**, a key compound which contains many immune-boosting factors as well as a vast array of healthy cell nutrients for tissue regeneration and healing

II. Optimize Your Diet

Adopt a high fiber, unprocessed, plant-based diet, rich in fresh fruits, vegetables and whole grains. Eat at least one raw meal daily (such as a large salad with organic greens and vegetables). Avoid eating commerically produced foods from supermarkets or restaurants.

Instead, enjoy making homemade meals with fresh, organic foods. Avoid contaminated foods such as commercial red meat, commercial dairy products and foods with "junk" oils such as fried or hydrogenated oils. For the optimal diet system, see the Rejuvene/ Diet Plan.

III. Exercise

Regular exercise is important, especially a daily 20-minute walk (minimum time to promote lymph drainage) in fresh air and sunshine. If walking is not possible, begin with gentle stretching exercises and deep breathing exercises until you are able to do more.

Calcium Channel Blockers
Common Consumer Brand Names
(with the generic name in parentheses)

Adalat (nifedipine)
Calan (verapamil)
Cardene (nicardipine)
Cardizem (diltiazem)
Dilacor (diltiazem)
Dynacirc (isradipine)
Isoptim (verapamil)
Nimotop (nimodipine)
Novasc (amlodipine besylate)
Plendil (felodipine)
Procardia (nifidipene)
Vascor (bepridil)
Verelan (verapamil)

Calcium Channel Blockers
Potential Side Effects

Abdominal pain
Altered sense of smell or taste
Anxiety
Back Pain
Chest pain
Cold, clammy skin
Constipation
Coughing
Depression
Diarrhea
Difficult or labored breathing
Difficulty swallowing
Dizziness
Dry mouth
Dry skin
Eye pain
Fainting
Fatigue
Fluid retention and swelling
Flushing
Gas
General feeling of illness
Hair loss
Headache
Heart failure
Hot flashes
Inability to sleep
Increased sweating
Indigestion
Irregular heartbeat
Joint pain
Lack of coordination
Loss of appetite
Loss of memory
Muscles cramps
Muscle weakness
Nasal inflammation
Nausea
Nervousness
Nosebleed
Painful urination
Palpitations
Sexual problems
Skin discoloration
Sleepiness
Tingling or "pins and needles"
Tremor
Twitching
Urinating at night
Urinating problems
Vision problems
Vomiting
Weakness
Weight gain

. . . and many more symptom

***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.**

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Synthroid: Many Problems

"The history of potency failures...indicates that Synthroid has not been reliably potent and stable."-- United States Food and Drug Administration Letter to Synthroid Manufacturer, Knoll Pharmaceuticals, April 26, 2001

"Although you claim that Synthroid has been carefully manufactured, the violations of current good manufacturing practices discussed above indicate that Knoll has not always manufactured Synthroid in accordance with current standards for pharmaceutical manufacturing." -- United States Food and Drug Administration Letter to Synthroid Manufacturer, Knoll Pharmaceuticals, April 26, 2001
A 1994 review of the testing facility found additional problems with testing of product, and another recall in 1998 took place of subpotent product.

Synthroid had sales of over 540 million in 2000 and ranked by the number of prescriptions written was the **third most frequently prescribed drug** in the country.

In 2001, the U.S. Food and Drug Administration (FDA) informed Abbott Laboratories that its thyroid medicine Synthroid had a "history of problems" and could not be recognized as safe and effective. The agency's statements raised the possibility that the 40-year-old drug, which had never been officially approved for use by the FDA, would be subject to regulatory action that could, in the extreme, include removal from the market--a process that began in August 2001.

Synthroid has a long history of manufacturing problems, subpotency concerns, and stability and reliability issues, said the letter sent to Synthroid's manufacturer from the FDA, and released to the public. The FDA's letter was sent in response to Knoll's request that Synthroid be permitted to be legally marketed without an approved new drug application (NDA), and instead be granted what's known as "Generally Recognized as Safe and Effective (GRAS/E)" status. The letter indicated that Knoll had requested that the FDA also waive requirements for "adequate and well-controlled studies..."

In a fairly scathing response, the FDA officially denied Knoll's request, meaning that Synthroid had to apply for a new drug application by August, 2001, in order to remain legally on the market.

The FDA denied the request for four key reasons:

I. FDA Had the Authority to Declare Synthroid a New Drug
II. Synthroid Could Not Be Generally Recognized as Safe and Effective Because it is of No Fixed Composition
III. Synthroid Had a History of Problems
IV. Patients Need a Precise Dose of Levothyroxine Sodium

Thyroid Function: The Root of the Problem

Irrespective of the quality and safety of Synthroid (these were issues raised by the FDA), it stands to reason that thyroid hypofunction cannot be universally resolved simply by taking a synthetic thyroxine molecule. We need to consider the conversion of thyroxine to tri-iodothyronine. We need to seriously consider that thyroid hypofunction may be secondary to anterior pituitary hypofunction, infection, liver dysfunction as well as many other factors.

We need to consider that the inability to convert thyroxine to trilodothyronine may be due to adrenal cortical hyperfunction and/or excess estradiol (exogenous or endogenous). We need to consider the nutritional status, pH balance, and functional organ/gland status of all the interactions in the body.

The use of Synthroid is simply unable to address these issues adequately – just like taking aspirin does not address the root cause of chronic headaches.

Aspirin Not Recommended For Heart Disease Anymore

by Dr. John G. F. Cleland 1/2002

Despite the vast size of these meta-analyses, **the evidence in support of aspirin preventing atherosclerotic events is still inconclusive**. The third meta-analysis from the Antithrombotic Trialists' Collaboration contains data on over 100,000 patients at high risk of atherosclerotic events, representing more than 250, 000 patient years of follow up. [1]

This meta-analysis and its predecessors form the major argument for the current widespread fashion of prescribing aspirin to such patients. [2, 3] It is an enormous body of research and the collaboration is to be congratulated for having gathered so much data. However, quality as well as quantity matters. And the quality is such that the results can only be inconclusive.

Summary Points:

- The series of meta-analyses on the anti-platelet activity of aspirin overvalues aspirin's effectiveness and safety.
- All the large long term trials of aspirin after myocardial infarction show no effect on mortality.
- Aspirin may change the way vascular events present rather than prevent them.
- This may lead to a "cosmetic" reduction in non-fatal events and an increase in sudden death.
- Data on the safety and cost-benefit of aspirin are inadequate.
- Advocating the use of aspirin for preventing atherosclerotic events diverts attention from other, more effective, drugs.

Trials Do Not Show That Aspirin Saves Lives

Meta-analysis is increasingly viewed either as a way of verifying that the outcome of an individual trial is consistent with the rest of the known data or as a way of generating a hypothesis. However, in the absence of a definitively positive trial, many consider meta-analysis inadequate evidence for clinical decision making. The series of meta-analyses from the trialists' collaboration contains serious additional flaws.[3-6]

It is remarkable and probably statistically significant how seldom trials of anti-platelet agents have shown benefit on their selected primary outcome. The choice of the primary endpoint by the Antithrombotic Trialists' Collaboration is arbitrary and suspect.

Antiplatelet agents seem to be substantially more effective in reducing the incidence of non-fatal events than in reducing death. Indeed, among large long-term trials after myocardial infarction **there is no evidence that aspirin saves lives**.

An intervention can reduce non-fatal events in three ways: by genuinely reducing them, by concealing them, or by converting non-fatal events into fatal ones. The failure of aspirin to reduce mortality despite a reduction in non-fatal events in many studies suggests that **aspirin may conceal, rather than prevent, vascular events**. [6]

Epidemiological data suggest that 25% of non-fatal myocardial infarctions are silent.[4,5] As aspirin, even at low doses, is an analgesic and because it **may provoke dyspepsia**, which may create confusion about the cause of chest pain, it is not difficult to believe that aspirin could increase the proportion of silent events from 25% to 30%. This could explain all the benefits of antiplatelet agents on non-fatal myocardial in the meta-analysis.

Aspirin increased the risk of sudden death in every long-term study after myocardial infarction that reported such events.

This increase was from 4.4% on placebo to 5.6% on aspirin in the persantine-aspirin reinfarction (PARIS) study; from 2.0% to 2.7% in the aspirin myocardial infarction study (AMIS); and from 2.0% to 2.4% in the persantine-aspirin reinfarction study (PARIS-II).[9]

This could reflect an increased risk of sudden death among concealed, and therefore untreated, events. Another possible mechanism by which aspirin may convert non-fatal events into fatal ones is by increasing the risk of hemorrhagic conversion of cerebral and myocardial infarctions.

All cause mortality and, arguably, disabling stroke are the only robust markers of benefit with an antiplatelet agent. It is not clear that antiplatelet agents reduce the risk of either.

Some trials that were included lost more than a quarter of their patients to follow up[10] In similar circumstances, with other agents, it has been suggested that all patients lost to follow up in the active treatment group should be considered to have died and none of those in the control arm. Such an analysis would neutralize the benefit observed in one of the few seemingly convincingly positive studies of aspirin, the ISIS-2 trial.[11]

Bias In Interpretation

The Antithrombotic Trialists' Collaboration shows bias in the analysis and interpretation of their results. We are given scant detail on how the numbers of events credited to each trial changed between meta-analyses. [2, 3] Trials were retrospectively reanalyzed, resulting in resurrection of a number of apparently dead patients and the discovery of a number of new deaths.

Most interventions probably help some people some of the time and harm others some of the time. A small benefit could reflect a small overall benefit in a large population or a substantial benefit in some patients and harm in others.

Aspirin could exert a short-term benefit followed by long term harm, in which case the benefits and safety of aspirin could be increased by using only a short term course of therapy. [14] Aspirin may be harmful in patients with coronary disease and heart failure.[5, 6, 12]

The evidence for an adverse interaction between aspirin and angiotensin converting enzyme inhibitors observed in the SOLVD (studies of left ventricular function) and HOPE (heart outcomes prevention evaluation) trials is also a matter for concern.[6, 12] These are important issues that have not been adequately addressed.

Neither Safe Nor Cheap

Many believe that, even if aspirin is not effective, it is safe. Aspirin does appear to be relatively safe for the patients included in clinical trials, but as these studies excluded by design patients at risk of adverse events with aspirin and tended to include younger patients with lower multiple morbidity it is likely that aspirin is not as safe as suggested.

Low dose aspirin for cardiovascular prophylaxis may account for more than 30% of all major gastrointestinal hemorrhage in patients [4, 6, 15] and may also be associated with an **increased risk of renal failure.**

Finally, there is a widespread view that aspirin is cheap. However, when evaluating the costs of treatment the amount and type of benefit and the costs of managing adverse effects also need to be evaluated. Very few economic appraisals of aspirin have been done.

One such analysis, recently commissioned by the chief scientist's office in Scotland, suggested it may cost more than £80 000 to prevent one event with aspirin for primary prevention and more than £3000 for secondary prevention. [16] These analyses have assumed that aspirin is as effective as the meta-analyses suggest, which may not be true.

A Diversion: Perhaps the greatest potential detriment of aspirin on health care, however, is that it diverts attention away from treatments that are of unequivocal benefit to many groups of patients. The reader should not accept the conclusions of the Antithrombotic Trialists' Collaboration uncritically but rather read the original papers on which their conclusions are based.

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Aspirin & Tylenol:

Linked to Kidney Failure

Reference: New England Journal of Medicine, December 20, 2001;345:1801-1808

Individuals who have kidney disease or other ailments who regularly take aspirin or acetaminophen may be boosting their risk of developing kidney failure.

Researchers report that such patients who were regular users -- those who took these painkillers at least **twice a week for 2 months -- were two to three times more likely to have the beginning stages of chronic kidney failure,** compared with individuals who did not use these painkillers on a regular basis.

This study and others have found that the risk is minimal in those without pre-existing kidney disease.

Individuals who used either drug regularly were 2.5 times more likely to be diagnosed with chronic renal failure, compared with individuals who did not use these painkillers. The risk rose in tandem with the amount of either drug taken over a lifetime, the investigators found.

In looking at only participants with diabetes -- a major underlying cause of kidney failure -- **regular aspirin and acetaminophen use were still linked to an increased risk.**

The results support those of other studies that have found an association between regular use of painkillers and an increased risk of chronic kidney failure in susceptible individuals.

The results are consistent with exacerbating effects of acetaminophen and aspirin on chronic renal failure, practically regardless of accompanying disease.

OUR COMMENT:

About **15% of the people on dialysis** today are there as a **result of the damage that Tylenol and/or aspirin** did to their kidneys. In addition, about **20% of those with heart failure** are also the **result of taking NSAIDs** (nonsteroidal anti-inflammatory drugs), such as aspirin, Tylenol, etc. These drugs may also be associated with diverticular disease of the colon.

Pain is actually a wonderful gift – it tells us that something is wrong. Pain is a clear signal given to us to provide immediate feedback from our body so we can take appropriate action to correct the problem. To mask the pain with drugs makes about as much sense as turning off a fire alarm – so you won't hear it -- when your house is burning down. The alarm is warning you that if you don't take action, damage is imminent.

Worldwide research now tells us that **many diseases** that we once thought were from genetics or poor lifestyle causes (eating junk food, etc.) are **really caused from infection**. If you have any type of pain, it may be important to begin the use of both **immune system builders**, such as whole, pesticide-free **colostrum** as well as **natural anti-infective agents**, such as **olive leaf extract, hyssop, virgin coconut oil, wild yew extract** and many others.

Birth Control Pill Use Increases Blood Clot Risk

Reference: British Medical Journal, November 11, 2000;321:1190-1195

"Third generation" oral contraceptives are linked to a more than doubled risk of potentially fatal blood clots known as venous thromboembolisms.

The research from Boston University School of Medicine in Massachusetts indicates that oral contraceptives containing desogestrel or gestodene **increased the risk of blood clots by a factor of 2.3** compared to older birth control pills containing levonorgestrel.

The findings support earlier research about the potential danger of the "third-generation" pills that caused a scare in 1995 and resulted in a warning to doctors and pharmacists about the potential dangers. Since the warning, the number of women taking the "third generation" pill has dropped by about 80%.

The researchers estimated that **if women had not switched after the warning** there would have been **about 26% more cases of blood clots**.

Women at increased risk of heart disease would be better off avoiding the levonorgestrel pills which can lower the levels of cardio-protective HDL cholesterol.

Our Comment:

Birth control “pills” are really **birth control “drugs” with far-reaching, potentially disastrous results to your health**. Birth control pills or oral contraceptives are **SYNTHETIC hormones** that the body is not designed to handle. Long term use increases the user's risk of developing **serious chronic illness** as this study highlights. In addition, birth control pills can deplete the following nutrients:

- Vitamin B2
- Vitamin B6
- Vitamin B12
- Folic Acid
- Vitamin C
- Magnesium
- Zinc

Before using any synthetic hormones, become informed about the risks. An excellent, very readable author is Dr. John Lee who discusses the benefits of natural hormones as well as the negative effects of synthetic hormones.

Newest Version Of Birth Control Pill May Cause Blood Clots

Reference: British Medical Journal, September 25, 1999;319:795-796, 820-821

The latest generation of birth control pills, which were introduced in the 1980s and early 1990s, may raise a woman's risk of blood clots even more than earlier oral contraceptives. Danish investigators tracked hospital admissions for venous thromboembolism, a group of disorders that includes pulmonary embolism (clots in the lung), and deep venous thrombosis (most often clots in large veins in the legs).

The study authors found that for both men and women aged 15 to 49, the number of cases of venous thromboembolism was fairly steady from 1977 to 1988. In the period from 1989 to 1993, however, the men's rate did not change, but the hospitalization rate for women was more than 16% higher. The study gives support to the hypothesis that third generation birth control pills increase the risk of venous thromboembolism to a larger extent than second-generation birth control pills.

Our Comment:

Birth control pills increase the risk of blood clots (thromboembolism), liver and gallbladder disease, heart attacks, stroke, breast cancer and they cause depletion of many essential nutrients. It would seem **wise for all women to avoid taking oral contraceptives**, regardless of any reason for taking them. There are other options for birth control that are far less dangerous.

If one is using birth control pills for birth control, there are far safer options such as the use of the Ovu-Tech, an inexpensive personal microscope evaluation which allows one to evaluate the cervical mucus for fertile days (to avoid sexual activity during these days). This can be used along with other safe forms of birth control (such as condoms, family planning, etc.) and can equal or exceed the ability of "the Pill" to avoid unplanned pregnancies.

If one is using birth control pills to control their menstrual cycles, irregular bleeding, ovarian cysts or endometriosis, they are taking a big risk with their health. The use of birth control pills is not able to correct the underlying dysfunction. There are far better, more effective natural remedies available such as the use of natural progesterone and female-supporting herbs.

Many menstrual problems are related to low progesterone levels in the last half of the cycle. Bio Health Diagnostics (800-570-2000) offers a program for testing free fraction salivary hormones (requires only a sample of your saliva) to assay female hormones. Saliva testing for female hormones has proven to be far more accurate than blood testing of hormones.

Birth Control Pill Use
Increases Risk of Fatal Embolism

Reference: Lancet, 2000; 355: 2133-2134

Further reinforcing results of previous studies, new research from New Zealand suggests that the **use of oral contraceptives may cause a nearly 10-fold increase the risk of developing a fatal pulmonary embolism**.

Several previous case-control studies had found that their use was associated with an increased risk of deep-vein thromboses and nonfatal pulmonary embolism. The incidence was somewhat higher than we expected" stated one on the study's authors, who found that **65% of women who died from pulmonary embolisms were current oral contraceptive users**.

The risk of death from pulmonary embolism in oral contraceptive users was estimated at 10.5 deaths per 1 million woman-years, which is much higher than previous estimates, which had put the annual incidence at 1 or 2 per 10,000 women, with a fatality rate of only 1-2%. Risk factors for pulmonary embolism includes a past history of deep venous thrombosis, being extremely overweight, or prolonged immobility.

Our Comment:

Birth control pills increase the risk of blood clots (thromboembolism), liver and gallbladder disease, heart attacks, stroke, breast cancer and they cause depletion of many essential nutrients. It would seem **wise for all women to avoid taking oral contraceptives**, regardless of any reason for taking them. There are other options for birth control that are far less dangerous.

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Birth Control Pills
Increase Risk of Breast Cancer

Journal of the American Medical Association, October 11, 2000;284:1791-1798, 1837-1838

Older generation birth-control pills may have significantly increased breast cancer risk among women with a family history of the disease. In a **study of 426 families**, investigators found that **oral contraceptive use tripled breast cancer risk** among women with sisters or mothers who had the disease. The risk was confined to women who used "the pill" prior to 1975.

Since then, birth control pills have evolved to include lower doses of estrogen and progestin, which may make them safer in terms of breast cancer, researchers suggest, although this will likely not be definitively known for years to come.

The breast cancer link was strongest among women with five or more cases of breast or ovarian cancer in their families. In these women, **birth control pill use was linked to an 11-fold increase in breast cancer risk**.

An editorial accompanying the study notes that "the use of oral contraceptives needs to be considered on an individual basis," taking into account all of a woman's health concerns.

Our Comment:

Use of synthetic estrogens can clearly cause breast cancer. Using birth control pills presents many risks. Birth control pills have been found to increase the risk of blood clots (thromboembolism), liver and gallbladder disease, stroke, cancer and they cause depletion of many essential nutrients. It would seem **wise for all women to avoid taking oral contraceptives**, regardless of any reason for taking them. There are other options for birth control that are far safer and have virtually no dangerous side effects.

Synthetic progestins as found in birth control pills were never designed for the optimum health of the female body and should be avoided if one values their health.

Many women can benefit from using natural estrogen, such as estrogen-like compounds found in fermented soy (non-GMO) or estrogen-related herbs. Women who have had their ovaries surgically removed can often benefit from taking natural estrogen sources. It is often best to balance the estrogen sources with natural progesterone as found in natural progesterone cream.

Birth Control Pill, Gene Defect Tied To Clot Risk

New England Journal of Medicine, June 18,1998;338:1793-1797, 1840-1841.

Two gene mutations -- including one found in up to 15% of whites -- and **oral contraceptive use** are **linked to an increased risk of cerebral-vein thrombosis, a potentially fatal disorder** caused by clotting in the brain's venous system. Women with one of the gene mutations who also take oral contraceptives have a risk of cerebral-vein thrombosis nearly 150 times that of the general population.

Certain non-genetic factors, including smoking and the use of **oral contraceptives**, have also been **linked to an increased risk for thromboembolism (clotting) in various sites, including the legs, brain, retina, and liver**. The Italian researchers found that 20% of the patients with cerebral-vein thrombosis and 3% of the controls carried the prothrombin-gene mutation. Likewise, 15% of cerebral-vein thrombosis patients carried the factor V mutation, compared with just 3% of controls.

The investigators also discovered that the **most prevalent non-genetic risk factor** for (cerebral-vein thrombosis) was **oral contraceptive use,"which raised a woman's risk for the illness to 22 times that of nonusers."** The researchers point out that 96% of women suffering from cerebral-vein thrombosis were using the Pill at the time of their illness, compared with just 32% of controls. Finally, they found that in women who were taking oral contraceptives and also had the prothrombin-gene mutation, risk for cerebral vein thrombosis increased to nearly 150 times that of other women.

Our Comment:

It is not practical to be screened for this genetic mutation, since up to 90% of the cause of most ill health is due to dietary and environmental factors – not gene mutations. In addition, gene mutations do not have to be permanent. Using sound nutrition and health practices, the body may be able to self-heal some gene mutations. Excellent proven DNA repair substances can be used, including medicinal mushrooms (such as reishi), pine bark, CoQ-10, etc.

Birth control pills have been found to increase the risk of blood clots (as this study shows), liver and gallbladder disease, stroke, cancer and they cause depletion of many essential nutrients. It would seem **wise for all women to avoid taking oral contraceptives**.

If the **menstrual period needs to be better regulated or endometriosis is present**, the **therapy of choice is the use of natural hormones** (such as natural progesterone) – not birth control pills. Natural progesterone is much more effective, very safe and virtually without side effects. (See Dr. John Lee's books.) If pregnancy needs to be avoided, there are much safer methods than using birth control pills. (See article on the Ovu-Tech.)

Oral Contraceptives and Low HDL Increase Stroke Risk

Reference: Journal of Neurology and Neurosurgical Psychiatry, June 2000;69:29-33.

This study analyzed the relationship between various blood lipid parameters and the **risk of ischemic stroke in patients under 45 years of age**.

- There was no relation found between risk of ischemic stroke and total cholesterol, LDL cholesterol, or triglycerides.
- Only low HDL cholesterol levels were shown to increase risk.
- Other **increased risk factors included the use of oral contraceptives**, high blood pressure, smoking, and male sex.

These risk factors remained, regardless of any apparent atherosclerosis. The authors state that although the relation between serum lipids and ischemic stroke remains controversial, low HDL cholesterol should be considered in the care of young patients regardless of the detectable presence of atherosclerosis.

Our Comment:

In addition to using birth control pills, one of the biggest causes of low HDL (associated with increased risk of stroke) is the over-consumption of refined carbohydrates (such as refined sugar and refined starches). The better choice is using complex carbohydrates.

There is no medical justification for taking birth control pills. The benefits of taking birth control pills simply do not outweigh the tremendous risks.

In general, **birth control pills increase the risk of blood clots, liver and gallbladder disease, stroke, cancer and they cause depletion of many essential nutrients.** It would seem **wise for all women to avoid taking oral contraceptives**.

Birth Control Pill Use
Increases HIV Transmission Risk

Reference: *Lancet,* (1997;350:922-927)

HIV-infected women who take birth control pills are much more likely than other HIV-infected women to have detectable virus in the cervix or vagina, according to a new study. Other risk factors for viral shedding include vitamin A deficiency, gonorrhea infection, or yeast infections. Increased shedding of virus could mean a greater risk of transmission to either a sexual partner or to an infant during delivery. Heterosexual transmission of HIV is the predominant mode of infection among adults worldwide. Of children who acquire HIV-1 from their mother, 40% to 80% are estimated to become infected during delivery.

It's not clear why birth control pills, which contain synthetic estrogen and progesterone, should increase shedding of HIV in the genital tract. It's possible that the hormones influence immune system function or they may change local factors in the vagina, such as thickening cervical mucus -- which may enhance shedding of the virus. And as for vitamin A, it "has long been recognized to have a central role in maintenance of epithelial surfaces and normal function of the immune system.

Our Comment:

Although most women who take birth control pills are not infected with HIV, these powerful synthetic hormones have the potential to cause serious health complications even in normal women. The above research study is just one example of how **birth control pills can disrupt normal physiology to increase HIV shedding in infected women**.

If you are taking birth control pills, your long term health interests would better served by finding a more natural option. (See article on the Ovu-Tech.)

Birth Control Alternative or Fertility Enhancer

Ovu-Tech Uses

You're trying to become pregnant. -- You're trying to avoid pregnancy. -- You want to determine whether you're ovulating. -- You want to enhance your awareness of your menstrual cycles.

During a woman's menstrual cycle, there are only about three days when her egg is available for fertilization. **Sperm can survive up to 72 hours (3 days) in the vagina and uterus**, so if sexual intercourse occurs up to three days before a woman is fertile, she can still potentially become pregnant. Thus, there are **about six days per month (3 days prior to fertility, and 3 days of fertility) that a woman can conceive**.

It is scientifically well established that hormones filter into saliva and that **during fertility, a ferning pattern can be seen in saliva under a high powered magnification lens**. Just prior to or during fertile days the sample will typically resemble "ferns," while during non-fertile days, only random and shapeless dots will be visible.

The Ovu-Tech is a hand-held mini-magnification lens about the size and shape of a lipstick holder. If you want **to check whether you may be fertile**, you simply:
1) Make sure you haven't had anything to eat or drink for 2 hours.
2) Put a small amount of saliva on the lens and allow it to dry.
3) Insert the lens into the magnification lens and push a little button to illuminate the lens.

If you are just about to become fertile or if you are fertile, you will easily see a beautiful crystalline ferning pattern under the magnification lens. This is an easy and convenient way for you to monitor your hormonal changes and enhance your awareness of your menstrual cycle. If you track your cycles and fertility on a calendar, soon you will have a keen awareness of where you are in your monthly cycle, and what is happening hormonally in your body.

Cycle awareness can be especially helpful for women who tend to have anovulatory cycles (no ovulation occurs and thus there is infertility, and no progesterone is made). If you know that you haven't ovulated in any given cycle, and thus your ovary won't be producing progesterone, you can then supplement with progesterone that month and avoid estrogen dominance symptoms such as PMS.

The ovulation kits that measure hormones in urine to determine fertility tend to be expensive, messy, and can only be used once. In contrast, at the cost of not much more than one ovulation kit, the Ovu-Tech can be used over and over, and has a lifetime manufacturer's warranty.
Magnification lenses for $29.99 each (plus $3.00 Shipping and Handling). 1-800-528-0559

Our Comment: The Ovu-Tech offers a practical, completely **non-toxic** option for those who seek a reliable form of contraception and want to get off or avoid using birth control pills. When tracking the days of the menstrual cycle, the first day of menstruation (when vaginal bleeding begins) is called day 1 of that cycle. The cycle ends when the next period begins, around day 28 (but can vary anywhere between day 17 and 35). The egg may become available for fertilization by sperm at anywhere from day 3 to day 14 of the cycle.

Antibiotics: Safe or Harmful?

During the winter season, people are often given antibiotics for their colds and flus. But colds, flus, cough and sinus congestion are symptoms of upper respiratory infections that are typically caused by viruses. However, antibiotics act **only against bacteria** and are **ineffective against viral infections**. Taking an antibiotic when you don't need it is not without risk. Antibiotics can drastically decrease the numbers of normal, protective intestinal flora normally present in the intestines – which can leave you too deficient – and cause an increased risk of getting even more infections.

A well known research study on antibiotics showed that taking even a single regimen of antibiotics (i.e. about 10 days) makes a person **3 to 4 times more likely to get another infection**. This is because antibiotics often kill off too much of the host's inherent beneficial flora (which may have already been deficient in the first place), leaving the host even more unprotected in the fight against new infectious agents.

Types of Infections. Generally speaking, infections are typically caused by three different agents: viruses, bacteria and fungi:

- **Virus**. Examples of viral infections include the flu (influenza), the common cold (adena viruses) and AIDS.

- **Bacteria**. Bacterial infections include strep throat, most bladder infections and ear infections in children. Although bacteria can be killed by antibiotics like penicillin and sulfa, antibiotics create **abnormal, cell-wall deficient bacterial forms which can embed deeper into your intestinal mucosa**. That is why taking antibiotics ***increases*** your susceptibility to future infections. With every dose of an antibiotic, you also increase the potential incidence of resistant, "super forms" of bacteria.
- **Fungus**. Fungal infections include skin rashes like athlete's foot and a type of meningitis called cryptococcal meningitis. Antifungal drugs often have many negative side effects and are ineffective in those who already have a weakened immune system.

Antibiotics Are Not Harmless

According to recent study published in the Journal of the American Medical Association, taking *properly prescribed* medical drugs was listed as the third leading cause of death in the U.S., presumably due to the extensive side effects of many drugs. Antibiotics were specifically listed as one of the drugs in this category. At times, antibiotics can be highly toxic and even deadly. Here are some of the potential adverse effects of taking antibiotics:

- **Allergic vs. toxic reactions.** Many people wrongly believe they are allergic to certain antibiotics, such as penicillin, because it may give them an upset stomach or headache. In fact, some reactions to antibiotics are really toxic reactions whereby the body is reacting to the toxic nature of the antibiotic.

For example, one patient developed a severe reaction to sulfa drugs. Her entire skin blistered and sloughed off, and her vital organs began to shut down. She had been taking the antibiotic for a simple bladder infection, yet she died four days later.

- **Alteration of normal bacterial flora.** Broad-spectrum antibiotics are undiscriminating: in addition to "bad bacteria", they also kill healthy bacteria which normally live in the intestines and the vagina, and which are a necessary part of the indigenous flora to keep the body healthy. Antibiotics alter the normal flora in the gastrointestinal system, killing off the bad as well as the good bacteria. This leaves the person without sufficient normal protective bacteria. This is why antibiotics can cause bouts of diarrhea.

If the flora is severely altered (in which too many beneficial bacteria die), it can even lead to **life-threatening colitis, a severe inflammation of the colon**. In some cases, young patients have required surgery after antibiotics because of development of colitis, after which they needed a colostomy bag.

In addition, antibiotics alter the normal vaginal flora and often bring about vaginal yeast infections. When the "good" bacteria are killed with antibiotics, then yeast, which is part of the normal flora of the body, can begin to overgrow

because the antibiotics have altered the body's healthy terrain (internal ecological balance) allowing the yeast to hyperproliferate and cause many far-reaching, toxic symptoms.

Antibiotics do not kill yeast. Many women find after taking antibiotics, they get vaginal yeast infections (because their normal bacterial balance has been lost). Antibiotics can also bring about fungal skin infections for the same reasons. Sometimes these skin infections are difficult to clear.

- **Creation of super-strain resistant bacteria.** Bacteria often become resistant when they are repeatedly exposed to antibiotics. The genetic makeup of the bacteria changes, which can make infections extremely difficult to treat. Some doctors consider antibiotics, like penicillin and amoxicillin, to be harmless and they often prescribe them even for relatively minor infections.

However, we now know that frequent antibiotic use can cause a long-lasting upset in the body's normal healthy bacterial ecology. For example, super-resistant staph infections and others have become so resistant mostly because of the frequent, repeated use of antibiotics.

- **Interference with vitamins and minerals.** Antibiotics can interference with the absorption of many vitamins and minerals, leading to deficiencies in vitamins and minerals. Deficiencies in these nutrients can set the stage for increased susceptibility to more infections.

- **Interference with other medications.** Antibiotics can abnormally alter the way other medical drugs are metabolized.

A Different Approach

For centuries in many different cultures all around the world, even serious infections have been effectively and safely cleared with the use of natural herbal agents. The function and use of these herbs has been handed down from generation to generation for the health and well being of the families and cultures.

Natural Anti-Infective Agents. Unlike antibiotics, natural anti-infective botanical agents, such as **olive leaf extract, hyssop, garlic** and many others, can effectively kill the offending infectious bacteria **without altering the body's own normal healthy flora** or compromising the body's intestinal tract or other organs and glands.

- **Olive Leaf Extract**. Also, unlike antibiotics, many herbal agents such as **Italian olive leaf extract** can effectively **eliminate viruses** from the body, including the AIDS virus. This powerful, broad-spectrum herbal remedy has been used for centuries, is readily available, highly effective and is a very reasonable cost. Unlike antibiotics, **Italian olive leaf extract** has no harmful side effects.

- **Probiotic Complexes**. During times when the body's immune system is under attack and an infection is trying to gain hold such as a cold or flu, taking several capsules of a natural **probiotic complex** can be a tremendous help in replacing greater amounts of beneficial bacteria in the intestines to help the immune system fight off the invaders and most efficiently eliminate them. The effects can often be felt almost immediately. If a cold or flu is already underway, taking probiotics can tremendously shorten the recuperation time. They are also an excellent infection preventative agent when taken daily.

Allergies: How To Rapidly Clear Them

Allergies are a common problem in the U.S. Medical statistics show that 1 in 7 Americans experienced allergy symptoms in 1950. By 1970, approximately 1 in 5 reported having allergies. By 1985, 1 in 3 suffered from allergies. That's approximately 75 million Americans.

What is an allergy?

An allergy is a catch-all word for a wide variety of reactions to substances that the body reacts to unnaturally. When the body encounters an allergic substance, it reacts by making antibodies or releasing chemicals called *histamines*. When histamines and other substances are released into the body's system, they cause an inflammatory reaction we call an *allergy*.

What are the symptoms?

The inflammatory reaction affects the tissue and organs, mainly the skin, mucous membranes, lungs and gastrointestinal tract.

Common allergic symptoms include itching and watery eyes, runny and congested nose and sinuses, sneezing, respiratory symptoms, headache, skin reactions (itchiness, rashes, etc) and rapid heart beat. Other symptoms may include fatigue, intestinal gas or pain, abdominal bloating and mood changes.

Primary external factors causing allergies

Natural environmental substances: Mold, spores, pollen from trees, flowers and grasses, dust (actually dust mites), animal hairs and insects are common substances that normally produce upper respiratory symptoms (allergies) in sensitive individuals. These allergy-producing substances may cause itching, redness and fluid (water & mucous) may affect the eyes, throat, nose, sinuses, bronchial tubes and lungs.

Chemicals: Both environmental chemicals and food additives can cause allergy reactions, such as pesticides, chemical sprays, hydrocarbons, and hundreds of others. Tobacco also contains many allergens.

Foods: Any food can become an allergen. The most common are wheat, milk, eggs, corn, yeast, coffee and chocolate. The most affected body systems are gastrointestinal, nervous, respiratory and skin areas.

Allergy Symptom	Associated Foods
Headaches	Wheat, chocolate, fried foods, wine (sulfites)
Migraine Headaches	Alcoholic beverages, cheese, chocolate, nuts, wheat, citrus fruits, tomatoes, MSG, nitrates, eggs, milk
Eczema	Citrus fruits, tomatoes, eggs
Hay Fever	Milk, wheat, nuts, chocolate, cola drinks, sulfites
Hives	Strawberries, tomatoes, eggs, chocolate, shellfish, mangoes, pork, peanuts
Childhood Allergies	Milk, wheat, eggs, artificial coloring/flavors, salicylates, peanuts, rye, beef, fish
Asthma	Wheat, eggs, white sugar products
Brain Symptoms	Corn, wheat, soybeans

Conventional medical treatment for allergies

- *Antihistamines*: Treats the symptoms; only suppresses the body's reaction to an allergen.
- *Steroid nasal sprays*: Long term effect unknown; potential kidney/adrenal toxicity and damage

- *Laser Surgery*: Use of laser to vaporize mucous forming nasal tissue; creates a scar interference field
- *Decongestants*: Can reduce congestion temporarily, but may create a "rebound effect."; drug side effects
- *Desensitization shots (allergy shots)*: Often no relief; may be only minimal help; expensive, side effects

Other factors that may lead to allergies

- **Eating Junk Food** (highly processed food or food chemicals):
  * Poor food choices can create gastrointestinal distress and organ toxicity
  * Eating hydrogenated oils can congest the liver and gallbladder leading to multiple allergy syndromes
  * Food additives, certain food colors, sulfates, MSG, etc., may contribute to allergies

- **Eating habits** during the first year of life may impact a baby's allergy sensitivities.
  * Feeding babies solid food too early, especially meat (best: breast feed for at least 9 months of life)
  * Lack of breast feeding
  * Gluten allergies from too early feeding of grains such as corn, wheat and oats

- **Poor digestion** increases the risk of developing allergies.
  * Improper chewing
  * Poor hydrochloric acid in the stomach
  * Lack of enzymes and bile
  * Excessive fluid intake around meals

- **The presence of parasites**, worms, Candida albicans, or pathogenic bacteria may increase allergic reactions.

Stress

* Emotional and mental anxiety and fatigue all increase the susceptibility to allergies.
* Menstrual stress (hormone changes) may also increase allergic reactions.

- **Low nutritional levels**
  * Natural-source vitamins and many minerals can help reduce allergies.

- **Excess or repeated contact** with particular foods and substances
  * Eating the same food over and over again may increase the risk of allergy to that food.
  * Eating foods that are "craved" - these are often the ones that cause allergies.

Best Procedures to Help Eliminate Allergies

- Mini Liver/Gallbladder Flush (Ask for instructions)
- Master Liver/Gallbladder Flush (Ask for instructions)
- Intestinal Detoxification with good quality fiber — Best product: **Quantum Cleanse Blend**
- Eat more fresh vegetables — Best product: **Quantum Greens Mix**
- Eat more whole food starches, such as organic brown rice (soaked): **Premier Brown Rice**
- Drink more purified water

Nutritional Help for Allergies

- Natural vitamin C and bioflavonoids (natural source only) — Best product: **Quantum Vitamin C Complex**
- Vitamins A & D (from natural sources only) — Best product: **Quantum Cod Oil Vcaps**
- Additional zinc (15 mg.) for 1 to 2 months only — Best product: **Zinc Assay**
- Essential fatty acids, esp. gamma linolenic acid (GLA) — Best product: **Quantum EFA Oil Blend**
- Plant enzymes — Best product: **Quantum Digest**
- Garlic which is nanized (Extraordinarily high bioavailability) — Best product: **Heart Nano-Detox**™

Special Nutrients to Help Clear Allergies

1. Agaricus Bisporus (a potent medicinal mushroom) — Best product: **Quantum Kidney Complex**

Dramatic reduction of allergic reactions

- Contains compounds with anti-inflammatory activity (helpful in rheumatoid arthritis, bursitis, asthma)
- Helps reduce histamine release
- Helps clear allergic reactions rapidly

2. Green Tea Extract (*Thea sinensis*) Best product: **Super Nano Green Tea**™
Green tea is rich in phytonutrients that help to ward off everyday cellular attacks. In Chinese medicine, green tea helps facilitate digestion and enhance mental function.

- Contains compounds (polyphenols) that are effective against many types of bacteria
- Helps lower risk of esophageal cancer
- Helps cut high cholesterol levels
- Helps regulate blood sugar

3. Plant Enzymes Best product: **Quantum Digest**
Enzymes help inhibit pro-inflammatory compounds. They assist in digestion of protein, fat and carbohydrates. They help promote circulation and post-traumatic reabsorption of inflammatory by-products; effective in helping to break down protein and dead tissue.

4. Magnesium (ionized only, from Sango Reef marine coral) Best Product: **Quantum Coral Complex**
Ionized magnesium is often considered the anti-stress mineral. It helps buffer the acidic stage of an allergic reaction. It is required in many of the body's detoxification pathways. It can help reduce the broncho-constrictor in asthma by relaxing muscles around the bronchial tubes.

5. Calcium (from ionized sources, such as Sango Reef marine coral)Best Product: **Quantum Coral Complex**
Ionized calcium helps regulate the body's acid/alkaline balance in tissues. It helps buffer the acidic stage of an allergic reaction. It also helps reduce histamine production.

6. Vitamin C (natural source only; NOT ascorbic acid) Best Product: **Quantum Vitamin C Complex**
Shown to decrease production of histamine, reducing immediate allergy potential. Helps to relieve allergic symptoms and prevent inflammatory reactions. Provides an anti-histamine-like effect. Assists in production of adrenal hormones needed to combat the stress imposed by allergic reactions.

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Coral News Update

An Open Letter To Friends and Practitioners
from Dr. Bob Marshall, CEO, Premier Research Labs

Recently, coral products have been receiving a lot of attention in the news. Unfortunately, the press coverage has been filled with partial truths and some outright misinformation. Therefore, I'd like to set the record straight and help you read between the lines to gain the truth behind the print.

Q: Do high amounts of lead occur in coral?
A: Dozens of different types of coral sources exist and some have been known for years to contain significant amounts of lead, as the Consumer's Union test results recently found. In contrast, every batch of Premier Research Labs' Okinawan, Sango Reef marine coral is assayed for heavy metals, including lead. Every Certificate of Analysis of PRL's coral has shown that heavy metals, in particular, lead, to be below detection threshold. Obviously, this is not typically true of other coral sources -- which is why PRL avoided using coral in its products for several years. Fortunately, PRL was finally able to source its current source of clean and clinically effective coral, a truly valuable nutritional adjunct to every practitioner who has a chronic illness practice. A copy of the current Certificate of Analysis of PRL's coral is available upon request.

Q: What is the form of the calcium in coral?
A: The form of calcium in all coral is calcium carbonate. This same form, calcium carbonate, is found in rocks; however, the rock form of calcium carbonate is not ionized and is extremely difficult to absorb. The same is true for over 2,500 species of coral which are similar to the rock form of calcium carbonate. However, there is one unique coral, the Sango Reef marine coral, which is naturally highly ionized and is better absorbed than any other form of calcium or magnesium that I have ever tested.

Sango Reef marine coral is currently the best selling form of mineral supplement in Japan, used by millions of people for many years with many verifiable stories of clinical success. Sango Reef marine coral is the best mineral delivery system I have seen in 35 years of mineral research. In stark contrast, other forms of coral have tested very poorly and I do not recommend them for human or animal consumption.

Q: How much magnesium is found in coral?
A: Of over 2,500 species of coral, all but one contains about 35-37% calcium and 2-3% magnesium, which is a 10:1 ratio of calcium to magnesium, far from ideal. However, PRL's Sango Reef marine coral is comprised of approximately 20% calcium and 10% magnesium, making it an ideal 2:1 ratio of calcium to magnesium, the same ratio that naturally occurs in the human body.

PRL's coral also naturally contains a near-perfect, synergistic mineral matrix which helps to promote ideal bone metabolism (including rebuilding MCH, microcrystalline hydroxyappetite) as well as building and maintaining mono-ortho-calcium phosphate reserves, the form of calcium found in the soft tissues of the body.

Q: In your clinical practice, isn't it the results that really count?
A: Of course. In my 35 years of clinical practice, no other mineral supplement that I have used has been able to outperform or even compete with concentrated vegetable sources of minerals (such as large amounts of daily carrot and celery juice) except PRL's Sango Reef marine coral. I have never found any other source that was more effective or faster at correcting mineral deficiencies and rapidly restoring bone and soft tissue calcium reserves. I consider PRL's coral products as an important cornerstone of literally every nutritional program for our patients.

Remember, it is not just the marine coral that makes PRL products so excellent. At PRL, we have intensely researched and tested our coral products to be sure that critical synergists, co-factors and transporters are combined together in order to deliver the "Quantum Nutrition Effect". To achieve this effect, no toxic tagalongs can be used (including toxic flowing agents such as magnesium stearate, toxic forms of vitamin D3 or toxic forms of capsules such as gelatin capsules, etc.). **Although true excellence inspires imitation, there is no substitute for careful clinical testing and a proven track record of outstanding results.**

For practitioners who are proficient at QRA™ (Quantum Reflex Analysis), a precise, targeted form of kinesiology, a simple QRA™ test can rapidly demonstrate the difference between PRL's Sango Reef marine coral vs. other inferior coral products. PRL has been clinically using its Sango Reef coral exclusively since 1995 with thousands of patients as an integral part of their clinical nutritional programs. The spectacular clinical results speak for themselves.

Our case files include a vast diversity of many different benefits of PRL's marine coral, because as the body's tissues become more alkalinized, many different body systems can return to normal with enhanced tissue oxygen and therefore, improved organ/gland function.

For example, regular use of PRL's marine coral allows a rapid return of normal alkalinity of the first morning urine pH (which ideally is between 6.4 – 7.0 pH, an excellent marker of healthy bone metabolism and tissue oxygen levels), improved bone density, dramatically increased flexibility, enhanced hormone balance, better mental clarity and mood – in short, a quantum leap in the efficient functioning of literally all the systems of the whole body.

Q: <u>Where can I get PRL's Sango Reef coral</u>?
A: For those of you who have not had the opportunity to experience the spectacular, rapid clinical results using PRL's Sango Reef coral, ask your practitioner for a bottle of **Quantum Coral Complex** or the **pH Trio** (3 synergistic pH-promoting products designed to deliver the "Quantum Nutrition Effect"). Ask for a copy of the 6-page highly informative article, "The pH Story".

Please feel free to share this information with your friends and patients.

Which Form is *Your* Vitamin C?

- **Synthetic**: Synthetic form of vitamin C made from commercial (possible GMO) corn or refined sugar; listed as "ascorbic acid" or "vitamin C" on the label

- **Natural**: Naturally occurring form of vitamin C with all its synergists and co-factors intact, such as the ayurvedic herb, Amla, the highest known source of natural vitamin C; listed as "Amla" on the label

> Vitamin C *never* occurs as an isolated vitamin in nature.
> It occurs as a part of an entire, synergistic vitamin C complex.

Vitamin C is an essential nutrient, but when it is a synthetic, isolated form, it is poorly absorbed and may adversely affect health. According to one human study, 1500 mg of isolated, synthetic vitamin C per day can cause iron deficiency and anemia.

Ascorbic acid and calcium ascorbate are synthetic/isolated forms of vitamin C. Esterified-C has a few elements added back to an isolated vitamin C molecule and is therefore more absorbable than ascorbic acid, but is processed with a nickel catalyst leaving some residues in the final product (i.e. heavy metal contamination).

Natural vitamin C is found in once-living nutrient sources and has all its naturally occurring elements synergistically present and bonded (including naturally occurring bioflavonoids) because it is a 100% whole food source, such as the ayurvedic herb, amla, the highest known source of naturally occurring vitamin C.

When synthetic vitamin C is consumed, it is mostly unused by the body. It can stress the liver and kidneys to excrete it, and it is acid forming in the body. If "vitamin C" is listed as an ingredient of a product, it is usually the synthetic form. Supplements with natural sources containing natural vitamin C do not usually list "vitamin C" on the label, but rather, list the name of the herb or food source on the label.

Some products claim to have "vitamin C with rose hips and acerola" but these products typically have a very small amount of rose hips and/or acerola (two plants that are rich in natural vitamin C) with a large amount of added synthetic vitamin C. Synthetic vitamin C mixed with whole food nutrients is not the same as taking 100% naturally occurring vitamin C as an intricately complexed part of herbs or whole foods.

Avoid synthetic vitamin C made with pesticided corn or refined sugar -- get your vitamin C the way nature truly intended – from rich, natural sources, such as Amla Royale.

Whole Food Vitamins:
Ascorbic Acid Is Not Vitamin C

- by Timothy O'Shea, medical researcher

Without further ado, here's the kernel: ascorbic acid is not vitamin C. Alpha tocopherol is not vitamin E. Retinoic acid is not vitamin A. And so on through the other vitamins. Vast sums of money have been expended to make these myths part of Conventional Wisdom. If you have several college degrees and all this is news to you, don't feel bad. Unless you think your education ended at Commencement. Which is generally true.

Wheels Within Wheels

Vitamins are not individual molecular compounds. Vitamins are biological complexes. They are multi-step biochemical interactions whose action is dependent upon a number of variables within the biological terrain. Vitamin activity only takes place when all conditions are met within that environment, and when all co-factors and components of the entire vitamin complex are present and working together. Vitamin activity is even more than the sum of all those parts; it also involves timing.

Vitamins cannot be isolated from their complexes and still perform their specific life functions within the cells. When isolated into artificial commercial forms, like ascorbic acid, these purified synthetics act as drugs in the body. They are no longer vitamins, and to call them such is inaccurate.

A vitamin is "a working process consisting of the nutrient, enzymes, coenzymes, antioxidants, and trace minerals activators." - Royal Lee "What Is a Vitamin?" *Applied Trophology,* Aug 1956

Forgotten Trailblazer

Dr. Royal Lee was the pioneer researcher in the field of whole food vitamins. For decades he documented the basic facts summarized in this chapter. His work has never been scientifically refuted. Anyone who seriously undertakes the study of vitamins today corroborates Lee's work. His story is a fascinating study in itself, a study of indomitable perseverance in the pursuit of true principles. Jensen tells us that Royal Lee's work will not be appreciated until the next century.

Hasn't happened yet.

Lee felt the full weight of organized drugs/medicine bearing down on him. Reading like something out of *Schindler's List*, we learn that the FDA not only persecuted Lee for challenging the economics of synthetic vitamins, produced by giant drug companies, but that he was actually ordered by a court to burn all his research of the past 20 years! Burn his research! When has that ever happened in this country? They didn't even do that to Larry Flynt.

Going off on a tangent, ever wondered how the FDA attained its present position as attack dog for the drug companies and food manufacturers? It's another whole story in itself. The precursor of the FDA was the Bureau of Chemistry. Up until 1912 the Bureau of Chemistry was headed up by a man named Dr. Harvey W. Wiley. Here's a quote from Dr. Wiley that illustrates where his interests lay:

"No food product in our country would have any trace of benzoic acid, sulfurous acid or sulfites or any alum or saccharin, save for medical purposes. No soft drink would contain caffeine or theobromine. No bleached flour would enter interstate commerce. Our foods and drugs would be wholly without any form of adulteration and misbranding. The health of our people would be vastly improved and the life greatly extended. The manufacturers of our food supply, and especially the millers, would devote their energies to improving the public health and promoting happiness in every home by the production of whole ground, unbolted cereal flours and meals."

- *The History of a Crime Against the Pure Food Law,*1912

Now obviously we can't have a dangerous lunatic like this in charge of the public nutrition, can we? Dr. Wiley actually filed suit against the Coca-Cola company in an attempt to keep their artificial product out of interstate commerce, and off the market. Fortunately, Wiley was eventually replaced by a saner individual, more attuned to the real nutritional needs of the American people, as determined by the experts who knew what was best for us: the food manufacturers. This was Dr. Elmer Nelson, and in his words we get an idea of the change in philosophy that marked the transformation of the Bureau of Chemistry into the FDA:

"It is wholly unscientific to state that a well-fed body is more able to resist disease than a poorly-fed body. My overall opinion is that there hasn't been enough experimentation to prove that dietary deficiencies make one susceptible to disease." - Elmer Nelson MD, *Washington Post* 26 Oct 49

Bernard Jensen illustrates how the tobacco industry and the food giants like Coke were indirectly behind the legal persecution of Royal Lee. Cigarette ads in the 40s and 50s showed medical doctors promoting the digestive benefits of smoking Camels. Or the advertising of Coke and other refined sugar foods stating that "science has shown how sugar can help keep your appetite and weight under control." (*Empty Harvest)*

During this same period, Royal Lee was kept in courts for years, fighting to keep the right to advertise his vitamin products, because he was a threat to the food manufacturers. Lee knew they were poisoning the American public. He proved that refined sugars and devitalized, bleached flours were destroying the arteries and the digestive system, causing heart disease and cancer.

Whole Vs. Fractionated

OK, natural vs. synthetic. Let's start with vitamin C. Most sources equate vitamin C with ascorbic acid, as though they were the same thing. They're not. Ascorbic acid is an isolate, a fraction, a distillate of naturally occurring vitamin C. In addition to ascorbic acid, vitamin C must include rutin, bioflavonoids, Factor K, Factor J, Factor P, tyrosinase, ascorbinogen, and other components.

In addition, **mineral co-factors** must be available in proper amounts.

If any of these parts are missing, there is no vitamin C, no vitamin activity. When some of them are present, the body will draw on its own stores to make up the differences, so that the whole vitamin may be present. Only then will vitamin activity take place, provided that all other conditions and co-factors are present. Ascorbic acid is described merely as the "antioxidant wrapper" portion of vitamin C; ascorbic acid protects the functional parts of the vitamin from rapid oxidation or breakdown. (Somer, p 58 "Vitamin C: A Lesson in Keeping An Open Mind" *The Nutrition Report)*

Over 90% of ascorbic acid in this country is manufactured at a facility in Nutley, New Jersey, owned by Hoffman-LaRoche, one of the world's biggest drug manufacturers (1 800 526 0189). Here ascorbic acid is made from a process involving cornstarch and volatile acids. Most U.S. vitamin companies then buy the bulk ascorbic acid from this single facility. After that, marketing takes over. Each company makes its own labels, its own claims, and its own formulations, each one claiming to have the superior form of vitamin C, even though it all came from the same place, and it's really not vitamin C at all.

Fractionated = Synthetic = Crystalline = Fake

The word “synthetic” means two things:

- manmade
- occurs nowhere in nature

From the outset, it is crucial to understand the difference between vitamins and vitamin activity. The vitamin is the biochemical complex. Vitamin activity means the actual biological and cellular changes that take place when the stage is set for the vitamin complex to act.

Think of it like gas and a car. Pumping the gas into the tank doesn't necessarily mean the car is going anywhere. Other conditions and factors must be also present, in order for Activity to occur. The gas line to the carburetor must be clear, the carburetor jets must be set, there must be an exact mixture of air flow, the ignition must be turned on, the spark plugs must be clean, the exact amount of gas must reach each spark plug right before it fires, no gas must be left over in the cylinder after the plug fires Getting the idea? If any of this stuff is missing, there's no Activity: the car doesn't run, or at least not very well.

Amazing as it may sound if you're hearing this for the first time, vitamins are more than the synthetic fractions we are commonly taught they are. The ascorbic acid you buy at the grocery store every few weeks, thinking you are buying Vitamin C, is just a chemical copy of naturally occurring ascorbic acid, which itself is still only a fraction of the actual Vitamin C. Real vitamin C is part of something living, and as such, can impart life.

Your synthetic, fractionated chemical ascorbic acid never grew in the ground, never saw the light of day, never was alive or part of anything alive. It's a chemical, a cornstarch derivative, a sulfuric acid by-product. In your body it's just

another drug. Synthetic vitamins have toxic effects from mega-doses and actually can increase the white blood cell count. Vitamins are only necessary in minute quantities on a daily basis. Whole food vitamins, by contrast, are not toxic since the vitamin is complexed in its integral working form, and requires nothing from the body, and triggers no immune response.

Deficiency

Scurvy is a disease caused by vitamin C deficiency. Scurvy is characterized by bleeding gums, slow wound healing, softening bones, loose teeth, ulcerations of the mouth and digestive tract, general weight loss and fatigue. From 1650 to 1850 half of all seamen on transoceanic voyages died of scurvy. It was discovered by ship surgeon Thomas Lind in the early 1800s that British sailors were spared the disease altogether simply by a diet rich in citrus fruits. Since limes traveled well, they were the common choice during the early years, and thus the expression "limeys" was coined to describe British sailors. It was later found both at sea and in prison fare that potatoes were equally successful in preventing scurvy, and much cheaper to obtain. (*Lancet*. 1842) We find that there is less than 20 mg of ascorbic acid in a potato. Yet this small amount, since it is complexed in a food source, is all the body needs not only to prevent scurvy, but also to cure it, even in its advanced state. Such a remedy is described in detail in Richard Dana's amazing journal, *Two Years Before the Mast*, written in 1840.

Whole food vitamin C as found in potatoes, onions, and citrus fruits is able to quickly cure any case of scurvy. By contrast, the fractionated chemical ascorbic acid has been shown to be insufficient in resolving a scurvy condition, simply because it does not act as a nutrient. (*Lancet* 1842)

Ascorbic acid simply cannot confer vitamin activity, as taught by the discoverer of vitamin C himself, another Nobel Prize laureate, Dr. Albert Szent-Georgi.

Szent-Georgi discovered vitamin C in 1937. In all his research however, Szent-Georgi found that he could never cure scurvy with the isolated ascorbic acid itself. Realizing that he could always cure scurvy with the "impure" vitamin C found in simple foods, Szent-Georgi discovered that other factors had to be at work in order for vitamin activity to take place. So he returned to the laboratory and eventually made the discovery of another member of the vitamin C complex, as shown in the diagram above: rutin. All the factors in the complex, as Royal Lee and Dr. Szent-Georgi both came to understand, ascorbic acid, rutin, and the other factors, were synergists: co-factors which together sparked the "functional interdependence of biologically related nutrient factors." (*Empty Harvest*, p120) The term "wheels within wheels" was used to describe the interplay of co-factors.

Each of the other synergists in the C complex has a separate function:

- P factors for blood vessel strength,
- J factors for oxygen-carrying capacity of red cells,
- tyrosinase as an essential enzyme for enhancing white blood cell effectiveness.

Ascorbic acid is just the antioxidant outer shell – the protector of all these other synergists so that they will be able to perform their individual functions.

Linus Pauling and Ascrobic Acid

Now I can hear you asking, what about Linus Pauling, double Nobel Prize laureate, and his lifetime espousal of megadosing on ascorbic acid – up to 10 grams per day? He lived to be 93. Are we saying that he took a synthetic vitamin all that time? Yes, that's exactly right. Bernard Jensen suggests that ascorbic acid has an acidifying effect in the body, making an unfriendly environment for viruses, *Candida*, and pathogenic bacteria. "Most infectious pathogenic bacteria thrive in an alkaline pH." Pauling's good health was not the result of synthetic vitamin activity. Good genetics and the acidifying effect are likely what brought longevity to Linus Pauling. He eventually died of cancer.

Dr. Royal Lee's phrase "biological wheels within wheels" always comes up in any discussion of whole food vitamins. Essentially it means that individual synergists cannot function as a vitamin in a chemically isolated form, like ascorbic acid. Vitamins are living complexes which contribute to other higher living complexes – like cell repair, collagen manufacture, and maintenance of blood circulation. Ascorbic acid is not a living complex. It is a copy of a part of a living complex known as vitamin C. Ascorbic acid is a fractionated, crystalline isolate of vitamin C.

Why are you a high school graduate or a college graduate or a doctor, and you don't know this? Because drug manufacturers like things clean and simple and cheap to produce. To this simple fact add the politics which always

comes into play when anyone mentions the word "billions," and you are beginning to get the idea about where to begin your investigation. Burned his research???

Dietary Sources

Most vitamins cannot be made by the body. They must be taken in as food. The best sources then are obviously whole foods, rich in vitamins. Because of soil depletion, mineral depletion, pesticides, air pollution, and erosion, it is common knowledge that foods grown in American soil today have only a fraction of the nutrient value of 50 years ago. That means a fraction of the vitamins and minerals necessary for normal human cell function. Royal Lee described the American diet as the cultivation and production of "devitalized foods." Dr. Weston Price describes these empty products as the "foods of commerce." Think it's gotten better or worse since their time? Thus the necessity for supplementation.

Vitamins and minerals are not functionally separable. They make each other work. Example: vitamin D is necessary for the body to absorb calcium. Copper is necessary for vitamin C activity. And so on. Mineral deficiencies can cause vitamin deficiencies, and vice versa. Epidemic mineral deficiency in America is a well-documented result of systematic soil depletion. (See Minerals chapter: thedoctorwithin.com)

So that is the other prime difference between whole food vitamins and synthetics: whole food vitamins contain within them many essential trace minerals necessary for their synergistic operation. Synthetic vitamins contain no trace minerals, relying on, and depleting, the body's own mineral reserves.

Funny Farms

Following the German agricultural methods of Von Leibig in the mid-1800s, American farmers found that NPK (nitrogen, phosphorus, and potassium) was all that was necessary for crops to look good. (Frost p7) As long as NPK is added to the soil, crops can be produced and sold year after year from the same soil. They look OK. But the other necessary trace minerals vital for human nutrition are virtually absent from most American soil after all these years. Many of these minerals, such as zinc, copper, and magnesium, are necessary co-factors of vitamin activity. Depleted topsoil is one simple, widespread mechanism of both vitamin and mineral deficiency in American produce today. This doesn't even take into account the tons of poisonous herbicides and pesticides dumped on crops. According to the UN, two million tons of pesticides are used worldwide annually. (Jensen, p69)

American agri-business has one motive: **profit**. Such a focus has resulted in an output of empty produce and a nation of unhealthy people. The earth's immune system is its soil. To be vital and capable of growing vital foods, soil must be rich in both minerals and soil-based organisms - life forms. Healthy produce naturally resists insects. Insects are like bad bacteria in the body: they are attracted to diseased tissue, though they do not cause it.

The Foods of Commerce

And we're still only talking about people who actually eat raw fruits and vegetables, which is a minority. Processed food composes the majority of what most Americans eat. The only nutrients in most processed foods are "enriched" and "fortified" as described below.

When a doctor says that food supplements are all unnecessary because we can get everything we need from our food, that doctor is lacking basic information published and agreed upon by his own peers. Whether or not we need supplementation is no longer an issue, except for one who is totally out of touch. The issue is what kind and how much. Vitamin and mineral deficiency can be tagged to practically ANY disease syndrome known to man. DW Cavanaugh, MD of Cornell University actually concluded that:

"There is only one major disease, and that is malnutrition." (Jensen, p8) Malnutrition of the affluent is the natural result of the foods of commerce.

Websurfing

The best vitamins are called **whole food vitamins**. It will be difficult finding this out on the Internet, however, because the Web is dominated by mainstream nutritional theory. In the area of vitamins, the Internet is 99% marketing; 1% actual information.

But then again, this isn't Mission Difficult. This is Mission Impossible, Mr Hunt.

There are about 110 companies who sell vitamins in the US. Less than 5 of them use whole food vitamins. The reason is simple: whole food vitamins are expensive to make. A few of the largest pharmaceutical firms in the world mass produce synthetic vitamins for the vast majority of these 110 "vitamin" companies, who then put their own label on them, and every company claims theirs is the best! It's ridiculous! Americans spend over $9 billion per year for synthetic vitamins. (Frost, p2)

Whole food vitamins are obtained by taking a vitamin-rich plant, removing the water and the fiber in a cold vacuum process, free of chemicals, and then packaging for stability. The entire vitamin complex in this way can be captured intact, retaining its "functional and nutritional integrity." (DeCava p.23.) Upon ingestion, the body is not required to draw on its own reserves in order to complete any missing elements from the vitamin complex.

Mainstream marketing of vitamins and minerals has successfully created the myth that vitamins and minerals may be isolated from each other, that correct amounts may be measured out, and then we can derive total benefit from taking these fractionated chemical creations. Nothing could be farther from the truth. Vitamins and minerals, and also enzymes, work closely together as co-factors for each other's efficacy. If one part is missing, or in the wrong form or the wrong amount, entire chains of metabolic processes will not proceed normally. Result: downward spiralling of health, probably imperceptible for long periods of time.

Marketing and Promotion

What is the marketing philosophy behind the prevalence of the type of synthetic vitamins available in the supermarket and mall vitamin stores? Simple: profit above all else. Once the public is shown that vitamin supplementation is necessary, the rest is marketing. Marketing is the art of persuading by suspending logic and twisting data into junk science.

Example: what's the actual difference in composition between Wheaties and Total, two cereals put out by the same company? Total is advertised as being much more nutrient-rich than "ordinary" Wheaties. Look at the labels. What justifies the extra $1.30 for a box of Total? Answer: 1.5¢ worth of synthetic vitamins sprayed over the Wheaties. That's it! That's what **"vitamin enriched"** always means.

The other trick word is "fortified." Generally that means that the food itself is devoid of nutrients or enzymes, so they tried to pump it up a little with some "vitamins." Cheap synthetic vitamin sprays are all that is required for the manufacturer to use labels like "enriched" and "fortified." These words are red flags – if a food needs to be fortified or enriched, you can bet it was already dead.

The mega-vitamin theory doesn't really hold when it comes to synthetics: If A Little Is Good, More Is Better. Macro doses of vitamin E, and also vitamin D have been shown to decrease immune function significantly. (DeCava.) It stands to reason. Vitamins by definition are necessary in phenomenally small doses.

The discoverer of thiamine, a B vitamin, and the man who came up with the word vitamin, Dr. Casimir Funk, has this to say about synthetics:

"Synthetic vitamins: these are highly inferior to vitamins from natural sources, also the synthetic product is well known to be far more toxic."

Nutrition authority DeCava describes it: "Natural food-source vitamins are enzymatically alive. Man-made synthetic vitamins are dead chemicals. " -- *The Real Truth About Vitamins p*209

Oxymorons: military intelligence, rap music, synthetic vitamins.

High Potency

The marketing of fractionated crystalline synthetic vitamins has been so successful that most nutritionists and doctors are unaware that there is something missing from these "vitamins." Vitamin manufacturers compete for customers with identical products – they all bought their synthetic vitamins from the same couple of drug companies. To differentiate their product, each makes claims of "high potency." Our vitamins are higher potency than theirs, etc. The point is, the higher the potency, the more the druglike effects are present.

Natural whole food vitamins are very low potency. Remember the 20mg of vitamin C in a potato that was able to cure a patient of scurvy? That was low potency. Low potency is all we need. Low potency is enough to bring about vitamin activity. High potency overshoots the mark – the chemical is very pure and refined, like the difference between white sugar and the type of sugar that's in an apple.

The Milligram Game

Generally speaking, if milligrams are being discussed at length, the author has no clue about vitamins. Synthetic vitamins are refined, high potency chemicals, and therefore may be accurately measured in milligrams, just like drugs. This has nothing to do with vitamin activity or nutrition, except in a negative way.

Half The Story

The same type of incomplete action can be seen with any synthetic vitamin. Let's take beta carotene for a minute, which the body can turn into vitamin A. Now you'll remember that vitamin A is necessary for good eyesight, DNA synthesis, and protects cells from free radicals. A study reported in Apr 94 in the NEJM of some 30,000 Finnish subjects showed conclusively that synthetic vitamin A had no antioxidant effect whatsoever. A true antioxidant helps to protect heart muscle, lungs, and artery surfaces from breaking down prematurely.

In this study, the subjects who received the synthetic beta carotene actually had an 8% higher incidence of fatal heart attacks, strokes, and lung cancer than those who got the placebo (sugar pill). Stands to reason: the synthetic brought no vitamin activity to the tissues that needed it. As a dead, purified chemical introduced into the body, the synthetic further stressed the immune system, the liver, and the kidneys which all had to try to break down this odd chemical and remove it from the body. It would be bad enough if they were harmless, but synthetic vitamins actually have a net negative effect.

Vitamin A

was first discovered in 1919. By 1924, it had been broken down and separated from its natural whole food complex: "purified." By 1931, LaRoche – one of the largest pharmaceutical companies in the world, even today – had succeeded in "synthesizing" vitamin A. That means they had created a purely chemical copy of a fraction of naturally occurring vitamin A. Naturally occurring vitamin A is found associated with an entire group of other components:

- Retinols
- Retinoids
- Retinal
- Carotenoids
- Carotenes
- Fatty acids
- Vitamin C
- Vitamin E
- Vitamin B
- Vitamin D
- Enzymes
- Minerals (*Vitamins and Minerals*, Somer, 1992)

Isolated from these other factors, vitamin A is a fraction which cannot perform its biological functions. Taken as a synthetic, it must then draw on this list of resources already in the body in order to complete its make-up. Whole food vitamin A, by contrast, is already complete and ready to go.

Most synthetic vitamin A consists only of retinal, retinol, or retinoic acid. The well-publicized potential for toxicity with mega doses of vitamin A involves one of these three. Vitamin A toxicity, known as hypervitaminosis, always results from an excess of synthetic, "purified" vitamin A, and never from whole food vitamin A. (DeCava, p 86)

Effects of vitamin A toxicity include:

- tumor enhancement
- joint disorders
- osteoporosis
- extreme dryness of eyes, mouth and skin,
- enlargement of liver and spleen
- immune depression
- birth defects

Beta Carotene

-- is a precursor the body can convert to vitamin A. Unfortunately, as a supplement, synthetic beta carotene is usually "stabilized" in refined vegetable oils. In this trans fatty acid form, oxidation occurs and the chemically "pure" beta carotene can no longer act as a nutrient, because it was changed. Almost all synthetic beta carotene is produced by the Swiss drug giant Hoffman-LaRoche. This form can no longer be converted to vitamin A. The best it can be is worthless, and at the worst is toxic.

Natural vitamin A and beta carotene are well known as immune boosters and cancer fighters, in their role as antioxidants. Synthetic vitamin A by contrast has actually brought about significant increases in cancer. A study done in Finland provided smokers with large doses of synthetic beta carotene. Lung cancer incidence increased 18%! (*NEJM* Apr 94, "The Alpha Tocopherol Beta Carotene Cancer Prevention Study Group")

These findings were corroborated two years later in another study written up in *Lancet*. Pharmacologic doses of syntheric beta carotenes were found to block the antioxidant activity of the other 50 naturally occurring carotenoids in the diet. Anti-cancer activity was thus blocked by the synthetic. (*Lancet*, 1996)

With the vast outpouring of wrong information about vitamins A and C, the findings of a 1991 article in Health Counselor are no surprise: 50% of Americans are deficient in vitamin A and 41% are deficient in vitamin C. Synthetic vitamins cannot prevent deficiencies.

Fake Vitamin B

In one experiment, synthetic vitamin B (thiamine) was shown to render 100% of a group of pigs sterile! 100% would be considered a significant finding. (Dr. Barnett Sure, *Journ Natr*, 1939) Perhaps the fact that synthetic vitamin B comes from coal tar, maybe that has something to do with it, you think? Then there's vitamin B12, which comes from activated sewage sludge. (Frost p 60) Been shooting blanks since you started on those multi's?

For the licensed dieticians and clinical nutritionists reading this in disbelief because it is too "unscientific," consider the way Theron Randolph, M.D., delineated between natural and synthetic:

"A synthetically derived substance may cause a reaction in a chemically susceptible person when the same material of natural origin is tolerated, despite the two substances having identical chemical structures. The point is illustrated by the frequency of clinical reactions to synthetic vitamins – especially vitamin B1 and C- when the [same] naturally occurring vitamins are tolerated."

Irradiation

According to Los Angeles naturopath, Dr. Jack Singh, all commercial lecithins in supplements, as well as most vitamin D, comes from irradiated vegetable oils. That's rancid, oxidizing trans fatty acids! A birthday party of free radicals. This is the precise mechanism for arterial wall breakdown prior to plaque deposits, then arteriosclerosis, then heart disease. I thought we were supposed to be taking vitamins to stay healthy!

Lost Horizon

Why is this information so difficult to find? It's in none of the "alternative" health 'zines, or any of the mainstream media. Alternative-Lite guru Julian Whittaker, in his summer 1998 newsletter actually had the temerity to state outright "Synthetic vitamins and whole food vitamins are identical." I'm sure his synthetic vitamin company and all its retailers were reassured by this incredibly arrogant and flagrantly inaccurate pronouncement. But who is objecting? Only those clients of the 5 companies who know enough to take whole food vitamins, because they have become educated to realize the difference. These are the vast minority, having no control of the media.

Royal Lee and Harvey Wiley lost. Nobody knows who they are today, except we few. This is no accident. What everybody does know is Pepsi and Viagra and Wonder Bread and prednisone and Double Whoppers with Cheese and Zantac and Baskin-Robbins and Long's Drug Store. And grocery store vitamins: synthetic vitamins. That's America, today as the product of yesterday. Control of information in America today is one of the most sophisticated systems of influence ever devised. The simple ideas contained in this chapter are simply not available to the mass consciousness. The documentation is out there, but you really gotta dig.

100 years ago if a medical doctor saw a case of cancer he would call all his colleagues to come and have a look, telling them it was unlikely they would see another case, as cancer was so rare. People rarely died of heart attacks; in fact the term heart attack itself didn't even exist. There was no incidence at all of atherosclerosis. Diabetes was

practically unheard of. What did they eat? Fruits, vegetables, meat, butter, and lard. But none of it was processed with drugs and chemicals.

Today one in three dies of cancer. One in two dies of heart disease. Diabetes is the seventh leading cause of death in the U.S. (***Vital Statistics***) Is that progress? If you are a food manufacturer it is, and especially if you are a drug manufacturer. In the 1980s the WHO ranked the US as #22 in the world in infant mortality. Male sperm count is less than 20% of what it was in 1929. (1981 University of Florida report, *Natural vs. Synthetic*) Infant mortality is up; birth defects are up. We spend $1.5 trillion per year for health care, most of which goes for administration and executive salaries.

Who are the largest advertisers for TV and the printed media? Right: drug companies and food manufacturers. Do they want to keep the ball rolling? You bet. Will they kill you to do it? You bet. Do they want people to take charge of their own health by natural inexpensive foods and supplements? Negative. A cure for cancer has been "right around the corner" since Nixon. People are starting to ask questions; they're less inclined to believe the slick ads coming every 10 minutes on TV and in *Newsweek.*

Perhaps Hippocrates did not envision doctors as detail men or drug reps. He most likely thought like Henry Bieler, MD:

“Nature, if given the opportunity is always the greatest healer. It is the physician's role to assist in this healing, to play a supporting role.” - *Finding the Right Cure for You*

So what do you do? Well, you now have some insight that your vitamin needs are not being met by the Safeway generics. Wallach used to talk about expensive urine from these unmetabolized grocery store synthetic placebos.

The water soluble vitamins are best obtained through organic produce grown in mineral-rich soil. The fat soluble vitamins, A, E, and D are best obtained through fish, raw dairy, avocado, raw nuts, raw coconut, and clean meats.

Beyond this it's MLM marketing roulette, and if you can't spot the mark in the first 5 minutes, baby, it's you.

Note: Underlining added for emphasis

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Natural B Vitamins Are Better Than Synthetic Ones

By: Robert J Thiel, Ph.D., N.D.

Introduction At our office, we sometimes recommend products which contain various B vitamins. Some of our clients have indicated that the synthetic B vitamins that they take are at least as good because they normally contain higher amounts of the individual vitamins than the food formulas we normally recommend. Is this true? Are humans better off eating higher amounts of un-natural synthetics or smaller amounts of food complex B vitamins?

United States Pharmacopoeia (USP) synthetic vitamin B isolates are not food, even though they are often called "natural" and are sometimes added to foods—they are synthesized, standardized chemical isolates [1]. In nature, vitamins are never isolated: they are always present in the form of food vitamin-complexes [2-4]. This paper will discuss some of the physiochemical differences between individual natural B vitamins and synthetic ones, as well as cite clinical research which suggest that vitamins in a food complex are superior to USP isolated ones.

Vitamin B1, Thiamin The free vitamin B1 (called thiamin) is a base. When it is synthesized it becomes a solid salt such as thiamin hydrochloride or thiamin mononitrate [5]. Synthetically thiamin is usually marketed as thiamin hydrochloride or thiamin mononitrate [6] and is a made from Grewe diamine (a coal tar derivative [7]) processed with ammonia and other chemicals [8]. No thiamin hydrochloride (often listed as thiamin HCL) or thiamin mononitrate is naturally found in food or the body (thiamin pyrophosphate is the predominant form in the body [9]) [6]. Yeast and legumes are excellent food sources of natural thiamin [9]. "Thiamin is rapidly destroyed above pH 8...the addition of sodium bicarbonate to green beans and peas to retain their color or to dried beans to soften their skins inactivates thiamin" [9]. High heat, x-rays, and UV irradiation also destroy thiamin [9,10]. Thiamin mononitrate tends to be used for food fortification since it is more stable under storage and processing conditions [6]. An animal study found that a natural food complex vitamin B1 was absorbed 1.38 times more into the blood and was retained 1.27 times more in the liver than an isolated USP thiamin hydrochloride [11].

Vitamin B2, Riboflavin The free vitamin B2 (called riboflavin) is a weak base. When synthesized it becomes an orange amorphous solid [12]. Some synthetic riboflavin analogues have very weak vitaminic activity [12]. Some natural variations, especially in coenzyme forms, occur in plant (including fungal) species [13]. One study found that the pasteurization of bovine milk seems to reduce the bound form of riboflavin from 13.6% to 2% [14]. An animal study found that a natural food complex vitamin B2 was absorbed into the blood and was retained 1.92 times more in the liver than an isolated USP riboflavin [11].

Vitamin 'B3', Niacinamide "Niacin is a generic term...the two coenzymes that are the metabolically active forms of niacin (are)...nicotinamide adenine dinucleotide (NAD) and NAD phosphate (NADP)...Only small amounts of free forms of niacin occur in nature. Most of the niacin in food is present as a component of NAD and NADP...nicotinamide is more soluble in water, alcohol, and ether than nicotinic acid...many analogues of niacin have been synthesized, some of which have antivitamin activity " [15]. Niacinamide (also called nicotinamide) is considered to have less potential side-effects than niacin [15]; it also does not seem to cause gastrointestinal upset or hepatotoxicity that the synthetic time-released niacin can cause [16]. Beef, legumes, cereal grains, yeast, and fish are significant natural food sources of vitamin B3 [16]. Processing losses for this vitamin are mainly due to water leaching [17]. Synthetic niacin is usually made in a process involving formaldehyde and ammonia [8]. An animal study found that natural food complex niacinamide is 3.94 times more absorbed in the blood than USP niacinamide and 1.7 times more retained in the liver than isolated USP niacinamide [11].

Vitamin 'B5', Pantothenate Pantothenate was once known as vitamin B5 [18]. USP "Pantothenic acid consists of pantoic acid in amide linkage to beta-alanine", but the vitamin sometimes referred to as B-5 is not found that way in nature [19]. In food it is found as pantothenate; foods do not naturally contain pantothenic acid [19]. "Synthetic D-pantothenate, the active enantiomer is available as a calcium or sodium salt. However, multivitamin preparations commonly contain its more stable alcohol derivative, panthenol" [20]. Producing synthetic pantothenic acid involves the use of formaldehyde [8]. Organ meats, yeast, egg yolks, and broccoli are rich dietary sources of natural pantothenate [20]. Cooking meat and the processing of vegetables lead to significant losses of pantothenate (15-50% and 37-78% respectively) [20].

Vitamin B6 "An understanding of the various forms and quantities of these forms in foods is important in the evaluation of the bioavailability and metabolism of vitamin B-6"... one of the forms that vitamin B-6 exists is in the form of "5'0-(beta-D-glycopyransosyl) pyridoxine. To date only plant foods have been found to contain this interesting form of vitamin B-6" [21]. Yeast and rice bran contain more natural vitamin B6 than other foods [22]. The most common form in vitamin pills is USP pyridoxine

hydrochloride which is not naturally found in food [23]. At least one synthetic vitamin B-6 analogue has been found to inhibit natural vitamin B6 action [24]. Vitamin B6 supports the nervous, skin, and tongue; severe shortages result in abnormal brain patterns and convulsions [25]. Synthetic B6 usually requires formaldehyde in its production [49] and the extremely high amounts used in some synthetic supplements poses more risk than the lower amounts generally found in food vitamins [23]. An animal study found that natural food complex vitamin B6 was absorbed 2.54 times more into the blood and was retained 1.56 times more in the liver than an isolated USP form [11].

Vitamin 'B9', Folate The vitamin once known as vitamin M (and also vitamin B9 [18]) exists in foods as folate (also known as pteroylglutamate) [26]. Initially, natural food complex folate was given for people with a pregnancy-related anemia in the form of autolyzed yeast; later a synthetic USP isolate was developed [26]. Pteroylglutamic acid, the common pharmacological (USP) form known as folic acid, is not found significantly as such in the body and appears to be absorbed differently than folate [26]. Folic acid is not found in foods, but folate is [26]. Herbert reports a study found "that consumption of more than 266mcg of synthetic folic acid (PGA) results in absorption of unreduced PGA , which may interfere with folate metabolism for a period of years" [26]. Fortification with synthetic folic acid has been found to increase consumption for those who already have higher dietary intakes of folate more than those with lower intakes [27]. It is believed that fortification with synthetic folic acid may put a portion of the population at risk for vitamin B12 deficiency [28], yet all grain products advertised as enriched must (according to the US FDA) be fortified with folic acid [29]. "Foods with the highest folate content per dry weight include yeast, liver and organ meats, fresh green vegetables and some fruits" [26]. Food processing is a concern since "50-95% of folate in food may be destroyed by protracted cooking or other processing such as canning, and all folate is lost from refined foods such as sugars, hard liquor, and hard candies" [26]. An animal study found that a natural food complex folate was absorbed only 1.07 times more into the blood, yet was retained 2.13 times more in the liver than isolated USP folic acid [11].

Vitamin B12 Initially natural food complex vitamin B12 was given for people with pernicious anemia in the form of raw liver, but due to cost considerations a synthetic USP isolate was developed [30]. Cyanocobalamin (the common pharmacological/USP form of vitamin B12) is not found significantly as such in the body; it is usually present in reduced metabolically active co-enzyme forms (without the cyanide) often conjugated in peptide linkage [31, 32]. According to Herbert (and others) vitamin B-12 when ingested in its human-active form is non-toxic, yet Herbert and Das have warned that "the efficacy and safety of the vitamin B12 analogues created by nutrient-nutrient interaction in vitamin-mineral supplements is unknown" [31]. Some synthetic vitamin B12 analogues seem to be antagonistic to vitamin B12 activity in the body [33, 34]. Synthetic B-12 is made through a fermentation process with the addition of cyanide [8]. An animal study found that a natural food complex vitamin B12 was absorbed 2.56 times more into the blood and was retained 1.59 times more in the liver than isolated USP cyanocobalamin [11].

Food Processing and Fortification

The primary reason that nutrition became recognized as a separate science was the result of food processing. The refining of brown rice into white rice reduced B-complex vitamins and initially led to deaths in Asia due to beriberi [5, 35]. At first beri-beri was thought to be due to an infection, until it was learned that it was due to a lack of B vitamins. Actually, the reason they are called 'B' vitamins, is that the B initially stood for 'beri-beri'. The 'solution' to beri-beri was to add synthetic USP vitamins. Even though synthetic USP vitamins are added to white rice and does help prevent beri-beri, this 'fortified' white rice does not contain the same nutrients as unpolished brown rice (nor does white flour contain the same nutrients as whole flour) [35, 36] and can contribute to other health problems (such as constipation due to lack of fiber). Adding synthetics, most of which are not in the same chemical form as found in food vitamins, forces the body to digest them in ways it never should have to—why add this unnatural digestive stress?

The earlier refining of corn meal which reduced natural vitamin B-3 and amino acid levels was so devastating it produced around U.S. 7,000 deaths per year for several decades [37]. The refining of whole grains (including wheat, rice, and corn) has resulted in a dramatic reduction of their natural food complex nutrients [25, 35]. The milling of wheat to white flour reduces the natural food complex vitamin and mineral content by 40-60% [35]. Various food processing techniques (including pasteurization of milk) reduce the available vitamin B6 in foods by 10-50% [35, 36]. Irradiation of meat and other foods "changes the characteristics of food" [6] and has been found to reduce levels of vitamins B1, B6, and other nutrient levels [6, 22, 37]. Unknown nutrients may also be affected from food processing. No one yet knows how the combinations of these more recent food processing techniques will effect human health [38], but it is not likely that they will promote optimal nutrition. In nature, vitamins are never isolated. The primary reason that isolated USP vitamins were developed was cost [30]. A secondary reason probably was standardization (it is harder to standardize food), including stability [1, 6, 26]. Neither reason justifies placing USP isolates on the same health level as natural vitamins as found in foods.

Conclusion

Studies suggest that the bioavailability of natural food complex B vitamins is better than that of isolated USP vitamins [e.g. 5,12], that they may have better effects on maintaining aspects of human health beyond traditional vitamin deficiency syndromes, and at least some seem to be preferentially retained by the human body [11]. It is not always clear if these advantages are due to the

physiochemical form of the vitamin, with the other food constituents that are naturally found with them, or some combination. Regardless, it seems logical to conclude that for purposes of maintaining normal health, natural vitamins are superior to synthetic ones. Eating high dose synthetic B vitamins is like trying to make a computer when you only have 90% of the pieces with many of those pieces being larger than normal size; eating natural B vitamins is like trying to make a computer with 100% of the parts with all the parts the correct size. Which of the 'computers' would work better? Obviously the one with 100% of the right parts!

Most people can improve their health by eating health-building whole foods such as fruits and vegetables and whole grains (and consuming less refined carbohydrates) [25]. This alone can help increase the consumption of natural B vitamins. Vitamin B nutrition should come from food or from supplements which are as close to food as possible. Since no one knows everything there is to know about nutrition, it seems logical from both a historical and modern perspective to consume vitamins in the forms found in natural food complexes and not to try to build health based on chemical isolates.

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Breastfeeding Improves Glucose Tolerance And Cholesterol Levels

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It is generally accepted that breast feeding has a beneficial effect on the health of infants and young children. However, recently, studies have shown that the method of infant feeding is also associated with cardiovascular disease and its risk factors in adult life.

This study examined the association between the method of infant feeding in the first weeks after birth and glucose tolerance, plasma lipid profile, blood pressure, and body mass in adults aged 48-53 years.

The 625 subjects were born at term in Amsterdam, during a period of severe famine and war (1944-45). Information was available about infant feeding at the time of discharge from hospital (avg. 10 days), and at least one blood sample after an overnight fast.

Subjects who were bottle fed had a higher plasma glucose concentrations after standard oral glucose tolerance tests than those who were exclusively breast fed. They also had a higher plasma low density lipoprotein (LDL) cholesterol concentration, a lower high density lipoprotein (HDL) cholesterol concentration, and a higher LDL/HDL ratio.

Therefore, researchers suggest that exclusive breast feeding has a protective effect against some risk factors for cardiovascular disease in later life, including better glucose tolerance and improved cholesterol levels.

Comment: For development of an infant's best physiology and best immunity, infants should be breastfed for a minimum of 9 months, but preferably for 12 to 15 months. It is the single best thing a mother can do for her baby's health. Breast milk contains rich nutritional factors that give a child the best start in its life that creates a healthy foundation for its entire lifetime. Commercial baby formulas simply cannot come close to this complex, life-nourishing fluid called mother's milk.

It is a major tragedy that companies that sell formula actually discourage breast feeding. These commercial formulas typically contain toxic ingredients including hydrogenated oil, MSG and chemicalized ingredients – setting the infant up for allergies, poor digestion, poor development and chronic disease both immediately and later in life. It is estimated that every year substituting commercial formulas for breast milk kills over 1.5 million babies. The above study shows that even as an infant, when optimal guidelines for food are not followed, the major negative metabolic consequence appears to be mediated through a disruption in insulin levels which causes undesirable changes in glucose and cholesterol levels.

If a woman is interested in breastfeeding but needs to work, she can use a breast pump or express her milk by hand, then save the milk in a container (or freeze it) for use by the infant later. This is far superior to the so-called convenience of using commercial baby formulas.

Questioning Chemotherapy

How chemotherapy does not cure cancer or extend life

"Questioning Chemotherapy," a compelling book written by Dr. Ralph Moss, documents the ineffectiveness and **failure of chemotherapy in treating 96 to 98% of all cancers. His book details the failures (and very few successes) of chemotherapy for more than 50 types of cancer.**

Dr. Moss worked at the Memorial Sloan-Kettering Cancer Center for over 20 years. At a press conference in November, 1977, Dr. Moss released the truth to the public in a well-documented, 48-page report that stated the top officials of Sloan-Kettering had lied about the results of a study performed at the center regarding "laetrile" (an anti-cancer nutrient called vitamin B17). The next day he was fired.

Another well-documented book by Dr. Moss, "*The Cancer Industry*," reveals the enormous financial and political corruption in the "cancer establishment". He points out that the motivating forces behind cancer research and treatment are often power and generating endless supplies of money, not the cure of cancer patients.

Chemotherapy: Not A Cure

Dr. Moss' book documents the ineffectiveness of chemotherapy for most forms of cancer, such as breast, colon, prostate and lung cancer. Some very rare forms of cancer, including choriocarcinoma, Wilm's tumor and retinoblastoma, have been claimed to be helped by chemotherapy but all of these account for only 2% to 4% of all cancers occurring in the United States. This leaves some 96% to 98% of all other forms of cancers, in which chemotherapy doesn't eliminate the cancer. In fact, research shows that chemotherapy does the opposite: since it destroys the immune system's ability to respond normally, it ultimately helps to hasten the cancer patient to an early, often painful death.

What does "effective" mean?

Whether a cancer treatment is "effective" or not is a matter of definition. The FDA defines an "effective" chemotherapeutic drug as one which achieves a 50% or more reduction in tumor size for 28 days. Only 28 days! In the vast majority of cases, there is absolutely no correlation between shrinking tumors for 28 days and the cure of the cancer or extension of life.

When a cancer patient hears the doctor say that chemotherapy is "effective," he/she thinks that what the doctor really means is that it will cure the cancer. But what *really* happens is that the chemotherapy just temporarily shrinks the tumor (usually for only a short period of time), but at the same time, it poisons the cells of the immune system – so that later on (after only a few months to a year), the tumor will start to grow back more viciously and larger than ever, leading to very poor survival rates.

Does it seem cruel to tell a cancer patient that chemotherapy is "effective", when according to research, it is a known fact that the tumor shrinkage will be only temporary and statistically speaking, the patient has been virtually guaranteed of a much earlier death than if the cancer ran its course without intervention? Is telling a cancer patient that chemotherapy is "effective" *really* just "good marketing" of the expensive but ineffective chemotherapy drugs?

Deterioration of Quality of Life

World wide research shows chemotherapy typically doesn't cure cancer or extend life. Chemotherapy also does not improve the quality of the life, even though doctors frequently make this claim, hoping to convince the cancer patient to begin chemotherapy. Dr. Moss reviewed thousands of research studies and found there is not one single good study documenting the claim that chemotherapy improves quality of life at all – even temporarily.

What a patient considers to be a "good quality of life" seems to be different from what the doctors call a "good quality of life." Chemotherapy's notorious "side effects" (aren't they really "major" effects?) include making you throw up, losing your hair, creating extreme fatigue and destroying your immune system so it can no longer respond normally to even simple infections. Is this improving the quality of your life? Chemotherapy has many other so-called "side

effects": it can give you life-threatening mouth sores; some people have sloughed off the entire lining of the intestines!

One longer-term effect of chemotherapy is particularly tragic: many people who have had chemotherapy can no longer respond well to nutritional approaches to their cancers – often a last resort of help. Since chemotherapy doesn't cure 96% to 98% of all cancers anyway, people who do get chemotherapy may have sadly lost their only chance of overcoming cancer: the use of nutritionally-based therapies to strengthen their immune systems.

Chemotherapists Say "No Thanks" To Chemotherapy

In numerous surveys, most chemotherapists have said they would not take chemotherapy themselves or recommend it for their families. Chemotherapy drugs are some of the most toxic substances ever put deliberately into the human body. They are known poisons and they have been designed to be poisons. The basis of using chemotherapy began with experiments with "mustard gas," the horrible chemical-warfare agents from World War I, promoting the idea of "poisoning" the cancer cells. How-ever, this is simply not possible without poisoning the rest of the immune system at the same time.

Dr. Moss' position on chemotherapy's failure as a cancer treatment is supported by many major researchers in the study of cancer treatment. As early as 1975, Nobel Laureate James Watson of DNA fame was quoted in the *New York Times* saying that the American public had been "sold a nasty bill of goods about cancer."

Dr. John Cairns, a professor of microbiology at Harvard, published his view in *Scientific American* (1985), "that basically the war on cancer was a failure and that chemotherapy was not getting very far with the vast majority of cancers."

Dr. John Bailer, the chief of epidemiology at McGill University in Montreal and formerly the editor of the *Journal of the National Cancer Institute*, spoke out against chemotherapy. In 1986, the *New England Journal of Medicine* published an article by Dr. Bailer and Dr. Elaine Smith, a colleague from the University of Iowa. Bailer and Smith wrote: "Some 35 years of intense and growing efforts to improve the treatment of cancer have not had much overall effect on the most fundamental measure of clinical outcome - death. The effort to control cancer has failed so far to obtain its objectives."

In 1991, Dr. Albert Braverman, professor of Hematology and Oncology at the State University of New York, Brooklyn, published an article in *Lancet*, a prestigious British medical journal, entitled "Medical Oncology in the 1990s," in which he wrote: "The time has come to cut back on the clinical investigation of new chemotherapeutic regimens for cancer and to cast a critical eye on the way chemotherapeutic treatment is now being administered." Dr. Braverman points out that there is no solid tumor that was incurable in 1976 that is curable today by conventional medical means, including chemotherapy. Dr. Moss also confirms this.

What is lost in the unemotional statistic of 500,000 cancer deaths per year is how those people died. Dr. Julian Whitaker, a nutritionally minded medical doctor, points out his views on conventional cancer treatment: "cancer therapy is so toxic and dehumanizing that I fear it far more than I fear death from cancer. We know that conventional therapy doesn't work -- if it did, you would not fear cancer any more than you fear pneumonia. It is the utter lack of certainty as to the outcome of conventional treatment that virtually screams for more freedom of choice in the area of cancer therapy. Yet most so-called alternative therapies regardless of potential or proven benefit, are outlawed, which forces patients to submit to the failures that we know don't work, because there's no other choice."

The Greatest Breakthrough in Chemotherapy: Suppressed?

Dr. Moss identifies the greatest breakthrough in chemotherapy history: an exhaustive 1990 research study done by Dr. Ulrich Abel, a biostatistician at the University of Heidelberg. Dr. Abel's critique focused on whether chemotherapy effectively prolonged survival in advanced epithelial cancer. His conclusion was that chemotherapy was not effective. Based on extensive factual data, he also concluded that **chemotherapy overall for most all cancers was ineffective**. A recent search to find reviews of his work in American medical journals turned up "zero" reviews. Is the enormous impact of Dr. Abel's irrefutable research regarding chemotherapy being suppressed in American medicine? What is the reason for the "black-out" on his research?

With the extensive documentation in Dr. Moss' book and the statistical evidence developed by the experts on chemotherapy, why is chemotherapy still being pushed by the majority of oncologists? Dr. Moss feels that "there's a tremendous conflict going on in the minds of honest, sensitive, caring oncologists." They're in a very difficult position because they have spent many years in training to learn how to give these poisonous, deadly compounds. They originally went into oncology to be able to help the cancer patient, yet they realize the tools they've been given do not work – and worse yet, that chemotherapy is shortening the patient's quality and quantity of life. They also see what happens to physicians who "step out of line" and treat cancer with alternative, nontoxic methods. Some try to leave medicine and get into other professions, but few jobs pay as well as a medical career.

After years of seeing so many patients go rapidly "down hill" after beginning chemotherapy, some well-meaning oncologists have simply taken a few selected patients aside (the ones they feel will not expose them) and say, "I didn't tell you this and I will deny it if you tell anyone I said this, but don't do chemo. It will not work for your daughter. Go home and try other methods." This is exactly what happened to one of our friends who took their cancer-stricken, 16-year-old daughter to a cancer facility in California. After their doctor told them the truth, they quietly exited the chemo program for their daughter and then tried nutritional methods. She is doing very well today, cancer-free.

But woe unto the oncologist who is "caught" warning the patients against the "establishment" cancer protocols or simply not following their protocols. Armed raids, loss of licensure, professional smearing and ostracism are some of the consequences. At a recent National Institute of Health meeting, Dr. Lundberg, editor of the *Journal of the American Medical Association* is quoted as saying of chemotherapy: "[It's] a marvelous opportunity for rampant deceit. So much money is there to be made that ethical principles can be overrun sometimes in a stampede to get at physicians and prescribers." You never heard that on the evening news.

Cancer: $100 Billion Spent Per Year

The economics of cancer treatment are astounding. Cancer treatment is close to $100 billion annually (that's $100,000,000,000). The chemotherapy part of that is close to $8.5 billion. Looking from another angle: the Bristol Myers company owns patents on 12 of the nearly 40 "FDA-approved" chemotherapeutic drugs. The president, past president, chairman of the board, and a couple of the directors of Bristol Myers all hold positions on the board at Memorial Sloan-Kettering Cancer Center.

The death rate for cancer continues to go up. Conventional treatment is based on a faulty premise: that the body must be purged of cancer by aggressive and toxic methods such as surgery, chemotherapy and radiation therapy. In reality, it is the body that ultimately must heal itself – not a toxic "killing of the cancer." That is why the best outcome in cancer can only be when the body's immune system is strengthened – not weakened.

Don't Take A Passive Role

If you are in a fight for your life, then be sure you educate yourself. It is perplexing to hear the news stories of some celebrity, who has started some sort of toxic chemotherapy and is, as the news commentator says, "courageously battling for his life." What does that really mean? The celebrity, who has simply accepted conventional cancer therapy, is no more "courageous" than a laboratory mouse. Of course, it is the celebrity's choice – but the very opposite of a willful act of courage.

Taking a passive role in accepting conventional cancer therapy is dangerous. Remember Jackie Kennedy who, after a "courageous fight," succumbed to non-Hodgkin's lymphoma - or did she? Her early death, attributed to the cancer, was a shock to cancer specialists worldwide, but it brought the real cause of her death into question. She had been given an unproved protocol of very high-dose chemotherapy. These drugs alone could easily have caused her death - and this would not be unusual. There are numerous cases of iatrogenic (doctor-induced) deaths from chemotherapy.

Actively Fight For Your Life

A person with cancer who says, "no thanks" to therapies that have been proven not to work has begun the first step in a long journey. The person must begin to educate himself/herself by reading many different educational sources – to construct their own best battle plan in winning against cancer. This is acting courageously. What have they got to lose?

It is unreasonable to expect conventional cancer experts to offer the best approaches for most cancers. Irrefutable worldwide research shows too much evidence to the contrary. Since conventional cancer treatment is toxic and simply doesn't work, it appears that the most survivors will be those that investigate other alternative, nontoxic approaches.

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The Cancer-Sugar Connection

Sugar Feeds Cancer

The simple concept that "**sugar feeds cancer**" is often overlooked as part of a comprehensive support plan for cancer sufferers. Of over 4 million cancer patients being treated in the U.S. today, few are offered specific advice or guidelines for using optimum nutrition, beyond being told to "just eat good foods." Most cancer sufferers lack knowledge of what an optimal nutritional program is or how to implement it.

Many cancer sufferers could have a major improvement in the outcome of their disease if cancer's preferred fuel, glucose, was controlled. Eliminating refined sugar and adopting an optimal whole foods diet combined with top quality nutritional supplements and exercise, may be critical components in recovering from cancer.

Glucose: The Fuel of Cancer Cells

Dr. Otto Warburg, Ph.D., a 1931 Nobel laureate in medicine, first discovered that cancer cells have a different energy metabolism compared to healthy cells. He found that malignant tumors frequently exhibit an increase in anaerobic ("without air") glycolysis -- an abnormal process whereby glucose is used as a primary fuel by cancer cells and which generates large amounts of lactic acid as a byproduct. (1)

In contrast, normal cells predominantly undergo aerobic ("with air") cellular metabolism. In cancer, the large increase in lactic acid generated by the cancer cells must be transported to the liver for metabolism and clearance. The lactic acid creates a lower, more acidic pH in cancerous tissues as well as overall physical fatigue from liver stress due to overworking to try to clear the lactic acid buildup. (2, 3) Consequently, larger tumors tend to have a more acidic pH. (4) The goal is to return the body to aerobic metabolism as quickly as possible and to achieve an alkaline tissue pH (between 6.4 – 7.0). An alkaline environment is an unfavorable environment for cancer growth.

Since the cancer cell's metabolism, anerobic glycolysis, is very inefficient, extracting only about 5% of the available energy in the food supply and from the body's own calorie stores, the cancer, in effect, is "wasting" energy, so the cancer sufferer eventually becomes tired and undernourished. This vicious cycle increases body wasting – often in a downward spiral until death. (5) This is one reason why almost 40% of cancer sufferers die from malnutrition (called cachexia or "wasting away"). (6)

Do Glucose IVs Feed Cancer?

In hospitals, the total parenteral (TPN) solution typically given to cancer patients intravenously provides 70% of the calories going into the bloodstream in the form of glucose. These **high-glucose solutions** for cachectic cancer patients may be a poor choice of I.V. nutrition and may in effect, be **serving to feed the tumor**. A more nutritionally balanced I.V. solution with low glucose levels in addition to a broad spectrum of nutrients such as amino acids, vitamins, minerals, lipids and co-factors, may be a much better choice and allow the patient to build strength and would not feed the tumor. (7)

The best way to regulate blood-glucose levels in cancer sufferers may be the following: 1) an optimal whole foods diet 2) top quality nutritional supplements with a broad spectrum of anti-infective, immune-supportive phytonutrients, 3) regular exercise and sunlight 4) gradual weight loss (if overweight) and 5) stress reduction. Professional nutritional guidance is crucial for cancer victims. The goal of nutrition therapy is not to eliminate all carbohydrates from the diet but eliminate all refined carbohydrates, and thus, control blood glucose within a narrow range to help starve the cancer and also bolster immune function.

Blood Sugar Standards

"Sugar" is a generic term used to identify simple and complex carbohydrates, which includes monosaccharides such as fructose, glucose and galactose; and disaccharides such as maltose and sucrose (white table sugar). The standards for blood sugar levels: a) less than 110 mg/dL is considered normal b) 111 to 125 mg/dL is considered to be impaired glucose tolerance and c) 26 mg glucose/dL blood or greater is considered to be diabetic (1997 American Diabetes Association blood-glucose standards).

Excess Blood Sugar and Degeneration

The diets of our ancestors which consisted of vegetables, lean meat, whole grains, nuts, seeds and fruits, is estimated to have promoted healthy blood glucose levels between 60 and 90 mg/dL. (8) Today's typical diet high in refined sugar is promoting abnormally high blood sugar levels and unprecedented unhealthy effects in blood-sugar metabolism. Excess blood glucose can initiate yeast overgrowth, blood vessel deterioration, diabetes, heart disease, increased rate of infections and many other adverse health conditions. (9)

Blood Sugar and Breast Cancer

A mouse model of human breast cancer demonstrated that tumors are sensitive to blood glucose levels. Mice were injected with an aggressive strain of breast cancer, then fed diets to induce one of the following: high blood sugar (hyperglycemia), normal blood sugar or low blood sugar (hypoglycemia). The findings showed that **the lower the blood glucose, the greater the survival rate**. (10, 11) This suggests that **reducing refined sugar intake is a key factor in slowing breast tumor growth.**

A large-scale epidemiological study of 21 modern countries that track morbidity and mortality (Europe, North America, Japan and others) revealed that **sugar intake is a strong risk factor that contributes to higher breast cancer rates, particularly in older women.**(12)

Blood Sugar and Immune Cell Activity

In an immune cell study, 10 healthy people were assessed for fasting blood-glucose levels and the phagocytic index of neutrophils, which measures the ability of immune cells to destroy invaders such as cancer. **Eating 100 grams of carbohydrates from glucose, sucrose, honey and orange juice all significantly decreased the capacity of neutrophils to engulf bacteria. Starch did not have this effect.** (13)

In a 4-year research study at the National Institute of Public Health and Environmental Protection in the Netherlands, 111 cancer patients (with cancer of the biliary tract) were compared with 480 controls. **Cancer risk associated with the intake of sugars, independent of other energy sources, more than doubled for the cancer patients**. (14)

The medical establishment may be missing the connection between sugar and its role in tumorigenesis. The PET scan, a million-dollar positive emission tomography device, is regarded as one of the ultimate cancer-detection tools. PET scans use radioactively-labeled glucose to detect sugar-hungry tumor cells. The more glucose that is detected at a site, the worse the tumor is becoming. PET scans are used to plot the progress of cancerous tumors and to assess whether present protocols are effective. (15)

Kick the Sugar Out

In Europe, the "sugar feeds cancer" concept is well known. Glucose has an irrefutable role in encouraging the growth and metastasis of cancer. Based on research and the cancer-sugar connection, **the best dietary recommendation** for those with cancer may be a **whole foods, organic diet** with includes more fresh, organic vegetables, but less sweet fruit (such as bananas, figs, dates, etc.) as well as **eliminating all refined sugars, (such as fructose, sucrose, sorbitol, maltodextrin, etc.) including hidden refined sugars** (found in foods not normally associated with containing sugar such as soups, breads, ketchup, etc.). This carefully planned regime may be an enormous help in regulating blood glucose and hence, improving immunity while selectively starving cancer cells.

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Breast Cancer, Alcohol and Tobacco

Comments from Bandolier: Evidence-Based Thinking about Health Care (www.jr2.ox.ac.uk/bandolier/band109/b109-4.html)

One of the most important developments in recent years has been collaboration between research groups to pool information on individual patients better to understand disease development and treatment. One such is investigating breast cancer [1].

Study

The **influence of alcohol and tobacco on breast cancer** was examined in **65 studies** contributing individual patient data on over 66,000 women with breast cancer and nearly 130,000 controls. Of these, 53 had information on both alcohol and tobacco in **58,500 cases of breast cancer and 95,000 controls**.

Case-control and cohort studies were eligible if they recruited at least 100 women with invasive breast cancer and recorded information on reproductive factors and use of hormonal therapies. Information on individual women was collated and analysed centrally to use as similar definitions as possible. One drink was 12 grams of alcohol in the USA and Italy, 8 grams in the UK and 10 grams elsewhere.

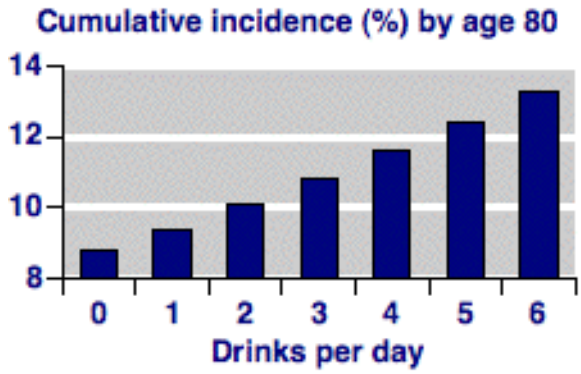
Results

The average age at diagnosis of breast cancer was 52 years. Women with higher alcohol consumption also tended to smoke more in cases and controls. Only 37% of women who never drank alcohol had ever smoked, a proportion rising to about 70% in those with the highest alcohol intake.

In women who had never drunk alcohol (22,000 cases and 41,000 controls) there was no relationship between breast cancer and smoking history (relative risk 1.03). Because of the relationship between increased alcohol consumption and increased smoking, no reliable information could be drawn for smokers who also drank alcohol.

The relative **risk of breast cancer was positively linked to increased daily alcohol consumption** (Figure 1), to the same extent in women who had never smoked and in those who had ever smoked. Overall, the increase in the relative **risk of breast cancer rose by 7% for each 10 grams per day of alcohol intake**. There was no significant variation in the trend for any of 15 factors (race, education, BMI, breastfeeding etc).

Figure 1: **Relationship between daily alcohol consumption and relative risk for breast cancer in women**



Comment

This is fantastic stuff, which can be relied upon because of the mass of information and the quality of the analysis. It **firmly makes alcohol an issue for women**. . .

Reference:

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Coconut: In Support of Good Health in the 21st Century

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Abstract

Coconuts play a unique role in the diets of mankind because they are the source of important physiologically functional components. These physiologically functional components are found in the fat part of whole coconut, in the fat part of desiccated coconut, and in the extracted coconut oil. Lauric acid, the major fatty acid from the fat of the coconut, has long been recognized for the unique properties that it lends to nonfood uses in the soaps and cosmetics industry. More recently, lauric acid has been recognized for its unique properties in food use, which are related to its antiviral, antibacterial, and antiprotozoal functions. Now, capric acid, another of coconut's fatty acids has been added to the list of coconut's antimicrobial components. These fatty acids are found in the largest amounts only in traditional lauric fats, especially from coconut.

Also, recently published research has shown that natural coconut fat in the diet leads to a normalization of body lipids, protects against alcohol damage to the liver, and improves the immune system's anti-inflammatory response. Clearly, there has been increasing recognition of health- supporting functions of the fatty acids found in coconut. Recent reports from the U.S. Food and Drug Administration about required labeling of the trans fatty acids will put coconut oil in a more competitive position and may help return to its use by the baking and snack food industry where it has continued to be recognized for its functionality. Now it can be recognized for another kind of functionality: the improvement of the health of mankind.

I. Introduction

Mr. Chairman and members of the Asian Pacific Coconut Community, I would like to thank you for inviting me to once again speak to this gathering of delegates on the occasion of your 36th session as you celebrate the 30th anniversary of APCC.

When I addressed the 32nd COCOTECH meeting in Cochin, India, I covered two areas of interest to the coconut community. In the first part, I reviewed the major health challenge facing coconut oil at that time, which was based on a supposed negative role played by saturated fat in heart disease. I hope that my talk was able to dispel any acceptance of that notion. In the second part of my talk I suggested that there were some new positive health benefits from coconut that should be recognized. These benefits stemmed from coconut's use as a food with major functional properties for antimicrobial and anti-cancer effects.

In my presentation today, I will bring you up to date about the new recognition of functional foods as important components in the diet. Additionally, I would like to briefly review the state of the anti-saturated fat situation and bring you up to date on some of the research that compares the beneficial effects of saturated fats with those of omega-6 polyunsaturates, as well as the beneficial effects of the saturated fats relative to the detrimental effects of the partially hydrogenated fats and the trans fatty acids. In particular I will review some of the surprising beneficial effects of the special saturates found in coconut oil as they compare with those of the unsaturates found in some of the other food oils. Components of coconut oil are increasingly being shown to be beneficial. Increasingly, lauric acid, and even capric acid, has been the subject of favorable scientific reports on health parameters.

II. Functional Properties of Lauric Fats As Antimicrobials

Earlier this year, at a special conference entitled, "Functional Foods For Health Promotion: Physiologic Considerations"; Experimental Biology '99, Renaissance Washington Hotel, Washington, DC Saturday, April 17, 1999, which was sponsored by the International Life Sciences Institute, ILSI NORTH AMERICA, Technical Committee on Food Components for Health Promotion, the term "functional foods" was defined as "a functional food provides a health benefit over and beyond the basic nutrients."

This is exactly what coconut and its edible products such as desiccated coconut and coconut oil do. As a functional food, coconut has fatty acids that provide both energy (nutrients) and raw material for antimicrobial fatty acids and monoglycerides (functional components) when it is eaten. Desiccated coconut is about 69% coconut fat, as is creamed coconut. Full coconut milk is approximately 24% fat.

Approximately 50% of the fatty acids in coconut fat are lauric acid. Lauric acid is a medium chain fatty acid, which has the additional beneficial function of being formed into monolaurin in the human or animal body. Monolaurin is the antiviral, antibacterial, and antiprotozoal monoglyceride used by the human or animal to destroy lipid-coated viruses such as HIV, herpes, cytomegalovirus, influenza, various pathogenic bacteria, including listeria monocytogenes and helicobacter pylori, and protozoa such as Giardia lamblia. Some studies have also shown some antimicrobial effects of the free lauric acid.

Also, approximately 6-7% of the fatty acids in coconut fat are capric acid. Capric acid is another medium chain fatty acid, which has a similar beneficial function when it is formed into monocaprin in the human or animal body. Monocaprin has also been shown to have antiviral effects against HIV and is being tested for antiviral effects against herpes simplex and antibacterial effects against chlamydia and other sexually transmitted bacteria. (Reuters, London June 29, 1999) See below for details.

The food industry has, of course, long been aware that the functional properties of the lauric oils, and especially coconut oil, are unsurpassed by other available commercial oils. Unfortunately, in the U.S., both during the late 1930s and again during the 1980s and 1990s, the commercial interests of the U.S. domestic fats and oils industry were successful in driving down usage of coconut oil. As a result, in the U.S. and in other countries where the influence from the U.S. is strong, the manufacturer has lost the benefit of the lauric oils in its food products. As we will see from the data I will present in this talk, it is the consumer who has lost the many health benefits that can result from regular consumption of coconut products.

The antiviral, antibacterial, and antiprotozoal properties of lauric acid and monolaurin have been recognized by a small number of researchers for nearly four decades: this knowledge has resulted in more than 20 research papers and several U.S. patents, and this past year it resulted in a comprehensive book chapter, which reviewed the important aspects of lauric oils as antimicrobial agents (Enig 1998). In the past, the larger group of clinicians and food and nutrition scientists has been unaware of the potential benefits of consuming foods containing coconut and coconut oil, but this is now starting to change.

Kabara (1978) and others have reported that certain fatty acids (FAs) (e.g., medium-chain saturates) and their derivatives (e.g., monoglycerides (MGs)) can have adverse effects on various microorganisms: those microorganisms that are inactivated include bacteria, yeast, fungi, and enveloped viruses. Additionally, it is report-ed that the antimicrobial effects of the FAs and MGs are additive, and total concentration is critical for inactivating viruses (Isaacs and Thormar 1990).

The properties that determine the anti-infective action of lipids are related to their structure: e.g., monoglycerides, free fatty acids. The monoglycerides are active; diglycerides and triglycerides are inactive. Of the saturated fatty acids, lauric acid has greater antiviral activity than either caprylic acid (C-8), capric acid (C-10), or myristic acid (C-14). In general, it is reported that the fatty acids and monoglycerides produce their killing/inactivating effect by lysing the plasma membrane lipid bilayer. The antiviral action attributed to monolaurin is that of solubilizing the lipids and phospholipids in the envelope of the virus, causing the disintegration of the virus envelope. However, there is evidence from recent studies that one antimicrobial effect in bacteria is related to monolaurin's interference with signal transduction (Projan et al 1994), and another antimicrobial effect in viruses is due to lauric acid's interference with virus assembly and viral maturation (Hornung et al 1994).

Recognition of the antiviral aspects of the antimicrobial activity of the monoglyceride of lauric acid (monolaurin) has been reported since 1966. Some of the early work by Hierholzer and Kabara (1982) that showed virucidal effects of monolaurin on enveloped RNA and DNA viruses was done in conjunction with the Center for Disease Control of the U.S. Public Health Service. These studies were done with selected virus prototypes or recognized representative strains of enveloped human viruses. The envelope of these viruses is a lipid membrane, and the presence of a lipid membrane on viruses makes them especially vulnerable to lauric acid and its derivative monolaurin.

The medium-chain saturated fatty acids and their derivatives act by disrupting the lipid membranes of the viruses (Isaacs and Thormar 1991; Isaacs et al 1992). Research has shown that enveloped viruses are inactivated in both human and bovine milk by added fatty acids and monoglycerides (Isaacs et al 1991), and also by endogenous fatty acids and monoglycerides of the appropriate length (Isaacs et al 1986, 1990, 1991, 1992; Thormar et al 1987).

Some of the viruses inactivated by these lipids, in addition to HIV, are the measles virus, herpes simplex virus-1 (HSV-1), vesicular stomatitis virus (VSV), visna virus, and cytomegalovirus (CMV). Many of the pathogenic organisms reported to be inactivated by these antimicrobial lipids are those known to be responsible for opportunistic infections in HIV-positive individuals. For example, concurrent infection with cytomegalovirus is recognized as a serious complication for HIV+ individuals (Macallan et al 1993). Thus, it would appear to be important to investigate the practical aspects and the potential benefit of an adjunct nutritional support regimen for HIV-infected individuals,

which will utilize those dietary fats that are sources of known antiviral, antimicrobial, and antiprotozoal monoglycerides and fatty acids such as monolaurin and its precursor lauric acid.

Until now, no one in the mainstream nutrition community seems to have recognized the added potential of antimicrobial lipids in the treatment of HIV-infected or AIDS patients. These antimicrobial fatty acids and their derivatives are essentially nontoxic to man; they are produced in vivo by humans when they ingest those commonly available foods that contain adequate levels of medium-chain fatty acids such as lauric acid. According to the published research, lauric acid is one of the best "inactivating" fatty acids, and its monoglyceride is even more effective than the fatty acid alone (Kabara 1978, Sands et al 1978, Fletcher et al 1985, Kabara 1985).

The lipid-coated (envelope) viruses are dependent on host lipids for their lipid constituents. The variability of fatty acids in the foods of individuals as well as the variability from de novo synthesis accounts for the variability of fatty acids in the virus envelope and also explains the variability of glycoprotein expression, a variability that makes vaccine development more difficult.

Monolaurin does not appear to have an adverse effect on desirable gut bacteria, but rather on only potentially pathogenic microorganisms. For example, Isaacs et al (1991) reported no inactivation of the common Escherichia coli or Salmonella enteritidis by monolaurin, but major inactivation of Hemophilus influenzae, Staphylococcus epidermidis and Group B gram positive streptococcus.

The potentially pathogenic bacteria inactivated by monolaurin include Listeria monocytogenes, Staphylococcus aureus, Streptococcus agalactiae, Groups A,F & G streptococci, gram-positive organisms, and some gram-negative organisms if pretreated with a chelator (Boddie & Nickerson 1992, Kabara 1978, Kabara 1984, Isaacs et al 1990, Isaacs et al 1992, Isaacs et al 1994, Isaacs & Schneidman 1991, Isaacs & Thormar 1986, Isaacs & Thormar 1990, Isaacs & Thormar 1991, Thormar et al 1987, Wang & Johnson 1992).

Decreased growth of Staphylococcus aureus and decreased production of toxic shock syndrome toxin-1 was shown with 150 mg monolaurin per liter (Holland et al 1994). Monolaurin was 5000 times more inhibitory against Listeria monocytogenes than ethanol (Oh & Marshall 1993). Helicobacter pylori is rapidly inactivated by medium-chain monoglycerides and lauric acid, and there appears to be very little development of resistance of the organism to the bactericidal effects (Petschow et al 1996) of these natural antimicrobials.

A number of fungi, yeast, and protozoa are inactivated or killed by lauric acid or monolaurin. The fungi include several species of ringworm (Isaacs et al 1991). The yeast reported is Candida albicans (Isaacs et al 1991). The protozoan parasite Giardia lamblia is killed by free fatty acids and monoglycerides from hydrolyzed human milk (Hernell et al 1986, Reiner et al 1986, Crouch et al 1991, Isaacs et al 1991). Numerous other protozoa were studied with similar findings; these findings have not yet been published (Jon J. Kabara, private communication, 1997).

Research continues in measuring the effect of the monoglyceride derivative of capric acid monocaprin as well as the effects of lauric acid. Chlamydia trachomatis is inactivated by lauric acid, capric acid, and monocaprin (Bergsson et al 1998), and hydrogels containing monocaprin are potent in vitro inactivators of sexually transmitted viruses such as HSV-2 and HIV-1 and bacteria such as Neisseria gonorrhoeae (Thormar 1999).

III. Origins of the Anti-Saturated Fat Agenda

The coconut industry has suffered more than three decades of abusive rhetoric from the consumer activist group Center for Science in the Public Interest (CSPI), from the American Soybean Association (ASA) and other members of the edible oil industry, and from those in the medical and scientific community who learned their misinformation from groups like CSPI and ASA. I would like to review briefly the origins of the anti-saturated fat, anti-tropical oil campaigns and hopefully give you some useful insight into the issues.

When and how did the anti-saturated fat story begin? It really began in part in the late 1950s, when a researcher in Minnesota announced that the heart disease epidemic was being caused by hydrogenated vegetable fats. The edible oil industry's response at that time was to claim it was only the saturated fat in the hydrogenated oils that was causing the problem. The industry then announced that it would be changing to partially hydrogenated fats and that this would solve the problem.

In actual fact, there was no change because the oils were already being partially hydrogenated, and the levels of saturated fatty acids remained similar, as did the levels of the trans fatty acids. The only thing that really changed was the term for hydrogenation or hardening listed on the food label.

During this same period, a researcher in Philadelphia reported that consuming polyunsaturated fatty acids lowered serum cholesterol. This researcher, however, neglected to include the information that the lowering was due to the cholesterol going into the tissues, such as the liver and the arteries. As a result of this research report and the acceptance of this new agenda by the domestic edible oils industries, there was a gradual increase in the emphasis on replacing "saturated fats" in the diet and on the consuming of larger amounts of the "polyunsaturated fats." As many

of you probably know, this strong emphasis on consuming polyunsaturates has backfired in many ways: the current adjustments being recommended in the U.S. by groups such as the National Academy of Sciences replace the saturates with monounsaturates instead of with polyunsaturates and replace polyunsaturates with monounsaturates.

Early promoters of the anti-saturated fat ideas included companies such as Corn Products Company (CPC International) through a book written by Jeremiah Stamler in 1963, with the professional edition published in 1966 by CPC. This book took some of the earliest pejorative stabs at the tropical oils. In 1963, the only tropical fat or oil singled out as high in saturated fats was coconut oil. Palm oil had not entered the U.S. food supply to any extent, had not become a commercial threat to the domestic oils, and was not recognized in any of the early texts. An observation by the editorial staff of Consumer Reports noted that "...in 1962...one writer observed, the average American now fears fat (saturated fat, that is) 'as he once feared witches.'"

In 1965, a representative of Procter and Gamble told the American Heart Association to change its Diet/Heart statement, removing any reference to the trans fatty acids. This altered official document encouraged the consumption of partially hydrogenated fats. In the 1970s, this same Procter and Gamble employee served as nutrition chairman in two controlling positions for the National Heart Lung and Blood Institute's Lipid Research Clinic (LRC) trials and as director of one of the LRC centers. These LRC trials were the basis for the 1984 NIH Cholesterol Consensus Conference, which in turn spawned the National Cholesterol Education Program (NCEP). This program encourages consumption of margarine and partially hydrogenated fats, while admitting that trans should not be consumed in excess. The official NCEP document states that "...coconut oil, palm oil, and palm kernel oil...should be avoided..."

In 1966, the U.S. Department of Agriculture documents on fats and oils talked about how unstable the unsaturated fats and oils were. There was no criticism of the saturated fats. That criticism of saturated fat was to come later to this agency when it came under the influence of the domestic edible fats and oils industry, and when it developed the U.S. Dietary Guidelines. These Dietary Guidelines became very anti-saturated fat and remain so to this day. Nevertheless, as we will learn later in my talk, there has started some reversal of the anti-saturated fat stance in the works in this agency in 1998.

In the early 1970s, although a number of researchers were voicing concerns about the trans fats, the edible oil industry and the U.S. Food and Drug Administration (FDA) were engaging in a revolving-door exchange that would (i) promote the increasing consumption of partially hydrogenated vegetable oils, (ii) would condemn the saturated fats, and (iii) hide the trans issue. As an example of this "oily" exchange, in 1971 the FDA's general counsel became president of the edible oil trade association, and he in turn was replaced at the FDA by a food lawyer who had represented the edible oil industry.

From that point on, the truth about any real effects of the dietary fats had to play catch-up. The American edible oil industry sponsored "information" to educate the public, and the natural dairy and animal fats industries were inept at countering any of that misinformation. Not being domestically grown in the U.S., coconut oil, palm oil, and palm kernel oil were not around to defend themselves at that time. The government agencies responsible for disseminating information ignored those protesting "lone voices," and by the mid-1980s, American food manufacturers and consumers had made major changes in their fats and oils usage -- away from the safe saturated fats and headlong into the problematic trans fats.

Enig and Fallon (1998/1999) have reviewed the above history in "The Oiling of America" published in the Australian magazine Nexus. The magazine has placed this review on the internet and it can be viewed or downloaded from the Nexus website. The internet addresses for the websites are http://www.peg.apc.org/~nexus/OilingAmerica.1.html and http://www.peg.apc.org/~nexus/OilingAmerica.2.html.

IV. The Damaging Role of the U.S. Consumer Activist Group CSPI

Some of the food oil industry (especially those connected with the American Soybean Association (ASA)) and some of the consumer activists (especially the Center for Science in the Public Interest (CSPI) and also the American Heart Savers Association) further eroded the status of natural fats when they sponsored the major anti-saturated fat, anti-tropical oils campaign in the late 1980s.

Actually, an active anti-saturated fat bias started as far back as 1972 in CSPI. But beginning in 1984, this very vocal consumer activist group started its anti-saturated fat campaign in earnest. In particular, at this time, the campaign was against the "saturated" frying fats, especially those being used by fast-food restaurants. Most of these so-called saturated frying fats were tallow based, but also included was palm oil in at least one of the hotel/restaurant chains.

Then in a "News Release" in August 1986, CSPI criticized what it called "Deceptive Vegetable Oil Labeling: Saturated Fat Without The Facts," referring to "palm, coconut, and palm kernel oil" as "rich in artery-clogging

saturated fat." CSPI further announced that it had petitioned the Food and Drug Administration to stop allowing labeling of foods as having "100% vegetable shortening" if they contained any of the "tropical oils." CSPI also asked for mandatory addition of the qualifier "a saturated fat" when coconut, palm or palm kernel oils were named on the food label.

In 1988, CSPI published a booklet called "Saturated Fat Attack." This booklet contained lists of processed foods "surveyed" in Washington, DC supermarkets. The lists were used for developing information about the saturated fat in the products. Section III is entitled "Those Troublesome Tropical Oils" and it contains statements encouraging pejorative labeling. There were lots of substantive mistakes in the booklet, including errors in the description of the biochemistry of fats and oils and completely erroneous statements about the fat and oil composition of many of the products.

At the same time CSPI was conducting its campaign in 1986, the American Soybean Association began its anti-tropical oil campaign by sending inflammatory letters, etc., to soybean farmers. The ASA took out advertisements to promote a "[tropical] Fat Fighter Kit." The ASA hired a Washington DC "nutritionist" to survey supermarkets to detect the presence of tropical oils in foods.

Then early in 1987, the ASA petitioned the FDA to require labeling of "Tropical Fats," and by mid-1987, the Soybean Digest continued an active and increasing anti-tropical oils campaign. At about the same time (June 3, 1987), the New York Times published an editorial, "The Truth About Vegetable Oil," in which it called palm, palm kernel, and coconut oils "the cheaper, artery-clogging oils from Malaysia and Indonesia" and claimed that U.S. federal dietary guidelines opposed tropical oils, although it is not clear that this was so. The "artery-clogging" terminology was right out of CSPI.

Two years later in 1989, the ASA held a press conference with the help of the CSPI in Washington DC in an attempt to counter the palm oil group's press conference of 6 March. The ASA "Media Alert" stated that the National Heart Lung and Blood Institute and National Research Council "recommend consumers avoid palm, palm kernel and coconut oils." Only months before these press conferences, millionaire Phil Sokolof, the head of the National Heart Savers Association (NHSA), purchased the first of a series of anti-saturated fats and anti-tropical fats advertisements in major newspapers. No one has found an overt connection between Sokolof (and his NHSA) and the ASA, but the CSPI bragged about being his advisor.

V. What About Heart Disease and Coconut Oil?

The research over four decades concerning coconut oil in the diet and heart disease is quite clear: coconut oil has been shown to be beneficial. This research leads us to ask the question, "should coconut oil be used to both prevent and treat coronary heart disease?"

This statement is based on several reviews of the scientific literature concerning the feeding of coconut oil to humans. Blackburn et al (1988) have reviewed the published literature of "coconut oil's effect on serum cholesterol and atherogenesis" and have concluded that when "...[coconut oil is] fed physiologically with other fats or adequately supplemented with linoleic acid, coconut oil is a neutral fat in terms of atherogenicity."

After reviewing this same literature, Kurup and Rajmohan (1995) conducted a study on 64 volunteers and found "...no statistically significant alteration in the serum total cholesterol, HDL cholesterol, LDL cholesterol, HDL cholesterol/total cholesterol ratio and LDL cholesterol/HDL cholesterol ratio of triglycerides from the baseline values..." A beneficial effect of adding the coconut kernel to the diet was noted by these researchers.

Kaunitz and Dayrit (1992) have reviewed some of the epidemiological and experimental data regarding coconut-eating groups and noted that the "available population studies show that dietary coconut oil does not lead to high serum cholesterol nor to high coronary heart disease mortality or morbidity." They noted that in 1989 Mendis et al reported undesirable lipid changes when young adult Sri Lankan males were changed from their normal diets by the substitution of corn oil for their customary coconut oil. Although the total serum cholesterol decreased 18.7% from 179.6 to 146.0 mg/dl and the LDL cholesterol decreased 23.8% from 131.6 to 100.3 mg/dl, the HDL cholesterol decreased 41.4% from 43.4 to 25.4 mg/dl (putting the HDL values very much below the acceptable lower limit of 35 mg/dl) and the LDL/HDL ratio increased 30% from 3.0 to 3.9. These latter two changes are considered quite undesirable. Mendis and Kumarasunderam (1990) also compared the effect of coconut oil and soy oil in normo-lipidemic young males, and again the coconut oil resulted in an increase in the HDL cholesterol, whereas the soy oil reduced this desirable lipoprotein. As noted above, Kurup and Rajmohan (1995), who studied the addition of coconut oil alone to previously mixed fat diets, had reported no significant difference from baseline.

Previously, Prior et al (1981) had shown that islanders with high intakes of coconut oil showed "no evidence of the high saturated fat intake having a harmful effect in these populations." When these groups migrated to New Zealand, however, and lowered their intake of coconut oil, their total cholesterol and LDL cholesterol increased, and

their HDL cholesterol decreased. Statements that any saturated fat is a dietary problem is not supported by evidence (Enig 1993).

Studies that allegedly showed a "hypercholesterolemic" effect of coconut oil feeding, usually only showed that coconut oil was not as effective at lowering the serum cholesterol as was the more unsaturated fat to which coconut oil was being compared. This appears to be in part because coconut oil does not "drive" cholesterol into the tissues as does the more polyunsaturated fats. The chemical analysis of the atheroma shows that the fatty acids from the cholesterol esters are 74% unsaturated (41% of the total fatty acids is polyunsaturated) and only 24% are saturated. None of the saturated fatty acids were reported to be lauric acid or myristic acid (Felton et al 1994).

There is another aspect to the coronary heart disease picture. This is related to the initiation of the atheromas that are reported to be blocking arteries. Recent research shows that there is a causative role for the herpes virus and cytomegalovirus in the initial formation of atherosclerotic plaques and the reclogging of arteries after angioplasty. (New York Times 1991) What is so interesting is that the herpes virus and cytomegalovirus are both inhibited by the antimicrobial lipid monolaurin, but monolaurin is not formed in the body unless there is a source of lauric acid in the diet. Thus, ironically enough, one could consider the recommendations to avoid coconut and other lauric oils as contributing to the increased incidence of coronary heart disease.

Chlamydia pneumoniae, a gram-negative bacteria, is another of the microorganisms suspected of playing a role in atherosclerosis by provoking an inflammatory process that would result in the oxidation of lipoproteins with induction of cytokines and production of proteolytic enzymes, a typical phenomena in atherosclerosis (Saikku 1997). Some of the pathogenic gram-negative bacteria with an appropriate chelator have been reported to be inactivated or killed by lauric acid and monolaurin as well as capric acid and monocaprin (See above, Bergsson et al 1997 and Thormar et al 1999).

However, the microorganisms most frequently identified as probable causative infecting agents are in the herpes virus family and include cytomegalovirus, type 2 herpes simplex (HSV-2), and Coxsackie B4 virus. The evidence for a causative role for cytomegalovirus is the strongest (Ellis 1997, Visseren et al 1997, Zhou et al 1996, Melnick et al 1996, Epstein et al 1996, Chen & Yang 1995), but a role for HSV-2 is also shown (Raza-Ahmad et al 1995). All members of the herpes virus family are reported to be killed by the fatty acids and monoglycerides from saturated fatty acids ranging from C-6 to C-14 (Isaacs et al 1991), which include approximately 80% of the fatty acids in coconut oil.

In spite of what has been said over the past four or more decades about the culpability of the saturated fatty acids in heart disease, they are ultimately going to be held blameless. More and more research is showing the problem to be related to oxidized products. One protection man has against oxidized products is the naturally saturated fats such as coconut oil.

VI. The Latest on the Trans Fatty Acids

Both the United States and Canada will soon require labeling of the trans fatty acids, which will put coconut oil in a more competitive position than it has been in the past decade. A fear of the vegetable oil manufacturers has always been that they would have to label trans fatty acids. The producers of trans fatty acids have relied on the anti-saturated fat crusade to protect their markets. However, the latest research on saturated fatty acids and trans fatty acids shows the saturated fatty acids coming out ahead in the health race.

It has taken this last decade, from 1988 to 1998, to see changes in perception. During this period, the trans fatty acids have taken a deserved drubbing. Research reports from Europe have been emerging since the seminal report by Mensink and Katan in 1990 that the trans fatty acids raised the low density lipoprotein (LDL) cholesterol and lowered the high density lipoprotein (HDL) cholesterol in serum. This has been confirmed by studies in the U.S. (Judd et al 1994, Khosla and Hayes 1996, Clevidence 1997).

In 1990, the lipids research group at the University of Maryland published a paper (Enig et al 1990) correcting some of the erroneous data sponsored by the food industry in the 1985 review by the Life Sciences Research Office of Federation of American Societies for Experimental Biology (LSRO-FASEB) (Senti 1985) of the trans fatty acids.

Also, in 1993, a group of researchers at Harvard University, led by Professor Walter Willett, reported a positive relationship between the dietary intake of the trans fatty acids and coronary heart disease in a greater than 80,000 cohort of nurses who had been followed by the School of Public Health at Harvard University for more than a decade.

Pietinen and colleagues (1997) evaluated the findings from the large cohort of Finnish men who were being studied for a cancer prevention study. After controlling for the appropriate variables including several coronary risk factors, the authors observed a significant positive association between the intake of trans fatty acids and the risk of death from coronary disease. There was no association between intakes of saturated fatty acids, or dietary cholesterol and the risk of coronary deaths. This is another example of the differences between the effects of the trans fatty acids and the saturated fatty acids and further challenge to the dietary cholesterol hypothesis.

The issue of the trans fatty acids as a causative factor in remains under-explored, but recent reports have found a connection. Bakker and colleagues (1997) studied the data for the association between breast-cancer incidence and linoleic acid status across European countries since animal and ecological studies had suggest a relationship. They found that the mean fatty acid composition of adipose did not show an association with omega-6 linoleic acid and breast, colon or prostate cancer. However, cancers of the breast and colon were positively associated with the trans fatty acids. Kohlmeier and colleagues (1997) also reported that data from the EURAMIC study showed adipose tissue concentration of trans fatty acids having a positive association with postmenopausal breast cancer in European women.

In 1995 a British documentary on the trans fatty acids aired on a major television station in the U.K. This documentary included an expose of the battle between the edible oil industry and some of the major researchers of the trans fatty acids. Just this year, this same documentary has been aired on television in France where it was requested by a major television station.

Several of the early researchers into the trans problems, Professor Fred Kummerow and Dr. George Mann, have continued their research and/or writing (Mann 1994). The popular media has continued to press the issue of the amounts of trans in the foods, for which there are still no comprehensive government data bases, and a recent published paper from a U.S. Department of Agriculture researcher states: "Because trans fatty acids have no known health benefits and strong presumptive evidence suggests that they contribute markedly to the risk of developing CHD, the results published to date suggest that it would be prudent to lower the intake of trans fatty acids in the U.S. diet."(Nelson 1998). Professor Meir Stampfer from Harvard University refers to trans fats as "one of the major nutritional issues of the nation," contending that "they have a large impact" and "...we should completely eliminate hydrogenated fats from the diet" (Gottesman 1998).

Lowering the trans fatty acids in the foods in the U.S. can only be done by returning to the use of the natural unhydrogenated and more saturated fats and oils. Predictions can be made regarding the future of the trans fatty acids. Our ability to predict has been pretty good; for example when Enig Associates started producing the marketing newsletter Market Insights written by Eric Enig, we predicted that trans fatty acids would eventually be swept out of the market. It appears that this prediction may be close to coming true.

Also in the early 1990s, Market Insights predicted that CSPI would change its mind about the trans fatty acids, which it had spent years defending. CSPI did change its mind, and in fact went on the attack regarding the trans, but CSPI never admitted that it had originally been promoting the trans or that the high levels of trans found in the fried foods in the fast food and other restaurants and in many other foods are directly due to CSPI lobbying. While its change was welcome, CSPI's revisionist version of its own history of support of partially hydrogenated oils and trans fatty acids would have fit perfectly into George Orwell's "1984".

VII. Comparison of Saturated Fats and the Trans Fats

The statement that trans fatty acids are like saturated fatty acids is not correct for biological systems. A listing of the biological effects of saturated fatty acids in the diet versus the biological effects of trans fatty acids in the diet is in actuality a listing of the good (saturated) versus the bad (trans). When one compares the saturated fatty acids and the trans fatty acids, we see that:

(1) saturated fatty acids raise HDL cholesterol, the so-called good cholesterol, whereas the trans fatty acids lower HDL cholesterol (Mensink and Katan 1990, Judd et al 1994);
(2) saturated fatty acids lower the blood levels of the atherogenic lipoprotein [a], whereas trans fatty acids raise the blood levels of lipoprotein [a] (Khosla and Hayes 1996, Hornstra et al 1991, Clevidence et al 1997);
(3) saturated fatty acids conserve the elongated omega-3 fatty acids (Gerster 1998), whereas trans fatty acids cause the tissues to lose these omega-3 fatty acids (Sugano and Ikeda 1996);
(4) saturated fatty acids do not inhibit insulin binding, whereas trans fatty acids do inhibit insulin binding;
(5) saturated fatty acids are the normal fatty acids made by the body, and they do not interfere with enzyme functions such as the delta-6-desaturase, whereas trans fatty acids are not made by the body, and they interfere with many enzyme functions such as delta-6-desaturase; and

(6) some saturated fatty acids are used by the body to fight viruses, bacteria, and protozoa, and they support the immune system, whereas trans fatty acids interfere with the function of the immune system.

VIII. What About the Unsaturated Fats?

The arteries of the heart are also compromised by the unsaturated fatty acids. When the fatty acid composition of the plaques (atheromas) in the arteries has been analyzed, the level of saturated fatty acids in the cholesterol esters is only 26% compared to that in the unsaturated fatty acids, which is 74 percent. When the unsaturated fatty acids in the cholesterol esters in these plaques are analyzed, it is shown that 38% are polyunsaturated and 36 percent are monounsaturated. Clearly the problem in not with the saturated fatty acids.

As an aside, you need to understand that the major role of cholesterol in heart disease and in cancer is as the body's repair substance, and that cholesterol is a major support molecule for the immune system, an important antioxidant, and a necessary component of neurotransmitter receptors. Our brains do not work very well without adequate cholesterol. It should be apparent to scientists that the current approach to cholesterol has been wrong.

The pathway to cholesterol synthesis starts with a molecule of acetyl CoA that comes from the metabolism of excess protein forming ketogenic amino acids and from the metabolism of excess carbohydrate, as well as from the oxidation of excess fatty acids. Grundy in 1978 reported that the degree of saturation of the fat in the diet did not affect the rate of synthesis of cholesterol. Research reported in 1997 (Jones 1997), however, showed that the polyunsaturated fatty acids in the diet increase the rate of cholesterol synthesis relative to other fatty acids. Furthermore, research reported in 1993 (Hodgsons et al 1993) had shown that dietary intake of the omega-6 polyunsaturated fatty acid linoleic acid was positively related to coronary artery disease.

Thus, those statements made by the consumer activists in the United States to the effect that the saturated fatty acids increase cholesterol synthesis is without any foundation. What happens when there is an increase or a decrease of cholesterol in the serum is more like a shift from one compartment to another as the body tries to rectify the potential damage from the excess polyunsaturated fatty acids. Research by Dr. Hans Kaunitz reported in 1978 clearly showed the potential problems with excess polyunsaturated fatty acids.

IX. Research Showing Beneficial Effects of Eating The More Saturated Fats

One major concern expressed by the nutrition community is related to whether or not people are getting enough elongated omega-3 fatty acids in their diets. The elongated omega-3 fatty acids of concern are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Some research has shown that (the basic omega-3 fatty acid) -linolenic acid is not readily converted to the elongated forms in humans or animals, especially when there is ingestion of the trans fatty acids and the consequent inhibition of the delta-6-desaturase enzyme. One recent study (Gerster 1998), which used radioisotope-labeled α-linolenic acid to measure this conversion in adult humans, showed that if the background fat in the diet was high in saturated fat, the conversion was approximately 6% for EPA and 3.8% for DHA, whereas if the background fat in the diet was high in omega-6 polyunsaturated fatty acids (PUFA), the conversion was reduced 40-50%.

Nanji and colleagues (1995) report that a diet enriched in saturated but not unsaturated fatty acids reversed alcoholic liver injury in their animals, which was caused by dietary linoleic acid. These researchers conclude that this effect may be explained by the down-regulation of lipid peroxidation. This is another example of the need for adequate saturated fat in the diet. Cha and Sachan (1994) studied the effects of saturated fatty acid and unsaturated fatty acid diets on ethanol pharmacokinetics. The hepatic enzyme alcohol dehydrogenase and plasma carnitines were also evaluated. The researchers concluded that dietary saturated fatty acids protect the liver from alcohol injury by retarding ethanol metabolism, and that carnitine may be involved.

Hargrove and colleagues (1999) noted the work of Nanji et al and postulated that they would find that diets rich in linoleic acid would also cause acute liver injury after acetaminophen injection. In the first experiment, two levels of fat (15 g/100 g protein and 20 g/100 g protein) were fed using corn oil or beef tallow. Liver enzymes indicating damage were significantly elevated in all the animals except for those animals fed the higher level of beef tallow. These researchers concluded that "diets with high [linoleic acid] may promote acetaminophen-induced liver injury compared to diets with more saturated and monounsaturated fatty acids."

X. Research Showing General Beneficial Effects From Feeding Coconut Oil

Research that compares coconut oil feeding with other oils to answer a variety of biological questions is increasingly finding beneficial results from the coconut oil.

Obesity is a major health problem in the United States and the subject of much research. Several lines of research dealing with metabolic effects of high fat diets have been followed. One study used coconut oil to enrich a high fat diet and the results reported were that the "coconut-oil enriched diet is effective in...[producing]...a decrease in white fat stores." (Portillo et al 1998)

Cleary et al (1999) fed genetically obese animals high fat diets of either safflower oil or coconut oil. Safflower oil-fed animals had higher hepatic lipogenic enzyme activities than did coconut oil fed animals. When the number of fat cells were measured, the safflower oil-fed also had more fat cells than the coconut oil-fed.

Many of the feeding studies produce results at variance with the popular conception. High fat diets have been used to study the effects of different types of fatty acids on membrane phospholipid fatty acid profiles. When such a study was performed on mice, the phospholipid profiles were similar for diets high in linoleic acid from high-linoleate sunflower oil relative to diets high in saturated fatty acids from coconut oil. However, those animals fed the diets high in oleic acid (from the high-oleate sunflower oil) or high in elongated omega-3 fatty acids (from menhaden oil) were not only different from the other two diets, but they also resulted in enlarged spleens in the animals. (Huang and Frische 1992).

Oliart-Ros and colleagues (1998), Instituto Technologico de Veracruz, Mexico, reported on effects of different dietary fats on sucrose-induced cardiovascular syndrome in rats. The most significant reduction in parameters of the syndrome was obtained by the n-3 PUFA-rich diet. These researchers reported that the diet thought to be PUFA-deficient presented a tissue lipid pattern similar to the n-3 PUFA-rich diet (fish oil), which surprised and puzzeled them. When questioned, it turned out that the diet was not really PUFA-deficient, but rather just a normal coconut oil (nonhydrogenated), which conserved the elongated omega-3 and normalized the omega-6-to-omega-3 balance.

A recent study measured the effect of high-fat diets, fed for more than three months to the neonatal pig, on the HMG-CoA reductase enzyme's function and gave some surprises. There were two feeding protocols: one with the added cholesterol and one without added cholesterol, but both with coconut oil. The hepatic reductase activity, which was the same in all groups at the beginning of the feeding on the third day and similar on the 42nd day, was increased with and without added cholesterol on the 13th day and then decreased on the 25th day. The data was said to suggest that dietary cholesterol suppressed hepatic reductase activity in the young pigs regardless of their genetic background that the stage of development was a dominant factor in its regulation, and that both dietary and endogenously synthesized cholesterol was used primarily for tissue building in very young pigs. (McWhinney et al 1996) The feeding of coconut oil did not in any way compromise the normal development of these animals.

When compared with feeding coconut oil, feeding two different soybean oils to young females caused a significant decrease in HDL cholesterol. Both soybean oils, one of which was extracted from a new mutant soybean thought to be more oxidatively stable, were not protective of the HDL levels (Lu Z et al 1997).

Trautwein et al (1997) studied cholesterol-fed hamsters on different oil supplements for plasma, hepatic, and biliary lipids. The dietary oils included butter, palm stearin, coconut oil, rapeseed oil, olive oil, and sunflowerseed oil. Plasma cholesterol concentrations were higher (9.2 mmol/l) for olive oil than for coconut oil (8.5 mmol/l), hepatic cholesterol was highest in the olive oil group, and none of the diet groups differed for biliary lipids. Even in this cholesterol-sensitive animal model, coconut oil performed better than olive oil.

Smit and colleagues (1994) had also studied the effect of feeding coconut oil compared with feeding corn oil and olive oil in rats and measured the effect on biliary cholesterol. Bile flow was not different between the three diets, but the hepatic plasma membranes showed more cholesterol and less phospholipid from corn and olive oil feeding relative to coconut oil feeding.

Several studies (Kramer et al 1998) have pointed out problems with canola oil feeding in newborn piglets, which result in the reduction in number of platelets and the alteration in their size. There is concern for similar effects in human infants. These undesirable effects can be reversed when coconut oil or other saturated fat is added to the feeding regimen (Kramer et al 1998).

Research has shown that coconut oil is needed for good absorption of fat and calcium from infant formulas. The soy oil (47%) and palm olein (53%) formula gave 90.6% absorption of fat and 39% absorption of calcium, whereas the soy oil (60%) and coconut oil (40%) gave 95.2% absorption of fat and 48.4% absorption of calcium (Nelson et al 1996). Both fat and calcium are needed by the infant for proper growth. These results clearly show the folly of removing or lowering the coconut oil in infant formulas.

XI. Research Showing a Role for Coconut in Enhancing Immunity and Modulating Metabolic Functions

Coconut oil appears to help the immune system response in a beneficial manner. Feeding coconut oil in the diet completely abolished the expected immune factor responses to endotoxin that were seen with corn oil feeding. This inhibitory effect on interleukin-1 production was interpreted by the authors of the study as being largely due to a reduced prostaglandin and leukotriene production (Wan and Grimble 1987). However, the damping may be due to the fact that effects from high omega-6 oils tend to be normalized by coconut oil feeding. Another report from this group (Bibby and Grimble 1990) compared the effects of corn oil and coconut oil diets on tumor necrosis factor-alpha and endotoxin induction of the inflammatory prostaglandin E2 (PGE2) production. The animals fed coconut oil did not produce an increase in PGE2, and the researchers again interpreted this as a modulatory effect that brought about a reduction of phospholipd arachidonic acid content. A study from the same research group (Tappia and Grimble 1994) showed that omega-6 oil enhanced inflammatory stimuli, but that coconut oil, along with fish oil and olive oil, suppressed the production of interleukin-1.

Several recent studies are showing additional helpful effects of consuming coconut oil on a regular basis, thus supplying the body with the lauric acid derivative monolaurin. Monolaurin and the ether analogue of monolaurin have been shown to have the potential for damping adverse reactions to toxic forms of glutamic acid (Dave et al 1997). Lauric acid and capric acid have been reported to have very potent effects on insulin secretion (Garfinkel et al 1992). Using a model system of murine splenocytes, Witcher et al 1996 showed that monolaurin induced proliferation of T cells and inhibited the toxic shock syndrome toxin-1 mitogenic effects on T cells.

Monserrat and colleagues (1995) showed that a diet rich in coconut oil could protect animals against the renal necrosis and renal failure produced by a diet deficient in choline (a methyl donor group). The animals had less or no mortality and increased survival time as well as decreased incidence or severity of the renal lesions when 20% coconut oil was added to the deficient diet. A mixture of hydrogenated vegetable oil and corn oil did not show the same benefits.

The immune system is complex and has many feedback mechanism to protect it, but the wrong fat and oils can compromise these important mechanisms. The data from the several studies show the helpful effects of coconut fat. Additionally, there are anecdotal reports that consumption of coconut is beneficial for individuals with the chronic fatigue and immune dysfunction syndrome known as CFIDS.

XII. U.S. Patents For Medical Uses of Lauric Oils, Medium-Chain Fatty Acids, and Their Deriviatives Such As Monolaurin

A number of patents have been granted in the United States for medical uses of lauric oils, lauric acid, and monolaurin. Although one earlier patent was granted to Professor Kabara more than three decades ago, the rest of these patents have been granted within the past decade.

In 1989 a patent was issued to the New England Deaconess Hospital (Bistrian et al 1989) for the invention titled "Kernel Oils and Disease Treatment." This treatment required lauric acid as the primary fatty acid source with lauric oils constituting up to 80% of the diet "using naturally occurring kernel oils."

In 1991 and 1995, two patents were issued to the group of researchers whose work has been reviewed above. The first invention (Isaacs et al 1991) was directed to antiviral and antibacterial activity of both fatty acids and monoglycerides, primarily against enveloped viruses. The claims were for "a method of killing enveloped viruses in a host human...wherein the enveloped viruses are AIDS viruses...[or]...herpes viruses...[and the]...compounds selected from the group consisting of fatty acids having from 6 to 14 carbon atoms and monoglycerides of said fatty acids...[and]...wherein the fatty acids are saturated fatty acids."

The second patent (Isaacs et al 1995) was a further extension of the earlier one. This patent also included discussion of the inactivation of envelop viruses and specifically cited monoglycerides of caproic, caprylic, capric, lauric, and myristic acid. These fatty acids make up more than 80% of coconut oil. Also included in this patent was a listing of susceptible viruses and some bacteria and protozoa.

Although these latter patents may provide the owners of the patents with the ability to extract royalties from commercial manufacturers of monoglycerides and fatty acids, they cannot require royalties from the human gastrointestinal tract when it is the "factory" that is doing the manufacturing of the monoglycerides and fatty acids. Clearly though, these patents serve to illustrate to us that the health-giving properties of monolaurin and lauric acid are well-recognized by some individuals in the research arena, and they lend credence to our appropriate choice of lauric oils for promoting health and as adjunct treatment of viral diseases.

XIII. How Can We Get Sufficient Coconut Fat into the Food Supply in the U.S. and Other Countries That Need Its Benefits?

I would like to review for you my perception of the status regarding the coconut and coconut products market in the North American countries such as the United States and Canada at the end of the 20th century and the beginning of the 21st century.

Coconut products are trying to regain their former place in several small markets. The extraction of oil from fresh coconut has been reported in the past decade and my impression is that this is being considered as a desirable source of minimally processed oil, which produces an oil with desirable characteristics for the natural foods market.

There have been some niche markets for coconut products developing during the past half-decade. These are represented primarily by the natural foods and health foods producers. Some examples are the new coconut butters produced in the U.S. and Canada by Omega Nutrition and Carotec, Inc. And, this is no longer as small a market as it has been in past years. Desiccated coconut products, coconut milk, and even coconut oil are appearing on the shelves of many of these markets. After years of packaging coconut oil for skin use only, one of the large suppliers of oils to the natural foods and health foods stores has introduced coconut oil for food use, and it has appeared within the last few months on shelves in the Washington, DC metropolitan area along with other oils. I believe I indirectly had something to do with this turn of events.

XIV. Conclusions and Recommendations

As we come close to the end of the year 1999 and set our sights on what could happen in the year 2000 and beyond, there is much to be gained from pursuing the functional properties of coconut for improving the health of humanity. On the occasion of the 30th anniversary of the Asian Pacific Coconut Community, at this 36th meeting of APCC, I wanted to bring you a message that I hope will encourage you to continue your endeavors on behalf of all parts of the coconut industry. Coconut products for inedible and especially edible uses are of the greatest importance for the health of the entire world. Some of what I have been telling you, most of you already know. But in saying these things for the record, it is my intention to tell those who did not know all the details until they heard or read this paper about the positive properties of coconut.

Coconut oil is a most important oil because it is a lauric oil. The lauric fats possess unique characteristics for both food industry uses and also for the uses of the soaps and cosmetic industries. Because of the unique properties of coconut oil, the fats and oils industry has spent untold millions to formulate replacements from those seed oils so widely grown in the world outside the tropics. While it has been impossible to truly duplicate coconut oil for some of its applications, many food manufacturers have been willing to settle for lesser quality in their products. Consumers have also been willing to settle for a lesser quality, in part because they have been fed so much misinformation about fats and oils.

Desiccated coconut, on the other hand, has been impossible to duplicate, and the markets for desiccated coconut have continued. The powdered form of desiccated coconut now being sold in Europe and Asia has yet to find a market in the U.S., but I predict that it will become an indispensable product in the natural foods industry. Creamed coconut, which is desiccated coconut very finely ground, could be used as a nut butter.

APCC needs to promote the edible uses of coconut, and it needs to promote the reeducation of the consumer, the clinician, and the scientist. The researcher H. Thormar (Thormar et al 1999) concluded his abstract with the statement that monocaprin "...is a natural compound found in certain foodstuffs such as milk and is therefore unlikely to cause harmful side effects in the concentrations used." It is not monocaprin that is found in milk, but capric acid. It is likely safe at most any level found in food. However, the levels in milk fat are at most 2% whereas the levels in coconut fat are 7%.

One last reference for the record, Sircar and Kansra (1998) have reviewed the increasing trend of atherosclerotic disease and type-2 diabetes mellitus in the Indians from both the subcontinent of India and abroad. They note that over the time when there has been an alarming increase in the prevalence of these diseases, there has been a replacement of traditional cooking fats with refined vegetable oils that are promoted as heart-friendly, but which are being found to be detrimental to health. These astute researchers suggest that it is time to return to the traditional cooking fats like ghee, coconut oil, and mustard oil.

There are a number of areas of encouragement. The nutrition community in the United States is slowly starting to recognize the difference between medium chain saturated fatty acids and other saturated fatty acids. We predict now that the qualities of coconut, both for health and food function, will ultimately win out.

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Chronic Fatigue Syndrome

How unrefined coconut oil may be the best solution

by Bruce Fife, ND

Coconut oil and Chronic Fatigue. Coconut oil [only virgin, unrefined] may be one of the best solutions to chronic fatigue syndrome currently available. Chronic fatigue syndrome (CFS), once considered to be an imaginary ailment, is now recognized as a bona fide illness. While its cause is still pretty much a mystery, it has become a problem of growing concern. It is estimated that some three million Americans and 90 million people worldwide are affected by it.

CFS Symptoms. CFS is characterized by a relatively sudden onset of extreme fatigue, often following an infectious illness. Symptoms may include any of the following: muscle weakness, headache, memory loss, mental confusion, recurring infections, low-grade fever, swollen lymph glands, severe exhaustion following moderate physical activity, depression, anxiety attacks, dizziness, rashes, allergies, and autoimmune reactions. Symptoms that persist for six months or more are a strong indication of CFS.

The degree and severity of symptoms often fluctuate. An afflicted person may temporarily "recover" and function normally for awhile only to relapse a short time later. Many people are affected without even realizing it. They consider the symptoms due to age, stress, or seasonal illness and they do nothing to solve the problem.

Multiple Causes of CFS. The exact cause of the illness is still unknown and there is no standard medical test to detect it. Consequently, a cure has yet to be found. The current belief is that CFS does not have a single cause but is the result of many factors. Some believe it is the result of multiple chronic infections which depress the immune system and drain the body of energy. Poor nutrition, excessive stress, food and environmental toxins, and chronic infections all combine to lower immune function and drain energy. Many people believe that a depressed immune system is the primary cause of the problem.

Dr. Murray Susser, M.D. from Santa Monica, California says, "CFS can start with ordinary viral infections like those that cause respiratory infections like the common cold and flu. There are 2,300 viruses which can cause a cold or flu and if one of those hits you and your body isn't able to get rid of it, then you have a chronic infection. That's really what chronic fatigue behaves like, the flu that never got better. I sometimes call it, 'the flu that became always.'"

Chronic Infection and CFS. Any number of viruses, bacteria, fungi, or parasites can contribute to chronic fatigue. The most likely causes are the herpes virus, Epstein-Barr virus, Candida, and giardia. Some infections, especially viruses such as herpes, can persist for a lifetime. Herpes can cause fever blisters and genital lesions. The blisters may disappear temporarily only to reappear occasionally, especially as a result of stress.

Herpes Zoster. Herpes zoster is the chickenpox virus. Once the virus enters the body it stays there for the rest of the person's life. After chickenpox has run its course, the virus manages to survive within the confines of the nervous system and stays there throughout life. For most people it remains dormant. During times of stress, however when the immune system's efficient drops, the virus can become reactivated. This new infection is known as shingles.

Epstein-Barr Virus. The Epstein-Barr virus is a member of the herpes family. It causes mononucleosis, often called the kissing disease because it can be transmitted this way. Once in the body it attacks the white blood cells. Recovery, takes four to six weeks with rest. The body needs this length of time allow the immune system to overcome the virus. For two to three months afterwards patients often feel depressed, lack energy, and feel sleepy throughout the day. These conditions may persist at a chronic level giving rise to CFS.

Cold and Flu Viruses. Cold and flu viruses can cause chronic infections that may contribute to chronic fatigue. Often people with viral infections are given antibiotics. There is no antibiotic that can kill a virus. Antibiotics are only effective against bacteria. When we come down with a cold, flu, or other viral infection the only thing we can do is take it easy and let our immune system handle the job. Doctors often give people suffering from viral infections antibiotics because there is nothing else they can do. The antibiotics have no more effect than a placebo, thus making the patient feel he is doing something to hasten recovery. This has been the standard practice among doctors for years. The problem with this, besides wasting the patient's money and subjecting him to worthless medications, is that the antibiotics may do some harm. One of the side effects of antibiotic use is the development of candidiasis. Antibiotics kill friendly bacteria in the intestinal tract. These good bacteria compete for space with disease-causing bacteria and yeast, which keeps yeast numbers low and relatively harmless. If these bacteria are killed by antibiotic use, yeasts are able to multiply unrestrained causing a systemic candida infection. Candida can become chronic, burdening the immune system, draining the body's energy, leading to prolonged feelings of fatigue and ill health.

Giardia Infections. Giardia infections produce symptoms often diagnosed as chronic fatigue syndrome. Low-grade bacterial infections may also drain the body's energy, causing chronic fatigue. Low-grade infections can be near impossible to diagnose accurately. If a virus is part of the cause, little can be done as there are no drugs that can cure viral illnesses. Giving the wrong type of medication can make matters worse, so experimenting with antibiotics and other drugs is not a good solution.

What's the answer? Coconut oil may provide a vital solution to chronic fatigue syndrome. The fatty acids in coconut oil can kill herpes and Epstein-Barr viruses which are believed to be major causes. They kill candida and giardia. They kill a variety of other infectious organisms, any of which could cause chronic fatigue. Some doctors believe it is not the particular germ or organism that matters; any combination of factors or conditions that depress the immune system can lead to CFS. According to them the key to overcoming CFS is strengthening the immune system. Again, coconut oil may be the solution. Coconut oil supports the immune system by ridding the body of harmful microorganisms, thus relieving stress on the body. With fewer harmful organisms taxing the body's energy, the immune system can function better.

Unrefined Coconut Oil: Healing Factors. Coconut oil provides a quick source of energy and stimulates metabolism. This boost in energy not only lifts the spirit but promotes faster healing. The higher the body's metabolism the more efficient the immune system and the quicker the body can heal and repair itself.

It's like a carpenter doing some repairs on your house. If he is tired and slow, it will take a long time to do the job, but if he is energetic and anxious to complete the task it will take a fraction of the time. When metabolism is functioning at a higher level our cells are like an energized carpenter anxious to complete the repairs while depressed metabolism causes the cells to work slower, and consequently healing and repair progress slower.

Best Natural Treatment. I believe coconut oil used regularly can be one of the best natural treatments for chronic fatigue there is.

Case History. Here is what one 46-year-old man experienced:

"I never thought I was troubled with chronic fatigue syndrome. I was healthy. I ate what I considered a good diet — low in fat, lots of fruits, vegetables, and whole grains. But I noticed as I was approaching my mid-forties my level of energy was decreasing rapidly. Even modest amounts of yard work became a drudgery. After a couple of hours I came in exhausted and it took me two days to recover. By 8:00 p.m. every day I was exhausted, even though I have a desk job. I found myself going to bed earlier and earlier. Life was slowing down and I missed the energy I once had. I assumed that what I was experiencing was just the consequence of growing older and left it at that. But then I began to wonder. I saw other people, much older than I, who were more physically active and had much more energy. I then suspected something was wrong.

I began to seek ways to improve my health. I learned about coconut and began to eat it in place of other oils. I did this not to cure any illness but simply to improve my overall health. It was several months later when I noticed that the energy I used to have had returned. I no longer wanted to go to sleep at 8:00 p.m. but stayed up till 11:00 without problem. I got less sleep but had more energy. Improvement came so gradually that I didn't notice the change until after several months. And it wasn't until later that I even thought it might be related to coconut oil. Since I've been using coconut oil, I have not been lethargic during the day, as I was in the past; I have more energy and accomplish more. I feel really good."

---- Excerpt from the book, *The Healing Miracles of Coconut Oil*, by Bruce Fife

Trans-Fat

What is it? Why is it so Dangerous?

By Dr. Bob Marshall

Trans fatty acids are also known as trans fat or hydrogenated oil. Trans fat is an artery-clogging fat that is formed when vegetable oils are artificially hardened into solid fat. This form of fat does not occur in nature and is sometimes called "plastic fat". Trans-fat is associated with initiating poor health and degenerative diseases, including cancer. In fact, Dr. Johanna Budwig, a famous German biochemist and leading European authority on fats and nutrition, **proved that trans-fat help to initiate cancer**. Trans fat does not belong in the human body if good health is desired.

Banned in Europe. In many countries, such as Europe, trans-fat are banned for use in their food supply. However, since trans-fats are cheap (replacing the more expensive healthy oils) and extend the shelf life of foods tremendously, many European food companies make foods with trans fats solely for export to America (since these trans-laden foods cannot be sold in their own country). Beware of those tasty-looking, imported Swiss cookies or those authentic-appearing German crackers. Instead, read the label for terms such as "hydrogenated oil". It is shocking to realize how much trans fat has contaminated our food supply.

Culprit Foods. Trans fat is found in many pre-made foods such as bread, doughnuts, cookies, pastries, crackers, bagels, margarine, shortening, salad dressings, mayonnaise and fried foods such as French fries and fried chicken. **Typical French fries** have about **40% trans fatty acids** and **many popular cookies and crackers** range from **30% to 50% trans fatty acids**. **Doughnuts** have about **35% to 40% trans fatty acids**. Trans fat is a food company's financial dream because instead of using the healthier oils, trans fats are much cheaper, reducing costs, extending storage life of products and can improve flavor and texture.

Dangers of Trans Fats. Consumption of trans fat can **increase blood levels of low density lipoprotein (LDL), or "bad" cholesterol**, while lowering levels of high density lipoprotein (HDL), known as "good" cholesterol. It can cause **serious clogging of arteries, Type 2 diabetes and other serious health problems, as well as increasing the risk of heart disease, cancer and infectious diseases.** The trans fats also incorporate themselves into your cellular membranes, creating **weaker immunity**, making you more vulnerable to attack by infectious microorganisms. In the brain, trans fats are linked to **poor memory,** failing thought processes and attention deficit problems.

Labeling of Trans Fats. Currently, food companies are not required to list trans fat on Nutrition Fact labels so consumers have no way of knowing how much is in the food they were eating. Further, there is no safety limit for the daily intake of trans fat. The Food and Drug Administration (FDA) has only said that **"intake of trans fats should be as low as possible." The real truth is that it should be none at all.**

In a small step in the right direction, the FDA has announced a final rule requiring food manufacturers to list trans fat on Nutrition Facts labels – but not until 2006 -- so consumers still need to carefully read labels in making food choices until that time.

Reading Labels. While some foods are obvious sources of trans fats, such as bakery items and fried foods, other processed foods, such as cereals and waffles, can also contain trans fat. To determine the amount of trans fat in a food, read the ingredient label and **look for the terms, "shortening," "hydrogenated oil" or "partially hydrogenated oil**." **The higher on the list these ingredients appear, the more trans fat in the product**. If any of these terms appear, avoid that product like the plague.

Treat your body as a treasure – for surely it is: your greatest wealth is truly your own health. And as never before in history, your health is under siege.

Another way of revealing the amount of trans fat is to add up the amount of fat in a product (including saturated, monounsaturated and polyunsaturated), provided the amounts are listed under Nutrition Facts, and compare the total with the total fat on the label. If they don't match, the difference is likely due to trans fat present, especially if partially hydrogenated oil is listed as one of the first ingredients.

Keeping the Consumer Happy. Some companies, such as Frito Lay, Lipton, and Nestle have begun to take steps to eliminate trans fat in some products. Nestle is removing it from Rolo, Toffee Crisp and possibly other products. Their competitor, Cadbury, is also considering removing trans fats from some of their products.

Creating Awareness of "Dangerous" Fat. Recently, a lawsuit was filed against Nabisco, the Kraft Foods unit that makes Oreo cookies, which sought a ban on the sale of Oreo cookies because they contained trans fat, making them dangerous to eat. The case was later withdrawn because the lawyer who filed the suit said the publicity surrounding the case accomplished what he set out to do: **create awareness about the dangers of trans fat**. Kraft is also among the companies making an effort to reduce trans fatty acid in their products.

Reversing the Damage of Trans Fats. If you have eaten trans fats (so common in pre-made foods and especially, restaurant foods), whereby you are guaranteed to have this abnormal fat incorporated into your own body cell membranes (thus weakening your immunity and ability to heal), the good news is that research shows that returning to the eating of healthy fats can gradually replace the unhealthy trans fat in your cellular lipid membranes and return them to normal.

The Healthy Oils. So, ditch the doughnuts, blow out the bagels and forget the French fries. Your health is on the line here. Let's get back to super healthy bodies by eating by eating delicious, organic foods, including healthy oils such as **pure, unhydrogenated, virgin coconut oil, organic flax oil, extra virgin Moroccan olive oil and "beyond organic" sesame oil.** These healthy oils are delicious, cardio-protective and promote your best health as well as protection against disease. They can be used in salads, dressings, main dishes or in snack foods such as homemade dips. Enjoy great-tasting, healthy oils often and begin a new adventure of feeling and looking great.

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Trans Fatty Acid Fact Sheet

(Including Hydrogenated and Partially Hydrogenated Fats)

What are Trans Fatty Acids? Trans fatty acids are abnormal fats, often called "plastic fat," produced mainly from partial hydrogenation of vegetable oils. These fats do not occur in nature. They were introduced into human foods in the U.S. beginning in 1910. Greater amounts of partially hydrogenated vegetable fat products were added to human foods in the U.S. beginning in the 1950s. Major sources of trans fatty acids in some countries are partially hydrogenated marine oils, which were recently granted GRAS status in the U.S. Although trans fatty acids have been largely ignored during the early decades of their use, several researchers became concerned, beginning in the 1950s. Since 1990, they have become a major concern for many nutritionists and are a prominent topic in the current bio-medical literature. *Adapted from Mary G. Enig, Ph.D., F.A.C.N. Director, Nutritional Sciences Division Enig Associates, Inc., "Trans Fatty Acid Fact Sheet," 1995.*

Common Sources of Trans Fatty Acids (in commercial foods): found in margarine, mayonnaise, salad dressing, bread, pretzels, chips, bagels, buns, rolls, cookies, cakes, soup, cheese spreads, many types of pastries and baked goods, many candy bars and "health food" candy bars, chocolate, many nutritional supplements (used as an excipient).

Adverse Effects of Consuming Trans Fatty Acids

(Studies on humans and animals)

- Lowers the "good" HDL cholesterol (the more trans fats you eat, the lower your HDL cholesterol)
- Raises the LDL cholesterol, "the bad fat fraction" (the more trans fats you eat, the higher your LDL cholesterol)
- Raises the atherogenic lipoprotein-a in humans
- Raises total serum cholesterol levels (20-30 mg%)
- Lowers the amount of cream in milk from lactating females, thus lowering the overall quality of good fat available to the infant (humans and animals)
- Correlates to low birth weight in human infants
- Increases insulin levels in response to glucose load, increasing risk for diabetes (in humans)
- Affects immune response by lowering efficiency of B cell response and increasing proliferation of T cells
- Decreases levels of testosterone in male animals; increases level of abnormal sperm, and interferes with gestation in females
- Decreases the response of the red blood cell to insulin, thus having a potentially undesirable effect in diabetics
- Inhibits the function of membrane-related enzymes such as the delta-6 desaturase, resulting in decreased conversion of, e.g., linoleic acid to arachidonic acid
- Causes adverse alterations in the activities of the important enzyme system that metabolizes chemical carcinogens and drugs (medications), i.e., the mixed function oxidase cytochromes P-448/450
- Negatively alters the physiological properties of biological membranes, including measurements of membrane transport and membrane fluidity
- Negatively alters adipose cell size, cell number, lipid class, and fatty acid composition
- Adversely interacts with conversion of plant Omega-3 fatty acids to elongated Omega-3 tissue fatty acids
- Increases adverse effects of essential fatty acid deficiency
- Increases peroxisomal activity (increases free-radical formation)

Canola Oil: Yes or No?

Is canola oil really a healthy oil or just a big CON?

The food industry tells us that canola oil is “widely recognized as the healthiest salad and cooking oil available to consumers.” They tell us that it is beneficial because it contains omega-3 fatty acids, shown to have health benefits and even helps prevent heart disease.

Contrary to what the food industry says about its new darling oil child, its opponents say canola oil (or rape seed oil) is toxic because it contains significant amounts of a poisonous substance called erucic acid. Canola oil was developed through hybridization of rape seed.

The detractors say canola oil is a poisonous substance, an industrial oil that does not belong in the body. It contains “the infamous chemical warfare agent mustard gas,” hemagglutinins and toxic cyanide-containing glycocides; it causes mad cow disease, blindness, nervous disorders, clumping of blood cells and depression of the immune system.

How can the consumer sort out the conflicting claims about canola oil? Is canola oil a dream come true or a deadly poison? Let’s see what the experts have to say:

The Great Con-ola

Hidden History

By Sally Fallon and Mary G. Enig, PhD

Let’s start with some history. The time period is the mid-1980s and the food industry has a problem. In collusion with the American Heart Association, numerous government agencies and departments of nutrition at major universities, the industry had been promoting polyunsaturated oils as a heart-healthy alternative to “artery-clogging” saturated fats.

Unfortunately, it had become increasingly clear that polyunsaturated oils, particularly corn oil and soybean oil, cause numerous health problems, including and especially cancer.[1]

The industry was in a bind. It could not continue using large amounts of liquid polyunsaturated oils and make health claims about them in the face of mounting evidence of their dangers. Nor could manufacturers return to using traditional healthy saturates -- butter, lard, tallow, palm oil and coconut oil -- without causing an uproar. Besides, these fats cost too much for the cut-throat profit margins in the industry.

The solution was to embrace the use of monounsaturated oils, such as olive oil. Studies had shown that olive oil has a “better” effect than polyunsaturated oils on cholesterol levels and other blood parameters. Besides, Ancel Keys and other promoters of the diet-heart idea had popularized the notion that the Mediterranean diet -- rich in olive oil and conjuring up images of a carefree existence on sun-drenched islands -- protected against heart disease and ensured a long and healthy life.

The National Heart, Lung and Blood Institute (NHLBI) sponsored the First Colloquium on Mono-unsaturates in Philadelphia. The meeting was chaired by Scott Grundy, a prolific writer and apologist for the notion that cholesterol and animal fats cause heart disease. Representatives from the edible oil industry, including Unilever, were in attendance.

The Second Colloquium on Mono-unsaturates took place in Bethesda, Maryland, early in 1987. Dr. Grundy was joined by Claude Lenfant, head of the NHLBI, and speakers included Fred Mattson, who had spent many years at Proctor and Gamble, and the Dutch scientist Martign Katan, who would later publish research on the problems with trans fatty acids. It was at this time that articles extolling the virtues of olive oil began to appear in the popular press.

Promotion of olive oil, which had a long history of use, seemed more scientifically sound to the health-conscious consumer than the promotion of corn and soy oil, which could only be extracted with modern stainless steel presses. The problem for the industry was that there was not enough olive oil in the world to meet its needs. And, like butter and other traditional fats, olive oil was too expensive to use in most processed foods. The industry needed a less expensive monounsaturated oil.

Rapeseed oil was a mono-unsaturated oil that had been used extensively in many parts of the world, notably in China, Japan and India. It contains almost 60% monounsaturated fatty acids (compared to about 70% in olive oil). Unfortunately, about two-thirds of the mono-unsaturated fatty acids in rapeseed oil are erucic acid, a 22-carbon monounsaturated fatty acid that had been associated with Keshan's disease, characterized by fibrotic lesions of the heart.

In the late 1970s, using a technique of genetic manipulation involving seed splitting,[2] Canadian plant breeders came up with a variety of rapeseed that produced a monounsaturated oil low in 22-carbon erucic acid and high in 18-carbon oleic acid.

The new oil referred to as LEAR oil, for Low Erucic Acid Rapeseed, was slow to catch on in the US. In 1986, Cargill announced the sale of LEAR oil seed to US farmers and provided LEAR oil processing at its Riverside, North Dakota plant but prices dropped and farmers took a hit.[3]

Marketing LEAR

Before LEAR oil could be promoted as a healthy alternative to polyunsaturated oils, it needed a new name. Neither "rape" nor "lear" could be expected to invoke a healthy image for the new "Cinderella" crop. In 1978, the industry settled on "canola," for "Canadian oil," since most of the new rapeseed at that time was grown in Canada.

"Canola" also sounded like "can do" and "payola," both positive phrases in marketing lingo. However, the new name did not come into widespread use until the early 1990s.

An initial challenge for the Canola Council of Canada was the fact that rapeseed was never given GRAS (Generally Recognized as Safe) status by the US Food and Drug Administration. A change in regulation would be necessary before canola could be marketed in the US.[4] Just how this was done has not been revealed, but GRAS status was granted in 1985, for which, it is rumored; the Canadian government spent $50 million to obtain.

Since canola was aimed at the growing numbers of health-conscious consumers, rather than the junk food market, it required more subtle marketing techniques than television advertising. The industry had managed to manipulate the science to make a perfect match with canola oil -- very low in saturated fat and rich in monounsaturates.

In addition, canola oil contains about 10% omega-3 fatty acids, the most recent discovery of establishment nutritionists. Most Americans are deficient in omega-3 fatty acids, which had been shown to be beneficial to the heart and immune system. The challenge was to market this dream-come-true fatty acid profile in a way that would appeal to educated consumers.

Canola oil began to appear in the recipes of cutting edge health books, such as those by Andrew Weil and Barry Sears. The technique was to extol the virtues of the Mediterranean diet and olive oil in the text, and then call for "olive oil or canola oil" in the recipes. One informant in the publishing industry told us that since the mid 1990s, major publishers would not accept cookbooks unless they included canola in the recipes.

In 1997, Harper Collins engaged Dr. Artemis Simopoulos to write a cookbook featuring the health benefits of omega-3 fatty acids.[5] Dr. Simopoulos was a pediatrician who had served for nine years as chair of the Nutritional Coordinating Committee of the National Institutes of Health before becoming president of the Center for Genetics, Nutrition and Health.

She had published several papers on omega-3 fatty acids, calling attention to their disappearance from the food supply due to the industrialization of agriculture. Her most famous paper, published in 1992 in the American Journal of Clinical Nutrition, compared omega-3 levels in supermarket eggs from hens raised on corn with eggs from hens allowed to roam and eat a more varied diet.[6] The more natural eggs contained 20 times more omega-3 than supermarket eggs.

Simopoulos's "The Omega Plan" came out in 1998 and was reissued as The Omega Diet in 1999. The book discusses the virtues of monounsaturated and omega-3 fatty acids in the Mediterranean diet.[7] Since unprocessed canola oil contains not only lots of monounsaturated fatty acids, but also a significant amount of omega-3, it shows up in most of the book's recipes. Simopoulos claims that the Mediterranean diet is low in saturated fat and recommends lean meat and lowfat yogurt and milk as part of her regime.

The canola industry's approach -- scientific conferences, promotion to upscale consumers through books like The Omega Diet and articles in the health section of newspapers and magazines -- was successful. By the late 1990s, canola use had soared, and not just in the US.

Today China, Japan, Europe, Mexico, Bangladesh and Pakistan all buy significant amounts. Canola does well in arid environments such as Australia and the Canadian plains, where it has become a major cash crop. It is the oil of choice in gourmet and health food markets like Fresh Fields (Whole Foods) markets, and shows up in many supermarket items as well.

It is a commonly used oil in sterol-containing margarines and spreads recommended for cholesterol lowering. Use of hydrogenated canola oil for frying is increasing, especially in restaurants.

Dangers Overstated

Reports on the dangers of rapeseed oil are rampant on the internet, mostly stemming from an article, "Blindness, Mad Cow Disease and Canola Oil," by John Thomas, which appeared in Perceptions magazine, March/April 1996. Some of the claims are ludicrous. Although rape is a member of the brassica or mustard family, it is not the source of mustard gas used in chemical warfare.

Glycosides or glycosinolates (compounds that produce sugars on hydrolysis) are found in most members of the brassica family, including broccoli, kale, cabbage and mustard greens. They contain sulfur (not arsenic), which is what gives mustard and cruciferous vegetables their pungent flavor.

These compounds are goitrogenic and must be neutralized by cooking or fermentation. As rapeseed meal was high in glycosides, it could not be used in large amounts for animal feeding. However, plant breeders have been able to breed out the glycosides as well as the erucic acid from canola oil.[8] The result is a low-glycoside meal that can be used as an animal feed. In fact, canola meal for animal feed is an important Canadian export.

Hemagglutinins, substances that promote blood clotting and depress growth, are found in the protein portion of the seed, although traces may show up in the oil. And canola oil was not the cause of the mad cow epidemic in Britain[9], although feeding of canola oil may make cattle more susceptible to certain diseases.

Like all fats and oils, rapeseed oil has industrial uses. It can be used as an insecticide, a lubricant, a fuel and in soap, synthetic rubber and ink. Like flax oil and walnut oil, it can be used to make varnish. Traditional fats like coconut oil, olive oil and tallow also have industrial uses, but that does not make them dangerous for human consumption.

We have had reports of allergies to canola, and internet articles describe a variety of symptoms -- tremors, shaking, palsy, lack of coordination, slurred speech, memory problems, blurred vision, problems with urination, numbness and tingling in the extremities, and heart arrhythmias -- that cleared up on discontinuance of canola. None of this has been reported in the medical journals, however.

Writing for the *Washington Post*, Professor Robert L Wolke (www.professorscience.com) chastises the publishers of these reports as spreading "hysterical urban legends about bizarre diseases."[10] The industry actually profits from such wild claims, because they are wrong and easily dismissed.

Nevertheless, consumers do have reason to be cautious about the establishment's favorite oil, now showing up in an increasing number of products.

The Studies

Says Wolke: "I found no research studies indicating that today's low-erucic-acid canola oil, as distinguished from ordinary rapeseed oil, is harmful to humans." That's because, even though canola oil now has Generally Recognized as Safe (GRAS) status, no long-term studies on humans have been done.

Animal studies on Low Erucic Acid Rapeseed oil were performed when the oil was first developed and have continued to the present. The results challenge not only the health claims made for canola oil, but also the theoretical underpinnings of the diet-heart hypothesis.

The first published studies on the new oil were performed in 1978 at the Unilever research facility in the Netherlands.[11] The industry was naturally interested to know whether the new LEAR oil caused heart lesions in test animals. In earlier studies, animals fed high-erucic-acid rape seed oil showed growth retardation and undesirable changes in various organs, especially the heart, a discovery that touched off the so-called "erucic acid crisis" and spurred plant geneticists to develop new versions of the seed.

The results of the LEAR study were mixed. Rats genetically selected to be prone to heart lesions developed more lesions on the LEAR oil and the flax oil, than those on olive oil or sunflower oil, leading researchers to speculate that the omega-3 fatty acids (not erucic acid) in LEAR and flax oil might be the culprit. But rats genetically selected to be resistant to heart lesions showed no significant difference between the four oils tested and LEAR oil did not cause heart problems in mice, in contrast to **high-erucic oil which induced severe cardiac necrosis**.

In 1979, researchers at the Canadian Institute for Food Science and Technology pooled the results of 23 experiments involving rats at four independent laboratories. All looked at the effects of LEAR and other oils on the incidence of heart lesions. They found that saturated fats (palmitic and stearic acids) were protective against heart lesions but that high levels of omega-3 fatty acids correlated with high levels of lesions. They found a lesser correlation with heart lesions and erucic acid.[12]

In 1982, the same research group published a paper that looked at the interaction of saturated fats with LEAR oil and soybean oil. When saturated fats in the form of cocoa butter were added to the diets, the rats in both groups had better growth and a significant lowering of heart lesions. Said the authors: "These results support the hypothesis that myocardial lesions in male rats are related to the balance of dietary fatty acids and not to cardiotoxic contaminants in the oils."[13]

Canadian researchers looked at LEAR oils again in 1997. They found that piglets **fed milk replacement containing canola oil showed signs of vitamin E deficiency**, even though the milk replacement contained adequate amounts of vitamin E.[14] Piglets fed soybean oil-based milk replacement fortified with the same amount of vitamin E did not show an increased requirement for vitamin E. Vitamin E protects cell membranes against free radical damage and is vital to a healthy cardiovascular system.

In a 1998 paper, the same research group reported that **piglets fed canola oil suffered from a decrease in platelet count** and an increase in platelet size.[15] **Bleeding time was longer in piglets fed both canola oil** and rapeseed oil. These changes were mitigated by the addition of saturated fatty acids from either cocoa butter or coconut oil to the piglets' diet. These results were confirmed in another study a year later. **Canola oil was found to suppress the normal developmental increase in platelet count**.[16]

Finally, studies carried out at the Health Research and Toxicology Research Divisions in Ottawa, Canada discovered that **rats bred to have high blood pressure and proneness to stroke had shortened life-spans when fed canola oil as the sole source of fat**.[17] The results of a later study suggested that the culprit was the sterol compounds in the oil, which "make the cell membrane more rigid" and contribute to the shortened life-span of the animals.[18]

These studies all point in the same direction -- that **canola oil is definitely not healthy for the cardiovascular system**. Like rapeseed oil, its predecessor, **canola oil is associated with fibrotic lesions of the heart**. It also **causes vitamin E deficiency, undesirable changes in the blood platelets and shortened life-span in stroke-prone rats** when it was the only oil in the animals' diet. Furthermore, it seems to **retard growth**, which is why the FDA does not allow the use of canola oil in infant formula.[19]

When saturated fats are added to the diet, the undesirable effects of canola oil are mitigated. Most interesting of all is the fact that many studies show that the problems with canola oil are not related to the content of erucic acid, but more with the high levels of omega-3 fatty acids and low levels of saturated fats.

Rapeseed Oil In Traditional Diets

Rapeseed oil has been used in China, Japan and India for thousands of years. In areas where there is a selenium deficiency, use of rapeseed oil has been associated with a high incidence of fibrotic lesions of the heart, called Keshan's disease.[20] The animal studies carried out over the past twenty years suggest that **when rapeseed oil is used in impoverished human diets**, without adequately saturated fats from ghee, coconut oil or lard, then the **deleterious effects are magnified.**

In the context of healthy traditional diets that include saturated fats, rapeseed oil, and in particular erucic acid in rapeseed oil, does not pose a problem. In fact, erucic acid is helpful in the treatment of the wasting disease adrenoleukodystrophy and was the magic ingredient in Lorenzo's oil.

High levels of omega-3 fatty acids, present in unprocessed rapeseed oil, don't pose a problem either when the diet is high in saturates. A 1998 study indicates that diets with adequate saturated fats help the body convert omega-3 fatty acids into the long-chain versions EPA and DHA, which is what the body wants to do with most of the 18-carbon omega-3s.[21]

Conversion is reduced by 40-50 percent in diets lacking in saturated fats and high in omega-6 fatty acids from commercial vegetable oils (particularly soybean oil). In the animal studies on canola oil, dietary saturated fats mitigated the harmful effects of omega-3s.

A 1995 *Wall Street Journal* article reported that **use of rapeseed oil in cooking was associated with greatly increased rates of lung cancer** in the women breathing the fumes.[22] Once again, a lack of saturates in the diet may explain the association, because the lungs can't work without adequate saturated fats.[23] In India, rapeseed oil has been used as a cooking oil for thousands of years, but only recently have Indian housewives been cajoled into the belief that saturated butter and ghee should be avoided. Many now use vanispati, an imitation ghee made of partially hydrogenated soybean oil.

Processing

Rapeseed has been used as a source of oil since ancient times because it is easily extracted from the seed. Interestingly, the seeds were first cooked before the oil is extracted. In China and India, rapeseed oil was provided by thousands of peddlers operating small stone presses that press out the oil at low temperatures. What the merchant then sells to the housewife is absolutely fresh.

Modern oil processing is a different thing entirely. The **oil is removed by a combination of high temperature mechanical pressing and solvent extraction. Traces of the solvent (usually hexane) remain in the oil**, even after considerable refining. Like all modern vegetable oils, **canola oil goes through the process of caustic refining, bleaching and degumming -- all of which involve high temperatures or chemicals of questionable safety.**

And because canola oil is high in omega-3 fatty acids, which easily become rancid and foul-smelling when subjected to oxygen and high temperatures, **it must be deodorized**. The **standard deodorization process removes a large portion of the omega-3 fatty acids by turning them into trans fatty acids**. Although the Canadian government lists the trans content of canola at a minimal 0.2%, research at the University of Florida at Gainesville, found **trans levels as high as 4.6%** in commercial liquid oil.[24] The consumer has no clue about the presence of trans fatty acids in canola oil because they are not listed on the label.

A large portion of canola oil used in processed food has been hardened through the hydrogenation process, which introduces levels of **trans fatty acids into the final product as high as 40%**.[25] In fact, canola oil hydrogenates beautifully, better than corn oil or soybean oil, because modern hydrogenation methods hydrogenate omega-3 fatty acids preferentially and canola oil is very high in omega-3s. Higher levels of trans mean longer shelf life for processed foods, a crisper texture in cookies and crackers -- and **more dangers of chronic disease for the consumer**.[26]

The Myth Of Monounsaturates

Consumer acceptance of canola oil represents one in a series of victories for the food processing industry, which has as its goal the replacement of all traditional foods with imitation foods made out of products derived from corn, wheat, soybeans and oil seeds. Canola oil came to the rescue when the promotion of polyunsaturated corn and soybean oils had become more and more untenable. Scientists could endorse canola oil in good conscience because it was a "heart-healthy" oil, low in saturated fat, high in mono-unsaturates and a good source of omega-3 fatty acids.

But **most of the omega-3s in canola oil are transformed into trans fats during the deodorization process**; and research continues to prove that the saturates are necessary and highly protective.

At least it can be said that canola oil is a good source of mono-unsaturated fat -- like olive oil -- and therefore not harmful. . . . Or is it? Obviously mono-unsaturated fatty acids are not harmful in moderate amounts in the context of a traditional diet, but what about in the context of the modern diet, where the health-conscious community is relying on mono-unsaturated fats almost exclusively?

There are indications that mono-unsaturated fats in excess and as the major type of fat can be a problem. Overabundance of oleic acid (the type of mono-unsaturated fatty acid in olive and canola oil) creates imbalances on the cellular level that can inhibit prostaglandin production.[27] In one study, higher mono-unsaturated fat consumption was associated with an increased risk of breast cancer.[28]

Even the dogma that mono-unsaturated fatty acids are good for the heart is at risk. According to a 1998 report, mice fed a diet containing mono-unsaturated fats were more likely to develop atherosclerosis than mice fed a diet containing saturated fat.[29] In fact, the mice fed monounsaturated fats were even more prone to heart disease than those fed polyunsaturated fatty acids.

This means that the type of diet recommended in books like The Omega Diet -- low in protective saturates, bolstered with high levels of omega-3 fatty acids and relying on monounsaturated fatty acids, whether from olive or **canola oil**, for the majority of fat calories -- **may actually contribute to heart disease**. Such diets have been presented with great marketing finesse, but we need to recognize them for what they are -- payola for the food companies and **con-ola for the public**.

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Don't Drink Your Milk

Commercial milk: Linked to chronic disease, overweight, diabetes, cancer, weakened bones

Is drinking milk really safe? In a riveting article, "Worrying About Milk", (*Discover Magazine*, August, 2000), Dr. T. Colin Campbell, PhD, a prestigious nutritional biochemist at Cornell University, reveals how drinking milk can keep you chronically ill. He grew up on a dairy farm and prided himself on drinking a gallon or more of milk every day. Earlier in his scientific career, he just to think that dairy products were an essential part of a healthy daily diet for good teeth and strong bones. *But not anymore.*

After years of scientific research, however, Dr. Campbell is now convinced that drinking commercial cow's milk and eating milk products is responsible for many medical problems. The bottom line for Dr. Campbell: "It's unnatural to drink milk."

Summary of key points:

- Lactose Intolerance. A majority of adults in Asia and Africa, along with many in southern Europe and Latin America, have trouble digesting lactose, the main sugar in milk. Only people of Northern European decent can predominantly tolerate lactose.
- Decreased Lactase Production. Nature normally programs the young for weaning before they reach adulthood by turning down production in early childhood of lactase, the enzyme that breaks down lactose, which is needed to digest milk (from cows or humans). However, an apparent gene mutation inherited by people of northern European descent prevents the production of lactase from being turned down. Only these people may be able to adequately digest milk.
- Milk From the Right Species. Human mother's milk is best for human babies. Cow's milk is best for cow babies (calves). What's good for baby calves isn't necessarily good for human babies or adults. Dr. Campbell asks: "Isn't it strange that we're the only species that suckles from another species?"
- Unnatural Hormone Response. Dr. Campbell finds that cow's milk unnaturally stimulates growth hormones in the human body that increases the risk of various diseases and overweight.
- Milk: Not For Strong Bones. Cow's milk does not do what has been claimed - building strong bones, since recent studies suggest that humans may need less calcium and better forms of calcium than milk to build strong bones. Other foods, including various vegetables and legumes, are a better source of calcium than cow's milk.
- Milk Protein and Liver Cancer. In 1965, Dr. Campbell worked as coordinator of a US Aid project in the Phillipines, where poverty stricken children were dying mysteriously from liver cancer believed to be linked to malnutrition. To his surprise, Campbell discovered that the incidence of liver cancer was especially high among some of the best nourished kids, whose diets were supplemented with powdered milk provided through a US-subsidized program. He was completely baffled until he read about a 1968 research study conducted in India and published in the Archives of Pathology (Arch Pathol 1968 Feb;85(2):133-7), which linked milk protein to liver cancer in lab rats. "That was a signal event for me," Campbell says.
- Milk Casein and Liver Cancer. During the next 30 years, Campbell conducted a series of experiments at Cornell University and Virginia Tech and found that rats given a brief initial exposure to aflatoxin, a carcinogen produced by mold growth, tended to develop liver cancer when fed casein, the main protein in milk. "We could turn on or turn off cancer growth," he says, by increasing or decreasing the amount of casein.
- 10% Milk Casein Promotes Tumors. Dr. Campbell initiated research of his own by feeding casein to rats in normal doses, with 15 to 20% of their diet (by weight) coming from casein. The typical American diet is roughly 17% protein, says Campbell, though the protein, of course, is not all casein. He found that the threshold amount of casein required for switching on tumor growth averaged around 10% of the diet.

Doctors Opposed to Milk

The Washington, DC-based Physicians Committee for Responsible Medicine (P.C.R.M.) is a non-profit advocacy organization, with over 100,000 members, that promotes preventive medicine, encourages higher standards for ethics and effectiveness in research, advocates broader access to medical services, and is opposed to milk consumption.

- Milk: The Worst Calcium. "It would be hard to imagine a worse vehicle for delivering calcium to the human body," says Neal Barnard, head of P.C.R.M.
- USDA: Conflict of Interest. P.C.R.M. says that US officials have turned a blind eye to the very real potential health risks of milk. In December 1999, they filed a lawsuit against the U.S. Departments of Agriculture and Health and Human Services claiming the agencies unfairly promote industry special interests through official dietary guidelines. PCRM argues that the U.S.D.A. has an inherent conflict of interest: a dual mission to help dairy farmers as well as to promote good nutrition.
- Promoting the Dairy Interests while Ruining America's Health. U.S.D.A. officials claim that current dietary guidelines focus on dairy products as the major source of calcium because they are based on a realistic assessment of food choices most Americans make. "There's nothing against vegetable sources of calcium," says Eileen Kennedy, deputy undersecretary of research, education and economics at the U.S.D.A., "but we have to fashion healthful eating around current habits." This thinking is circular. The reason many Americans follow a dairy-rich diet is that they trust the government and assume it is healthy.
- Overcoming Lactose Intolerance For What? Dairy proponents insist that most people who think they are lactose intolerant can actually digest small amounts of milk by consuming milk slowly – in sips throughout the day, adding up to 1 -2 glasses of milk. Is the goal to promote the dairy interests and the consumption of milk – or to promote the best sources of calcium and other nutrients (which is clearly NOT milk).

Cancer and Milk Consumption

Many people are not aware of the link between milk consumption and risk of cancer:

- Milk Drinking and Breast/Prostate Cancer. Epidemiological research suggests a correlation between milk consumption and at least two kinds of cancer prevalent in Europe and North America: breast and prostate.
- No Milk, No Breast Cancer. In Asia, where many people drink no milk at all, breast cancer tends to be rare. In rural China, for example, among women aged 35 to 64, Campbell found that breast cancer deaths averaged 8.7 per 100,000, as opposed to 44 per 100,000 in the US, about a 5-fold difference.
- Higher Milk Consumption, Higher Breast Cancer. A comparative study published in 1989 showed that in Europe, two areas with higher milk consumption (Scandinavia and the Netherlands) also had higher breast cancer rates.
- Higher Milk Consumption, Higher Prostate Cancer. Worldwide, men are far more likely to die of prostate cancer in countries where dairy consumption is high than in countries where it is low. A study published in 1977 revealed that 10 men die of prostate cancer in Western Europe for every one who dies in Asia.
- Two Large Studies Link Dairy to Prostate Cancer. Two large US studies (2000) have linked dairy consumption to prostate cancer. In the Physician's Health Study, researchers tracked 20,885 male doctors over 10 years. Those who consumed at least 2 ½ servings of dairy food per day were 30% more likely to develop prostate cancer than doctors who consumed less than half a serving. (Annual Meeting of the American Association for Cancer Research April 3, 2000 in San Francisco, CA)
- Dairy Increases Risk of Metastatic Prostate Cancer. A 1999 study of nearly 50,000 subjects (the Health Professionals Follow-Up Study) found that men who consumed a total of more than 2,000 milligrams of calcium per day raised their risk of metastatic prostate cancer more than 4-fold.
- Push For High Dairy Intake is Worrisome. Edward Giovannucci, a Harvard professor and co-author of both of the above studies, believes that calcium itself, at high levels of consumption, promotes prostate cancer by depleting protective levels of vitamin D. Considering the push for high dairy intake in the U.S., he finds: "For prostate, the data are generally consistent and the high relative risk in the Health Professionals Study is quite worrisome."
- The More Calcium, The More Fractures. Disparities between calcium intake and bone health can be seen worldwide. The more calcium (dairy) people consumed, the more susceptible they were to hip fractures. People that consumed the highest levels of dairy foods (North American and northern European nations) take in two or three times more calcium, yet break 2-3 times more bones than people with the lowest calcium (dairy) intake (Asians and Africans).
- Harvard Milk Study: Milk Linked to Higher Fractures. The 12-year Harvard Nurses' Health Study involving 78,000 nurses found that nurses who drank the most milk (two or more glasses per day) had a slightly higher risk of arm fracture (5% increase) and significantly higher risk of hip fracture (45% increase).
- Substances in Milk That Leach Calcium. Although some milk nutrients may promote bone growth, other substances in milk, such as abnormal proteins and toxic residues may actually leach calcium from bone.

Calcium Guidelines: Bogus or Not

Do people really need as much calcium as the U.S. dietary guidelines state? Currently, these recommended daily intakes are: *Children 4-8: 800mg *Kids 9-18: 1,300mg *Adults: 1,000mg

Are these numbers based on sound science and apply to everyone? Most likely not. Much evidence argues against these recommended amounts.

- More Milk, More Fractures. The Harvard Nurses' Health Study (1997) reported that among 78,000 women followed for 12 years, those who got the most calcium from dairy products had approximately double the hip fracture rate, compared to women who got little or no calcium from dairy products. In other words, the more calcium in your diet, the higher your risk of breaking bones.
- Young Girls: Dairy Not Linked to Increased Bone Density. Another study reports that among girls 12 to 18, calcium intake had no effect on bone density, although exercise did help build strong bones (Pediatrics, July 2000; 106: 40-44).
- US Calcium Guidelines: Too High? The U.S. guidelines are high, even when measured against those of most other western countries. For example, the British recommended calcium intake for kids ranges from 350 mg to 1,000 mg (versus 800 mg to 1,300 mg in the US) and for adults is 700 mg (versus 1,000 mg in the US). The Institute of Medicine (in U.S.) recently suggested that teenagers and adults over age 50 increase their calcium intake to 1,300 and 1,200 mg, respectively, per day. The World Health Organization recommends 500 mg for children and 800 mg for adults. This is a substantial difference.
- High Calcium: High Fracture Rate. In the US, one in two women and one in eight men over age 50 breaks a bone because of osteoporosis, despite the fact that calcium consumption is among the highest in the world.
- Bone Studies: Misleading. Walter Willett, a professor at the Harvard School of Public Health and chairman of the Nutrition Department, finds: "There is no evidence that we have a calcium emergency as the dairy industry would have us believe. We have one of the highest calcium intakes in the world." He also points out: "The studies of bone mineral density can be highly misleading. What is clear is that an increase in calcium intake causes a one-time small increase in density (about 2%). However, this does not continue to accrue and disappears when stopping the extra calcium." From research, sustaining this slight increase does not protect against fractures.
- 5 Times Less Fracture with 50% Less Dairy. In general, the Chinese eat less than half the calcium (as dairy) recommended by the USDA and seem healthy. Among women over 50, the hip fracture rate appeared to be one fifth as high as in Western nations.

Critics of the governments push for increased milk consumption cite several examples of unfair practices, which may be adversely affecting the health of its citizens:

- Unfair Push for Dairy by Government. Dairy producers get price supports and government purchase of surplus production. They plow some of their profits into promotional dariy groups that fund “so-called” research studies, educate health professionals about milk, and provide free materials to schools suggesting that milk is vital to good nutrition, despite the lack of adequate scientific data.
- Racial Discrimination: Milk Pushed in Schools. In the National School Lunch Program, milk is the only beverage offered to children. A section of the Physicians Committee lawsuit alleges that milk's special status in the school lunch program amounts to racial discrimination. Studies suggest that 70 % of African Americans, 50% of Hispanics and 90% of Asians have trouble digesting lactose, while only 15% of Caucasians do. And we allow so many of our children to continue to drink milk which will cause them gastrointestinal distress symptoms? The program that serves free meals to needy children won't reimburse schools for non-dairy alternatives to milk unless the substitution is requested by a doctor.

Would Consumers Replace Milk With Sodas?

USDA deputy undersecretary, Eileen Kennedy, believes that consumer preferences - not dairy promoters - shape federal nutrition policies. Americans get about 75% of their calcium from dairy products. Kennedy suggests that even if the government removed dairy as a recommended food group, people would not eat other calcium-rich foods such as vegetables and legumes. She thinks that they would continue current trends, including no exercising and consuming more foods such as sodas and junk food that actually leach calcium from bones, so they'd be worse off than with less

milk. In fact, consumption of milk has been slowly dropping off for decades, unfortunately being replaced with an even worse choice, soda drinks.

Comment: This article clearly shows the many dangers and diseases associated with consuming commercial milk and milk products. Commercial milk has many other problems including health-demoting practices such as the use of synthetic growth hormones, pasteurization, homogenization, GMO-feeds, and antibiotic use – all contributing to the general unhealthy condition of commercial cows. Numerous studies show that commercial milk frequently contains pathogenic organisms (still present after pasteurization). Unhealthy cows means unhealthy milk.

However, not all milk is bad. Some companies do produce good quality milk from healthy cows. They allow their cows to range-feed on grass (not commercial soy/grain (GMO)-based feeds) and do not use synthetic hormones or antibiotics.

Homemade Kefir. Although we do not recommend drinking commercial milk or the consumption of most commercial dairy products, we highly recommend the use of fermented dairy products, such as homemade kefir, using only high quality milk. This turns pasteurized milk (overnight) into a delicious, hearty, pudding-like texture, teaming with billions of live beneficial bacteria, something most Americans are drastically short on. This centuries-old process of fermenting milk is associated with many long-lived cultures throughout the world. (See our Kefir Starter Kit.)

The Proven Solution For Stronger Bones and Increased Bone Density

For clinically proven methods to gain increased bone density and strength, see **the Quantum Trio** (3 superior products to support optimal bone health and strength, as well as whole body health), and also **Quantum Bone and Joint Complex**, **Quantum Greens Mix,** two superior nutritional supplements containing once-living, highly bio-available sources of every nutrient essential for life, including bone-building nutrients and synergists. Guaranteed absolutely no fillers, binders or toxic excipients.

Milk - Is It Really Good For Our Children?

By Jane Sheppard

Multiple Health Problems from Milk. People are beginning to question the long-standing belief that cow's milk is the perfect food for children. **Studies now link the consumption of cow's milk** to **multiple health problems.** The long list includes **iron-deficiency anemia, gastrointestinal bleeding, cramps, chronic diarrhea, chronic nasal congestion, allergies, asthma, colic, rheumatoid arthritis, musculoskeletal pains, kidney disease, diabetes and heart disease.**

Milk and other dairy products may actually be harmful to a child's health. This may sound a bit shocking to some people. How can America's most trusted food be unhealthy and why are most parents unaware of this information? This is understandable when you look at the advertising practices and political pressure of the American Dairy Association. They spend hundreds of millions of dollars to convince us that if we don't drink milk, we would be calcium deficient and sickly. The dairy industry is a very powerful force, controlling the USDA's nutritional guidelines and influencing our thoughts about milk. Subtle messages like "Milk Does a Body Good" are imprinted in our minds from an early age.

Lactose Intolerance. Many people are intolerant to lactose, the sugar in milk. It needs the enzyme, lactase, to break it down into simple sugars so it can be absorbed into the bloodstream. It is common for children begin to gradually lose their lactase activity soon after they are weaned. Without enough lactase, the lactose is incompletely digested and can cause bloating, belching, gas, cramps, and possibly diarrhea. **Frank Oski, M.D., head of Pediatric Medicine at John Hopkins University School of Medicine**, suggests in his book, ***Don't Drink Your Milk!,*** that after one to 2 years of age, the time of "normal" weaning from breast milk, milk should be removed from the diet completely. **The American Academy of Pediatrics (1996) recommends that infants under a year of age not receive whole cow's milk**.

Milk Can Cause Anemia. Milk can cause anemia in children for several reasons. Sensitivity to milk can cause blood to slowly and steadily seep into the intestines. This lowers the blood protein level, which can lead to anemia, even though the amount of blood lost each day is too small to see. Dr. Oski points out that "**it is estimated that half the iron deficiency in the United States is primarily a result of this form of cow's milk induced gastrointestinal bleeding**." In addition, milk provides very little iron (about one-tenth of a milligram per 8-ounce serving) and it **blocks the absorption of iron**. Children that are filling up on a lot of milk and dairy products may not be getting enough iron-rich foods to begin with, but when they *do* get iron, the excess milk may be hindering the absorption of the iron.

Allergies to Milk. Allergies to milk proteins are very common in children. The symptoms can be very subtle. **Chronic diarrhea is a common sign of allergy to milk**. Diarrhea is a big problem since it impairs a child's ability to absorb nutrients. Other symptoms include eczema or other skin rashes, asthma, chronic nasal congestion, fatigue, learning disabilities, recurrent bronchitis, chronic ear infections, and vomiting. If your child experiences any of these symptoms, try eliminating all milk and dairy products from the diet. Watch for signs of improvement. There has been much success in eliminating asthma, ear infections and eczema after discontinuing all dairy products. Cow's milk can also cause colic in babies. Mothers can pass the milk proteins to their nursing babies if they drink cow's milk themselves.

Diabetes from Milk. Insulin-dependent diabetes (Type 1 or childhood-onset) has been linked to the consumption of dairy products. According to the Physicians Committee for Responsible Medicine, researchers found that a **specific dairy protein sparks an autoimmune reaction**, which is believed to be what destroys the insulin-producing cells of the pancreas.

The Wrong Type of Fat. Another serious problem is the amount of saturated fat and cholesterol in milk. It contains about 35 grams of fat per quart. 60% of this is saturated. It is very low in the essential fatty acids that your child needs. We now know that consuming saturated fats can cause heart disease and many other illnesses such as cancer

and obesity. These problems can begin in childhood. Drinking milk from an early age could have life-long consequences.

There is a common misconception that children under age 2 need the fat from whole milk for proper brain growth. There is no nutritional requirement for cow's milk fat. Only calves need the fat from cow's milk. What babies and toddlers really need are essential fatty acids, not found in cow's milk, but found in human breast milk and foods such as fish and flaxseeds. Older children are usually given low-fat milk because of the consequences of saturated fat. This can also be a mistake since **low-fat dairy products are higher in protein than the high-fat products**. It is **the protein in milk that is responsible for inducing allergic reactions** and other health problems such as anemia and diabetes. In addition, the high protein levels in milk can lead to a negative calcium balance in the body.

Too Much Protein. A major consideration with a typical child's diet is excess protein. Children are told to drink three glasses of milk every day. In doing so, they are consuming an average of 209% of their actual protein needs. Added to all the other protein in their diet, this creates a protein overdose, which is a contributor to many health problems. High levels of protein, especially animal protein, may cause the kidneys to excrete large amounts of calcium, creating a negative calcium balance. If there is too much protein in your child's body, it may not matter how much calcium goes in. The more protein in the diet, the more calcium is lost. **Drink milk for strong bones? A report from the *Physicians Committee for Responsible Medicine* says that this is a common myth**. These doctors say that keeping strong bones depends more on preventing calcium loss than on increasing calcium intake.

Many parents are worried about their children getting enough protein. The World Health Organization, the Food and Nutrition Board of the National Academy of Sciences, and the National Research Council say we need only 8% of our total daily calories from protein. They arrive at this figure by adding a safety factor of an extra 30%. Human mother's milk provides 5% of its calories as protein. John Robbins in his book, *May All Be Fed, Diet for a New World* points out the wisdom of nature. "Nature seems to be telling us that little babies, whose bodies are growing the fastest they will ever grow in their lives, and whose protein needs are maximum, are best served when 5% of their food calories come as protein." He also states that "if we ate nothing but wheat (16% protein), or oatmeal (15%) or even pumpkin (12%), we would easily be getting more than enough protein".

How Safe is Milk? If it's pasteurized, then it's safe? The largest outbreak of salmonella poisoning ever came from [pasteurized] milk. There are contaminants in milk, from bacteria to pesticides to drugs. The dairy industry must keep the cows producing milk in order to stay in business. So they **heavily use antibiotics, hormones and other drugs**. These are **passed directly into the milk**. Most mothers are concerned about taking any medications while breastfeeding. We also need to think about what the cows are ingesting if we are drinking milk. According to the Physicians Committee for Responsible Medicine, about one-third of milk products have been shown to be contaminated with antibiotic traces. The testing method used by most states to screen milk for drugs is unable to detect residues from most of the medications used in the dairy industry today. Organic milk and dairy products are available, and may be a wise choice for parents who do not want to give up dairy.

Recombinant bovine growth hormone (rBGH) is a genetically engineered hormone that is injected into dairy cows to boost milk production. It increases the risk of udder infections so more antibiotics are used to treat cows. This means higher antibiotic residues in milk which could lead to the evolution of drug-resistant bacteria in the body. rBGH stimulates the cow's liver to produce another hormone, insulin-like growth factor (IGF-1). IGF-1 in rBGH milk is a potential risk factor for both breast and gastrointestinal cancers. There have been no long-term studies completed on rBGH and the short-term studies that *have* been completed have major flaws. There is no required labeling of rBGH-produced milk and milk products. Many of our children are drinking milk with rBGH and this hormone is also in the breast milk of lactating mothers who drink milk.

What About Calcium? The Institute of Medicine of the National Academy of Sciences has recently updated its recommendations for calcium intake. These **recommendations are very high due to the difficulty in absorption of calcium**. The recommendations are based on needs for individuals who eat the typical American diet, which is heavy in animal products.

Age Group	Recommended Intake
1 to 3 years	500 mg.
4 to 8 years	800 mg.
9 to 18 years	1,300 mg.

There is a **common misconception that children have to drink milk to get enough calcium**. The calcium from cow's milk is not absorbed into the body very well. About 66% of the calcium in breast milk is absorbed, but only 20 to 30% of the calcium in cow's milk is absorbed. A report from the ***American Journal of Clinical Nutrition*** showed that **calcium absorbability is higher from kale than from milk** and concluded that greens such as kale can be considered to be at least as good as milk because of their calcium absorbability. **Calcium supplied by beans and seeds is easily absorbed into the body**. Important minerals needed to process the calcium, such as magnesium, are in plant foods. People who eat only plant foods (vegans) need less calcium than people eating animal products, since their diets are high in minerals and exclude the animal proteins that cause the body to excrete calcium. Calcium requirements are different for each individual, but in some vegans, the need for calcium can be as much as 50% less than for people eating animal protein.

Cow's milk . . . contain(s) about 300 milligrams of calcium.

Here are some other foods that contain significant amounts of calcium (in milligrams):
Sesame seeds, 1/4 cup 270; Dried figs, 10 figs 269mg; Navel orange, 1 medium 56mg; Raisins, 2/3 cup 30mg; Broccoli, 1 cup, cooked 78mg; Collards, 1 cup, cooked 48mg; Kale, 1 cup, cooked 40mg; Spinach, 1 cup, cooked 50mg; Butternut squash, 1 cup 4mg; Sweet potato, 1 cup, cooked 30mg; Chick peas, 1 cup, canned 8mg; Green Northern beans, 1 cup, boiled 21mg; Kidney beans, 1 cup, boiled 30mg; Navy beans, 1 cup, boiled 28mg; Soybeans, 1 cup, boiled 75mg; Black turtle beans, 1 cup, boiled 30mg; Tofu, firm, proc'd. w/calcium 1/2 cup 58mg; White beans, 1 cup, boiled 61mg

The Milk - Diabetes Connection

Milk Proteins Can Trigger Diabetes

- Canada confirms the milk-diabetes connection.
- Early exposure to milk proteins is accepted as the cause of diabetes.

REPORT ON DIABETES AND MILK CONSUMPTION Wed, June, 23, 1999

Investigator Dr. John Dupre, M.D., at the London Health Sciences Centre in London, Ontario, has a new study, still unpublished, which provides absolute proof of the missing link that has been so controversial.

CANADIAN TELEVISION

CTV reported this story. "It's a controversial theory that now has new scientific fuel . . . can cow's milk trigger diabetes in children who are prone to the disease?"

The study suggests that if babies considered at risk of developing the disease are taken off cow's milk formula they may be protected against getting diabetes later in life.

SCIENTISTS ASK THIS QUESTION

"Can juvenile diabetes be PREVENTED in children at risk of the disease simply by eliminating cow's milk from their diet?"

THE ANSWER - Dr John Vandermullen

Dr.John Vandermuellen's response: "The data is building that there may in fact be something there."

Vandermuellen and a number of Canadian researchers helped design a study conducted on 200 infants in Finland. The children all had a family history of diabetes. After being breast fed, they were given either cow's milk or an infant formula modified to eliminate cow's milk protein. By the time the children were age two there was a striking difference between the two groups.

Among the children who avoided cow's milk formula, nearly 2% showed signs of possible diabetes development. Among those given the cow's milk, over 12% had signs that diabetes could be developing.

MILK PROTEINS CAUSE DIABETES

The theory is that milk proteins in the cow's milk may trigger the child's immune system to attack it, along with similar looking BETA-cells in the pancreas that produce insulin.

The data are so intriguing that Canadian researchers have begun an even larger study on thousands of children at 14 diabetes centers across Canada.

Source: Bob Ryziuk obtained a transcript of the report from CTV television. (416-332-5000).

Chlorinated Water Can Affect Cancer Risk

Epidemiology. 1998;9(1):21-28, 29-35

Lifetime consumption of chlorinated tap water can more than double the risk of bladder and rectal cancers in certain individuals, two new studies conclude.

Both studies examined the lifetime water-consumption patterns, diets and lifestyles of over **2,200** middle-aged and elderly people suffering from either bladder, colon, or rectal cancers. Those profiles were then compared with those of a pool of nearly 2,000 healthy 'controls'.

Recent research has suggested that **chlorine reacts with naturally-found organic compounds in water to form what the study authors call "chlorination byproducts."**

They say many of these byproducts are "mutagenic and/or carcinogenic." The first study found that smoking men who drank chlorinated tap water for more than 40 years faced **double the risk of bladder cancer** compared with smoking men who drank nonchlorinated water. Women who drank chlorinated water, on the other hand, had only slightly raised risks for bladder cancers, regardless of (their) smoking status.

The second study found that **rates for rectal cancers for both sexes escalated with duration of consumption of chlorinated water**. Individuals on low-fiber diets who also drank chlorinated water for over 40 years more than doubled their risk for rectal cancer, compared with lifetime drinkers of nonchlorinated water.

Similar differences were also found between the risk patterns of chlorinated-water drinkers who exercised at least once a week, and those who exercised just once a month, or less. Experts have long recommended regular exercise as one means of reducing one's risk of rectal and other cancers.

The study found no link between the long-term consumption of chlorinated tap water and the incidence of colon cancer. This was not surprising, the researchers explain, since colon tumors have very different patterns of genesis and development compared with rectal tumors.

They speculate that the source of chlorinated tap water may help determine its potential to promote cancers.

Since **surface water** (such as that found in lakes and reservoirs) usually contains higher concentrations of organic compounds, the study authors say it is also more **likely to contain higher levels of (potentially carcinogenic) chlorination byproducts**, compared with water sourced from deep underground.

Facts About Fluoridation You Did Not Know

By Fluoride Action Network, January, 2002

98% Of Western Europe Has Rejected Water Fluoridation. This includes Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway and Sweden. The predominant reason for Europe's rejection is the belief that public drinking water is NOT the appropriate vehicle with which to deliver medication to a population.

Fluoride Is Not An Essential Nutrient, which means that no human disease (including dental decay) has ever been linked to a fluoride deficiency. (1)

The fluoride used to fluoridate water is an industrial waste product from the phosphate fertilizer industry. It is an unprocessed hazardous waste, contaminated with a number of toxins, particularly arsenic.

Fluoridation adds between 0.1 and 1.6 parts per billion (ppb) **arsenic** to drinking water, and therefore violates the EPA's Maximum Contaminant Level Goal for arsenic - which is 0 ppb. (2)

Hydrofluosilicic acid and sodium silicofluoride, which are the chemicals used to fluoridate 91% of fluoridated water in the US, have **never been tested for safety and effectiveness**.

According to a November 16, 2000 letter from the EPA, "to answer your question on whether we have in our possession empirical scientific data on the effects of fluosilicic acid or sodium silicofluoride on health and behavior, the answer is no."

Most dental authorities are now conceding that **there is little, if any, benefit from swallowing fluoride,** and that fluoride's benefits (whatever they are) come from topical application.

When water fluoridation began 50 years ago, it was believed that fluoride needed to be ingested in order to be effective. This is NO longer the view of the dental establishment, which now generally concedes that fluoride's benefits are derived primarily from **topical** application. (3)

According, for instance, to the US Centers for Disease Control, "Laboratory and epidemiologic research suggests that fluoride prevents dental caries predominately after eruption of the tooth into the mouth, and its actions primarily are topical for both adults and children."

All fluoride products designed to be ingested (e.g. fluoride supplements) are available by **prescription** only. No fluoride products designed for ingestion have ever been approved as safe or effective by the US Food & Drug Administration. (4)

By Logical Extension Fluoridated Water Can Appropriately Be Classified As An Unapproved Prescription Drug.

The dental community concedes that fluoride is ineffective at preventing the most common type of dental decay - **pit & fissures**. Pit & fissure decay - which is the decay found in the crevices of the chewing surfaces - accounts for upwards of 85% of dental decay now experienced in the US. (5)

New evidence suggests that fluoridation is either unnecessary or doesn't work. Cavities have declined at similarly impressive rates throughout the entire western, industrialized world over the past half century.

This decline has occurred irrespective of a country's fluoridation status. Western Europe, which is 98% unfluoridated, has experienced the SAME decline in cavities as the heavily fluoridated US, and today enjoys the SAME low level of tooth decay. (6)

The largest dental survey ever conducted in the US found virtually no difference in dental decay between children living in fluoridated vs. unfluoridated areas.

The study, which was conducted by the National Institute Of Dental Research (NIDR), found that the average difference in tooth decay (0.6 tooth surfaces) between children living in fluoridated vs unfluoridated areas amounted to LESS than 0.5% of the 128 total tooth surfaces in a child's mouth. (7)

Five peer-reviewed studies published in the last 2 years have found that dental decay DOES NOT increase when communities stop fluoridation. (8)

The rhetoric supporting fluoridation is increasingly centered around the notion that fluoridation benefits the neediest in society the most. This claim flies in the face of the experience of most US inner cities over the past 50 years.

Despite the fact that nearly all large US cities have been fluoridated for decades, dental decay is currently rampant in virtually all poor urban areas.

One of the major dental health problems experienced in poor communities is a debilitating condition known as **"baby bottle tooth decay"** which is also referred to as **"early childhood caries."**

This condition, which results from excessive consumption of sweetened liquids at a young age, is **not** prevented by water fluoridation. (9) According to a study in Pediatric Nursing "Data from Head Start surveys show the prevalence of baby bottle tooth decay is about three times the national average among poor urban children, even in communities with a fluoridated water supply."

Fluoride Is A Very Toxic Substance, which is why it is the active ingredient in a number of pesticides. Just 2 grams of fluoride is enough to kill an adult, and just 500 mg is enough to kill a child. (11) In the US, people have died, and many have become sick, when faltering fluoridation equipment has pumped excess fluoride into the water.

Poor nutrition exacerbates the toxic effects of fluoride exposure, which is a further reason why it's wrong to target poor communities with fluoridation (as poor nutrition is more prevalent in low income communities).

According to the Agency for Toxic Substances and Disease Registry, "Existing data indicate that subsets of the population may be unusually susceptible to the toxic effects of fluoride and its compounds. These populations include the elderly, people with deficiencies of calcium, magnesium and/or vitamin C, and people with cardiovascular and kidney problems." (12)

Contaminated Food Chain - Many of the processed beverages and foods sold in the US contain elevated levels of fluoride due to the use of fluoridated water during manufacturing, and the presence of fluoride pesticides.

Total fluoride exposure has increased substantially since the early days of fluoridation. (13) When fluoridation first began, exposure to fluoride from sources other than fluoridated water, was minimal.

Today that is not the case.

People now receive fluoride from a whole host of sources, including pesticide residues, fluoridated dental products, mechanically deboned meat, fluoride air pollution, and processed foods & beverages prepared with fluoridated water (e.g. soda, juice, beer, cereal, etc).

It has now reached the point where most people receive the "optimal" 1 mg/day of fluoride (which fluoridated water was designed to deliver) **without** ever drinking a glass of fluoridated water.

Despite the increase in total fluoride exposure, the concentration of fluoride added to drinking water (0.7-1.2 mg/L) as prescribed by the US Government, is still the same as it was back in the 1940s.

Due to the increase in total fluoride exposure, there has been a major increase in the rate of **dental fluorosis** found among American children. According to the US Government, **approximately 1 in 3 children living in fluoridated areas have dental fluorosis on at least 2 teeth.** (14)

Dental fluorosis is the first visible sign that fluoride has poisoned enzymes in the body.

Approximately half of the fluoride we ingest each day accumulates in our bodies, primarily in the bones, but also in soft tissues. (15)

High levels of naturally occurring fluoride causes a crippling bone disease known as skeletal fluorosis. According to UNICEF, skeletal fluorosis is endemic "in at least 25 countries across the globe" (16) with the problem particularly acute in India, China and other developing countries.

Skeletal fluorosis comes in varying degrees of severity depending on the level of exposure. The earliest symptoms are characterized by joint pain that is difficult, if not impossible, to distinguish from arthritis.

According to a review on fluoridation by Chemical & Engineering News: "Because some of the clinical symptoms mimic arthritis, the first two clinical phases of skeletal fluorosis could be easily misdiagnosed [as arthritis]." The World Health Organization states that "early cases [of skeletal fluorosis] may be misdiagnosed as rheumatoid or osteoarthritis." (17)

It is estimated that approximately 40 million Americans suffer from arthritis, the most common type being osteoarthritis.

Fluoride stimulates abnormal bone development. Clinical trials published in the New England Journal of Medicine and Journal of Bone and Mineral Research (18) report that high dose fluoride treatment increases bone mass but that the newly formed bone is "structurally unsound" (19). Thus, instead of reducing **hip fractur**e, the studies found that **high doses of fluoride increase hip fracture**.

There is concern that "low" doses of fluoride, taken over long periods of time (e.g. fluoridated water), may also increase the rate of hip fracture. Approximately 20 recent studies have investigated the relationship between fluoridated water and hip fracture, with approximately half of the studies finding an association. (20)

A 1995 study in the journal Neurtoxicology and Teratology, found that **fluoride accumulated in the brain** of rats and produced age-specific behavioral deficits **typical of most neurotoxic agents**. (21)

In the study, fluoride induced damage to the hippocampal region of the brain. Damage to the hippocampal region has been linked to hyperactivity and cognitive deficits. Based on the results, the lead author of the study, Dr. Phyllis Mullenix, has come out and advised against water fluoridation.

Five recent peer reviewed studies from China have found an association between elevated fluoride exposure and **decreased IQs** in children - an effect that would be expected based on Mullenix's research. (22)

In the late 1990s, a British scientist discovered that **fluoride accumulates** to very high levels (avg = 9000 ppm) in the **crystallized tissue of the human pineal gland**.

A subsequent animal study found that **fluoride interferes with the pineal gland's production of melatonin**, a hormone which helps regulate the onset of PUBERTY. In the study, animals dosed with fluoride had reduced levels of melatonin metabolites in their urine and had earlier onsets of puberty than the controls. (23)

Up until the 1950s, European doctors used fluoride to **reduce the activity of the thyroid gland** for people suffering from overactive thyroid (hyperthyroidism). (24) The daily dose of fluoride which people are now receiving in

fluoridated communities (1.6 to 6.6 mg/day) (25) actually exceeds the dose of fluoride which was found to depress the thyroid gland (2.3 to 4.5 mg/day). (26)

Hypothyroidism (under-active thyroid) is currently one of the most common medical problems in the United States. Synthroid, the drug doctors prescribe to treat hypothyroidism, was the fourth most prescribed drug in the US in the year 2000. Symptoms of hypothyroidism include depression, fatigue, weight gain, muscle and joint pains, increased cholesterol levels, and heart disease.

A recent study published in the journal Brain Research found that 1 PPM fluoride in water **facilitated the uptake of aluminum into the brain of rats**, producing the type of **brain tangles (amyloid deposits**) that are associated with Alzheimer's disease and other types of **dementia**. (27)

An epidemiological study published in the December 2000 issue of the Journal Neurotoxicology, found that fluoridated water was associated with elevated levels of **lead** in children's blood. (28)

The study's findings parallel the findings of an earlier study published in the September 1999 issue of the International Journal of Environmental Studies. (29) Lead in the blood is associated with a variety of neurological problems, including reduced intelligence, aggression and hyperactivity.

Dozens of laboratory studies have found that **fluoride is a mutagen** - a classification which frequently indicates that a substance is carcinogenic (i.e. that it causes **cancer**). (30) A cancer bioassay conducted by the National Toxicology Program found that rats dosed with fluoride had a statistically significant increase in **bone tumors** (osteosarcomas), which were not found among the controls.

The initial review of the study also reported that the fluoride-dosed rats had tumors of the thyroid, oral cavity and rare tumors of the liver; however these tumors were later downgraded under conspicuous and controversial circumstances. According to Dr. William Marcus, the Chief Toxicologist at the EPA's Office of Drinking Water, the downgrading of the tumors was politically motivated and not scientifically defensible. (31)

A recent epidemiological study conducted by a scientist from the US Public Health Service found that **female infertility was associated with elevated levels of fluoride** (>3ppm) in drinking water. The study concluded that more emphasis needs to be given to the effects on health from total fluoride exposure - not just exposure to fluoridated drinking water. (32)

In light of the recent research indicating health risks from low level fluoride exposure, the Union of **Scientists and professionals at EPA headquarters has voted to oppose fluoridation (33)** and has called upon Congress to issue a "national moratorium" on the fifty year old policy.

According to the Vice President of the Union, Dr. J. William Hirzy, "**In summary, we hold that fluoridation is an unreasonable risk**. That is, the toxicity of fluoride is so great and the purported benefits associated with it are so small - if there are any at all - that requiring every man, woman and child in America to ingest it borders on criminal behavior on the part of governments."

After years of overlooking the problems with fluoride & fluoridation, the environmental community is finally beginning to address the issue. In September of 2001, the Sierra Club announced that:

There are now valid concerns regarding the potential adverse impact of fluoridation on the environment, wildlife, and human health. The Sierra Club therefore supports giving communities the option of rejecting mandatory fluoridation of their water supplies. To protect sensitive populations, and because safer strategies and methods for preventing tooth decay are now available, we recommend that these safer alternatives be made available and promoted."

Please note: certain passages have been bolded and underlined for emphasis (not the author's).

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Homemade Kefir

The Source Is Everything

We always say, “The source is every-thing.” This means that unless the source of a product is premier quality, the benefits of taking the product may be very poor. And this definitely applies to kefir and yogurt. All kefir and yogurts are not created equal. In fact, the quality of yogurt (even organic) in the U.S. is typically very poor because the final product has been pasteurized which kills the beneficial bacteria, thus negating its health promoting benefits.

Bio-available Minerals for Strong Teeth and Bones

We have long observed that societies that eat cultured milk products, including even those from the poor classes, commonly have few or NO dental cavities. On trips to third-world countries, you may have noticed the beautiful, exceptionally white, strong teeth of many poor people. We believe one reason for the excellent dental health of many foreign countries is their daily consumption of fermented milk products such as kefir. Kefir contains a complex culture of many healthy, hearty bacterial strains, passed down from family to family for centuries.

A Kefir A Day Keeps the Doctor Away

Unlike Americans, many traditional cultures eat homemade kefir or yogurt every morning, made the night before from fresh, whole, nontoxic cow’s milk. Culturing fresh milk into kefir makes the inherent nutritional factors in the milk, such as vitamins and minerals, extremely bio-available so your body can easily absorb and digest them. In addition, kefir provides super healthy, valuable bacteria strains to promote healthy bowel function and digestion, and to help ward off pathogenic disease organisms. A healthy colon is the cornerstone of a healthy body.

Home Culturing

Culturing your own milk with premier quality kefir bacteria provides a wonderful, healthy, easy-to-digest food, for little tots up to great-grandpa. It’s extremely easy to make and tastes delicious. Enjoy eating a bowl of homemade kefir every morning. You can eat it as is or use it as a creamy base for kefir -based salad dressings, sauces, part of your morning health shake or experiment with making kefir ice cream.

How to Make Kefir

The best milk to use is organic whole milk (that comes with the cream on top) from cows never injected with synthetic hormones.

In the evening, pour the whole milk into a saucepan (for example, use 1 or 2 quarts of milk per person). If desired, skim the cream off first. Gently heat the milk until it comes to a boil, stirring the milk every few minutes so it does not stick to the pan and burn. Then turn off the heat and let the milk cool until it is still fairly warm but not too hot to hold your finger in the milk. Heating the milk to a boil kills any undesirable bacteria which may compete against and inhibit the growth of the healthy kefir bacteria.

Next, stir in 2 tablespoons or more of kefir culture into the warm milk. Immediately pour the milk with the added culture into a large glass bowl, cover, then wrap the entire bowl, with 2 large towels to keep it warm. Place one towel under the bowl and cover over the top. Place the second towel on top and wrap the bowl from the top down. Keep it out of drafty, cool places.

By morning (about 6 to 8 hours later), you’ll have delicious kefir. The milk has been converted into kefir when it has become thickened. This hearty kefir strain can culture very fast (within a few hours if kept fairly warm).

Trouble-Shooting

If the milk does not thicken into kefir or the kefir turns out too watery; you may have to trouble-shoot to find out why:

1. the milk may have gotten too cool during the night (you may need more towels to cover it or a warmer place),
2. the milk may have cooled down too much before you added the culture,
3. you may have not put enough starter kefir in the milk (we usually use 1 to 2 tablespoons of the culture per quart of milk),
4. your starter may have been too old and no longer active (the kefir culture is usually good for 7 to 10 days, sometimes longer),
5. you may have accidentally heated the milk together with the culture to a boil, which kills the culture, or
6. everything may be fine except that you may need to let the milk culture longer to be a firmer yogurt (12 to 24 hours).

Once the kefir is made, if desired, you can spoon the kefir into a strainer perched over a pan for 10 to 15 minutes to drain off the watery liquid (called whey). But don't throw this enzyme-rich whey away. Use it to water your garden. Draining off the watery whey makes the kefir thicker, but it is not required. Some people prefer a thinner kefir.
But don't eat all the kefir: save a couple of tablespoons to start your kefir for the next batch. We make a big batch of kefir twice a week, saving the kefir in a glass container in the refrigerator. We then have a nice bowl of kefir every morning. The kefir will last usually for 7 to 10 days. To save the culture for longer periods of time, put a small amount of the kefir in a glass jar and freeze it.

Finding the Best Milk

Fresh, whole milk from organically fed cows is the best milk. Good quality milk has a fresh, sweet, full-bodied taste. It is available only from healthy cows that are allowed to free-graze on fresh grass in clean, fresh air. Only organic, non-genetically engineered feeds should be given. The cows should be treated with kindness and respect. If possible, the fresh milk should come to you from the farmer in nontoxic containers, with no middlemen to process it or add synthetic hormones or vitamins.

The richest milk comes from Jersey and Guernsey cows. These breeds are world renowned for the quality of their milk, which contains higher concentrations of proteins, solids, and butterfat than other breeds. Commercial milk (sold in supermarkets) comes mostly from Holsteins which produce larger quantities of more watery milk.

Store-Bought Milk: Hazardous To Your Health

Commercial milk is usually pasteurized (flash-heated at high temperatures), homogenized (processed so the cream won't rise to the top), adulterated with synthetic vitamins, and usually contains antibiotic residues, growth hormones or other chemicals.

The genetically engineered growth hormone, rBST, is now given to over 70% of commercial cows. Consuming milk from rBST cows has been shown to disrupt normal digestion and cause cancer in laboratory animals. According to Robert Cohen, rBST has not been thoroughly tested and presents a grave risk to humans.[1] This risk includes cheese made from rBST milk.

Commercial milk is usually "standardized," a process used by the major producers where milk is separated into its constituent solids and fat, partially dehydrated, then mixed back together to form a product that conforms to the minimum legal limits for milk. In contrast, the best source of milk comes directly from organic cows, without any intermediate processing of any nature.

Certain dairies attempt to provide organic milk, but if cows are kept in polluted, smoggy areas near big cities such as Los Angeles, drinking poor quality water, and eating commercial feeds, the quality of the milk is bound to suffer. We recommend milk only from "happy" cows raised without toxic chemicals in a clean, nontoxic environment (outside smoggy cities).

Commercial Yogurt: Dead and Toxic

Since commercial milk (with its antibiotic residues, synthetic hormones and other chemicals) is used to make commercial yogurt, its toxic contaminants end up in the yogurt.

Secondly, most commercial yogurt manufacturers pasteurize their product after the culturing process, which kills all the friendly bacteria, if any have even been used in the first place. Pasteurization allows the product to have a longer shelf life -- but the yogurt has little therapeutic value since all the beneficial healthy bacteria are dead![2]

Slime, Anyone?

You may be as surprised as we were to find that many commercial yogurt producers use pima, an organism which produces slime, to make their yogurt. But why would anyone want to use a slime culture, which has no known health benefits, to make yogurt? The answer is because it's cheap.

In commercial yogurt production, there is a normal separation process of the yogurt called "watering off." To avoid this watery separation, the yogurt producers usually add milk solids (from commercial milk) or bean gums to "thicken" their yogurt. But it's far cheaper to use the slime-producer, pima, to make the yogurt look creamy.[2] In the U.S., this unnatural mixture is allowed to be sold as "yogurt." No thanks!

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Kefir Drinks - Favorite Recipes

A Delicious Morning Drink
To Start Your Day Out Right

A Secret Health Drink of Ancient Cultures

A delicious, traditional morning drink in many countries such as India is lassi, a simple drink made with fresh yogurt, water and spices. Often fruit may be blended in, such as one of India's national favorites, mango lassi. This favored drink is so common you can order it in almost any restaurant in India.

This same drink can be made with homemade kefir, instead of yogurt. Kefir is preferred since its unique Bulgarian bacterial culture is able to more completely digest the lactose in the milk. (Lactose is indigestible by most Afro-Americans and many other nationalities.) Most lactose-intolerant individuals are able to easily digest fresh kefir. In addition, the kefir molecules are much smaller and therefore, easier to absorb. Kefir also provides large amounts of natural highly active, probiotic "good" bacteria for the intestines – an important nutrient for daily immune protection in today's infection-rampant society.

Quick and Easy

You can easily and quickly make kefir drinks or shakes (only takes just a couple of minutes) – and you can make unlimited variations – use your imagination! Kefir drinks can be made with a sweet taste or with a salty (non-sweet) taste. Add fruit for a sweet taste or add sea salt and spices for a non-sweet drink (a more common version in Persian countries).

Kefir drinks provide highly absorbable calcium, highly absorbable protein, excellent amounts of probiotic bacteria and are famous for helping to protect the body's bones, teeth and gums and to invigorate the body's overall health. Kefir drinks help keep the body's temperature cool and well-adjusted in hot weather and strong in cold weather. Kefir drinks are excellent for children as well as adults. They can be a "meal in themselves" in the morning. Kefir drinks are especially recommended for the elderly because their nutrients are so easy to absorb and help prevent muscle wasting. You can also use the Kefir drink in place of regular milk to use over cereal (hot or cold). (Note: avoid most commercial milk – typically high in toxic pesticides and artificial hormones).

Make Your Own Kefir

It is essential that you make your own kefir (or yogurt) for use in kefir drinks. It is fun and easy to make your own kefir. Be sure to use organic, nontoxic milk. Request our Kefir Kit or obtain a fresh yogurt-like culture (called laban) from a local middle eastern restaurant that makes fresh fermented milk drinks (called Aryan). Ask for a sample without salt. The key to making great fermented drinks is a good quality, fresh, live culture.

It's also much cheaper to make your own kefir than buying commercial, premade sources. You can make a big batch of homemade kefir and keep it in the refrigerator, using a portion at a time. One batch is good for about 10 to 14 days (in average refrigerator cold temperatures). When your supply gets low, just make another batch. Children love lassi drinks for snacks or for extra energy when tired. Lassi drinks are also easy to transport (just place in a glass jar with a screw-top lid).

Warning: Avoid using store-bought kefir or yogurt (even "health food" varieties). Research shows that most, if not all, of these products have been pasteurized (highly heated) before being sent to market. This means that usually NO beneficial bacteria are present (the heat has killed them). It ranks as a dead, lifeless product.
In addition, many have been made from commercial milk (high in pus cells, pesticides and artificial hormones) and typically, toxic chemicals have often been added such as sucrose, fructose, corn syrup, "natural flavors" (a deceptive name for the neurotoxic chemical, MSG - monosodium glutamate), etc.

Favorite Recipes

Note: The following recipes are for one person. For two people, just double the recipe.

Lean-Body Kefir Shake *(Sweet Taste)*
Ingredients:
½ cup homemade kefir
½ cup purified water (for a thicker shake, add less water or leave it out)
2 tablespoons Lean-Body Whey Protein Blend
½ teaspoon Quantum EFA Oil Blend
½ teaspoon Quantum Greens Mix
Fresh, In-Season Fruit (Optional): ½ cup fresh blueberries or 1 fresh banana (or other fruit)

Other healthy additions (optional):
1 tablespoon Quantum Colostrum
1 teaspoon Quantum Lecithin Powder
1 tablespoon Manuka Honey or 2 to 3 teaspoons of Premier Natural Sugar Granules

Directions: Place all ingredients in a blender and blend until the liquid has a smooth texture. Voila! You're done. Enjoy this delicious drink!

Good Morning Kefir (*Non-Sweet, Creamy-Nutty Taste*)
Ingredients:
½ cup homemade kefir
½ cup purified water
½ teaspoon Quantum EFA Oil Blend
¼ teaspoon Premier Pink Salt (or to taste)
1 teaspoon Quantum Nutritional Flakes
Optional: a pinch of other spices: turmeric, oregano or oregano oil, black pepper, cayenne, etc.

Directions: Place all ingredients in a blender and blend (about 10 seconds) until the liquid has a smooth texture. Voila! You're done. Enjoy!

Experiment: enjoy adding different combinations of spices to make your favorite drink

Mango Lassi (*Sweet Taste*)
Ingredients:
½ cup homemade kefir
½ cup purified water
½ cup fresh mango or dried mango pieces (soaked in water for ½ hour before use)

Directions: Place all ingredients in a blender and blend (about 10 to 20 seconds) until the liquid has a smooth texture. Voila! You're done. Enjoy!

Variations. Vary the recipe to suit your tastes. For example, add different types of fruits, vary the amount of kefir or water.

Making Better Choices When Eating Out

Fresh Foods. When choosing a restaurant, ask if they prepare most of their food from scratch (as opposed to using pre-made foods). Using whole fresh ingredients made from scratch has greater food value and helps to avoid the many food chemicals and preservatives found in canned or boxed pre-made foods. Avoid restaurants that sell irradiated food (such as Dairy Queen). Irradiation of food produces carcinogenic chemicals.

Food Oils. Ask your waiter what kinds of oils are used in the food. Avoid eating food which contains margarine (as found in mayonnaise, cream sauces, imitation butter pats), canola oil (often found in "health foods" such as bakery items and soups, often used as a cheap but toxic substitute for olive oil) and hydro-genated oils (found in fried foods, white bread, buns, pizza crust, white noodles, etc.) Eating hydrogenated oil is linked to brain degeneration, memory problems, accelerated aging and cancer. (Hydrogenated oil is illegal in Europe – but common in the US diet.) The best oils to use are organic olive oil, organic sesame oil, organic, nonhydrogenated coconut oil (all three available from PRL) and real butter or Indian ghee (clarified butter).

Commercial Meat. Commercial red meat (steaks, hamburgers, etc.) is best avoided in restaurants since commercially produced meat is saturated with artificial hormones (which interferes with the normal hormone balance of both men and women) and is extremely high in pesticides, antibiotics and toxic chemical residues. In addition, commercial beef is mostly grain-fed (instead of grass-fed) which is high in the wrong kind of fat with imbalanced omega ratios and promotes weight gain.

Best Food Choices

Drinks. Do not drink the water served at the table. (Tap water contains hundreds of known toxic chemicals.) Instead, order purified water, either plain or sparkling. Good choices: Perrier, Sole, San Pelligreno. Avoid commercial milk (high in pesticide/chemical residues, pus levels, promotes weight gain). Avoid coffee.

Salad. Order your salad without dressing (commercial dressings are literally guaranteed to contain toxic oils and food chemicals). Ask for olive oil and lemon on the side. Drizzle these over your salad for a delicious, non-toxic tangy dressing. Avoid ice berg lettuce. Avoid croutons or crunchies on top of the salad (these typically contain refined white flour, bad oils and toxic chemical flavorings).

Soup. Soup served in restaurants is usually a poor choice since it usually contains tap water and is often made from pre-made soup mixes. Even restaurants that advertise "homemade" soup often use a vegetable or meat stock that is pre-made (usually full of food chemicals such as MSG, toxic preservatives and hydrogenated oil.)

Breads and buns. Avoid eating bread or buns served with the meal. They are typically made of refined white flour with added synthetic iron, a known free radical inducer (which encourages poor bowel elimination, weight gain, fatigue, increased neurodegeneration). If the item is a sandwich made with white bread or a bun, you can eat the insides and leave the bread. If you do choose to eat bread or buns, request real butter, not margarine. Strictly avoid mayonnaise.

Main Dishes

Creamy Sauces. Avoid main dishes with creamy sauces, since these sauces typically contain bad oils (such as margarine, canola or hydrogenated oils) and are mostly high in food chemicals (MSG, toxic preservatives, etc.) Also avoid food condiments such as ketchup and other sauces (usually full of MSG, artificial flavors).

Pasta and Noodles. Avoid pasta or noodles (such as lasagna) since they are nothing but refined white flour (which encourages sluggish bowels, insulin resistance, weight gain, accelerated aging, increased infection).
Fried Food. Avoid eating fried foods (such as fried chicken, French fries, etc.) Eating fried foods stresses the liver and stagnates bile, eventually leading to the formation of gallstones, impaired vision, stiff joints, etc.

Good Choices for Starches. A good starch is baked potatoes or rice (even though most rice is usually refined, at least it will not contain all the synthetic chemicals as found in white bread and buns). Ask your waiter if whole brown rice is available.

Good Choices for Main Dishes: Fresh-baked fish, vegetable and grain dishes. Main dishes with animal protein (meat, poultry or fish) are best eaten at the lunch meal, not at the evening meal. Strive to avoid eating animal protein at the evening meal. Instead, enjoy delicious vegetable-based main dishes. (Eating animal protein in the evening does not allow enough time to properly digest the protein before sleep. Thus, for most people, this encourages weight gain, poor sleep and waking up tired.)

Desserts. Desserts are best avoided in most restaurants. Most desserts will contain white sugar (a known toxic substance and immune suppressor) as well as many toxic food chemicals. In addition, eating sugar after consuming meat and starch is guaranteed to cause intestinal stagnation and gas. If a dessert is desired, take everyone home with you to enjoy an Egyptian sesame bar or enjoy preparing a simple but delicious dessert using Lean Body Whey Protein as the base of the drink.

Highly Heated Food or Microwaved Food. Ask if a microwave oven will be used to prepare your food. If so, request that your food be oven-baked instead (even though it will take longer). Avoid eating any food that has been highly heated (i.e. heated over 250 degrees F). Research now proves that highly heated food or food heated in a microwave oven contains unique, carcinogenic (cancer-causing), unusually toxic food chemicals.

Digestive Enzymes. After every meal that contains cooked food, be sure to take 2 capsules of Quantum Digest (plant-based enzymes) to assist your digestion and to lessen the digestive stress of eating cooked food. (You may want to carry a bottle of Quantum Digest with you.)

Protect Your Brain. After every meal eaten in a restaurant, take 1 to 2 capsules of Quantum Brain Complex, to help protect your brain and nervous system from toxic oils and hidden food chemicals as well as to deliver quantum quality brain and body nutrients.

A Few Acceptable Restaurants

In the rare event that we go out to eat, several of the better restaurants are:

a) Bucca Di Peppo, an Italian restaurant, which has chains in many cities in the US (including Los Angeles, Las Vegas, Austin, etc). They offer home-made dishes with many ingredients imported from Italy (which means fewer food chemicals as typically found in American restaurants). They use exclusively olive oil and butter (which allows you to avoid many dangerous oils as found in most American restaurants). However, like most restaurants, they use white flour in many dishes (i.e. pasta, pizza, etc) which is best avoided. Some of the better choices: tomato-basil-onion salad, greens salad, baked eggplant, garlic mashed potatoes (with butter), green beans.

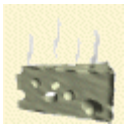
b) Kerby Lane (several locations in Austin, Texas). They use pesticide-free produce grown by local farmers and prepare many dishes from scratch daily. However, they do use white sugar in their desserts (best avoided). Acceptable choices: many enchilada choices on menu.

c) Z Tejas Restaurant (a restaurant chain in Texas and a few other states). Our favorite: a delicious, reasonably nontoxic dish: wild mushroom enchiladas; also great fresh guacamole and salsa.

d) Mother's Market (several locations in Los Angeles): a natural foods market with fresh vegetarian entrees prepared daily. Good choices: fresh juices, homemade vegetable soup, brown rice, enchiladas, tacos.

e) Whole Foods Market (locations throughout the US): natural foods market chain, but many food items contain unacceptable oils and food chemicals (be sure to read labels). Good choices: salad bar, fresh humus, tabouli, fresh juice, baked potato, some soups (beware – avoid canola oil, a toxic, brain-damaging oil).

BEHOLD! The Power of Cheese !



By Robert Cohen, author of *MILK - The Deadly Poison,* (201-871-5871), http://www.notmilk.com
The American Dairy Association has a new marketing campaign that may one day replace their successful milk mustache campaign. The Dairy Education Board welcomes the opportunity to reveal the secret powers of concentrated milk.

How Much Cheese Do Americans Eat?

In 1970, the dairy industry produced 2.2 billion pounds of cheese. The population of the United States was 203 million, which translates to 10.8 pounds of cheese per person. By 1990, America's population had grown to 248 million, but Americans were eating more cheese, 6 billion pounds worth! That's an average of 24 pounds per person. In 1994, according to the USDA, the average American consumed 27.7 pounds of cheese. America's rate of cheese consumption is skyrocketing. As we approach the new millennium, America's per-capita cheese consumption will break the 30-pound per person level.

OUR NEW CAMPAIGN : BEHOLD THE POWER OF PUS

Constipated by Camembert? Sickened by Swiss? Phlegmed by port wine cheddar?
You do not have to consult Inspector Gadget or Lieutenant Columbo to solve the mystery of cheese. By the time you add up the clues in this column, you'll solve a major crime and be knighted and made an honorary member of Scotland Yard.

GOT PUS?

The Food and Drug Administration (FDA) allows 750 million pus cells in every liter of milk (about two pounds). In Europe, regulators allow 400 million pus cells per liter. France and Italy are known for their magnificent cheeses. Perhaps that's their secret: Less pus!

Since it takes 10 pounds of milk to make one pound of cheese, a pound of cheese can contain up to 7.5 billion pus cells. If your American cheese is sliced so that there are 16 slices to a pound, that single slice of American or Swiss can contain over 468 million pus cells.

Got Provolone? *Got pus*!

BEHOLD THE POWER OF GLUE

Eighty percent of milk protein consists of casein, a tenacious glue. Casein is the glue that is used to hold a label to a bottle of beer. Try to scrape off one of those labels, then consider the effects of casein in your body. Casein is the glue that holds together wood in furniture. Behold the power of glue and behold the power of horrible bowel movements.

Casein is a foreign protein and your body reacts to its presence by creating an antibody. That antibody-antigen reaction creates histamines. Anti-histamines (like Benadryl) are used to counter the effects of histamines. Mucus and phlegm are produced as a result of cheese consumption.

Mucus congests internal body organs. Mucus creates phlegm. The average American lives his or her life with a gallon of mucus clogging the kidney, spleen, pancreas, tracheal-bronchial tree, lungs, thymus, etc. Imagine not eating cheese or any other dairy product for just six days. An internal fog will lift from your body as the mucus leaves. Eat just one slice of pizza on day seven, and 12 to 15 hours later, the mucus will return.

Got Gorgonzola? *Got glue*!

BEHOLD THE POWER OF PHONY STUDIES
In the name of science, the dairy industry sponsors studies in which people drink milk. These laboratory subjects then answer surveys about what the insides of their mouths feel like. Biased dairy scientists then conclude that milk and dairy products cause no mucus

BEHOLD THE POWER OF AUTOPSY
Florence Griffith Joyner (FLO-JO) had undigested cheese in her stomach 15 hours after eating pizza. Her internal organs were acutely congested with mucus and her neck revealed finger marks from where she tried to choke herself, gasping for breath. Behold the power of a killer**.**

Got Mozzarella? *Got mucus! Got mortuaries?*

BEHOLD THE POWER OF HORMONES
Every sip of milk has 59 different powerful hormones. Which ones do you want your little girls to take? Estrogen, progesterone or prolactin? In her lifetime, as a little girl becomes a big girl, then a mature woman, she will produce the total equivalent of one tablespoon of estrogen. Hormones work on a nano-molecular lever, which means that it takes a billionth of a gram to produce a powerful biological effect.

The average American now consumes nearly 30 pounds of cheese each year. That product contains concentrated hormones. One pound of cheese can contain 10 times the amount of hormones as one pound of milk. Nursing cows were never supposed to pass on cheese to their calves. They were, however, designed to pass on hormones, lactoferrins, and immunoglobulins in liquid milk to their infants.

Got Romano? *Got raging hormones*!

See http://www.notmilk.com/deb/072698.html on hormones.

BEHOLD THE POWER OF ANTIBIOTICS
Got American cheese? Got antibiotics? Consumers Union and the Wall Street Journal tested milk samples in the New York metropolitan area and found the presence of 52 different antibiotics. Eat ice cream, yogurt, and cheese toppings, and you're also consuming antibiotics. Cows are fed chicken feces as supplemental protein. The droppings are baked and sanitized but the heat process does not destroy the hormones in chicken feed.

Got Parmesan? *Got penicillin*!

BEHOLD THE POWER OF BACTERIA
In February of 1999, the Land of Lakes Company recalled nearly 400,000 cases of cheese products from supermarkets in every one of America's 50 states. Cheese makes a remarkable culture medium for bacteria, which stay alive for up to six months. This year's recall was due to listeria. Eat listeria and it can take up to 45 days for you to get sick. Would you make the connection? Cheeses can also contain mycobacterium paratuberculosis which causes diarrhea and irritable bowel syndrome: 40 million Americans are so affected.

Got Colby*? Got colds*! Got Danish cheese? *Got diarrhea*! Got Brie? *Got bad bowels*!

A kitchen is nothing else than a chemical laboratory producing millions of completely new chemical substances that basically **never** existed in the wild and if, then very occasionally by accident. Cooking will randomly produce millions of different sugar and protein combinations commonly called Maillard molecules.

Throughout the biggest part of our evolutionary history, the one before processing, human beings have never ingested the amount of Maillard molecules we ingest today. The recent introduction of dairy products and grains has equally brought new chemical substances such as new proteins into the dietary spectrum of humans within a very short period of time.

Key Points Regarding the Effects of Cooking on Food and Health

+ The food's life force is greatly depleted or destroyed when it is cooked. The bioelectrical energy field is altered and greatly depleted, as is graphically demonstrated with kirlian photography. Live and bioactive raw food is severely diminished.

+ The biochemical structure and nutrient makeup of the food is altered from its original state. Molecules in the food are deranged, degraded, and broken down. The food is degenerated in many ways. Fiber in plant foods is broken down into a soft, passive substance that loses its broom-like and magnetic cleansing quality in the intestines.

+ Nutrients, like vitamins, minerals, and amino acids are depleted, destroyed, and altered. The degree of depletion, destruction, and alteration is simply a matter of temperature, cooking method, and time.

+ Up to 50% of the protein is coagulated. Much of this is rendered unusable. High temperatures also create cross-links in protein. Cross-linked proteins are implicated in many problems in the body, as well as being a factor in the acceleration of the aging process.

+ The interrelationship of nutrients is altered from its natural synergistic makeup. For example, with meat, relatively more vitamin B-6 than methionine is destroyed, which fosters atherogenic free radical-initiating homocysteine accumulation that is a factor in heart problems.

+ The water content of the food is decreased. The natural structure of the water is also changed to something far less than optimal.

+ Toxic substances and cooked "byproducts" are created. The higher the cooking temperature, the more toxins that are created. Frying and grilling are especially toxin-generating. Various carcinogenic and mutagenic substances and many free radicals are generated in cooked fats and proteins in particular.

+ Heat causes the molecules involved to collide, and repeated collision causes divalent bonding in order for new molecules, and hence a new substance, to form. They have even been named "new chemical composites".

+ Unusable waste material is created, which has a cumulative congesting and clogging effect on your body and is a burden to the natural eliminative processes of your body.

+ All of the enzymes present in raw foods are destroyed at temperatures as low as 118 degrees Fahrenheit. These enzymes, named "food enzymes" are important for optimum digestion. They naturally aid in digestion and become active as soon as eating commences. Cooking destroys 100% of these enzymes.

+ Eating enzyme-dead food places a burden on your pancreas and other organs and overworks them, which eventually exhausts these organs. The digestion of cooked food uses valuable metabolic enzymes in order to help digest your food. Digestion of cooked food is much more energetically demanding than the digestion of raw food. In general, raw food is so much more easily digested that it passes through the digestive tract in a half to a third of the time it takes for cooked food.

+ After eating a cooked meal, there is a rush of white blood cells towards the digestive tract, leaving the rest of the body less protected by the immune system. From the point of view of the immune system the body is being invaded by a foreign (toxic) substance when cooked food is eaten.

+ Putrefactive bacteria, particularly from cooked meat, dominate the natural population of beneficial intestinal flora resulting in dysfunction in your intestine, allowing the absorption of toxins from the bowel. This phenomenon is variously called dysbiosis, or intestinal toxemia.

+ A buildup of mucoid plaque is created in the intestines. Mucoid plaque is a thick tar-like substance that is the long-term result of undigested, uneliminated cooked food putrefying in the intestines. Cooked starches and fats in particular are a major culprit in constipation and clogging of the intestines.

+ Cooked foods cause a build-up of toxins and waste material in many parts of the body, including within individual cells. Some of these toxins and wastes are called lipofuscin, which accumulates in the skin and nervous system, including the brain. It can be observed as "liver spots" or "age spots."

+ Cooked foods cause malnutrition at the cellular level. Because cooked foods are lower in nutrients, in addition to containing wastes and toxins, individual cells don't receive enough of the nutrients they need.

+ Cooked foods cause a tendency towards obesity through overeating. Because the cells don't get enough nutrients they are so to speak "always hungry" and hence "demand" more food. Cooked food is also less likely to be properly metabolized, which is another factor in excess weight gain.

+ From time to time the body experiences detoxification crises also called purification or healing crises. This happens when toxins are released through the skin or dumped in your bloodstream for elimination by the liver, kidneys, and other organs. The symptoms may include headaches, fever, nausea, vomiting, colds, bronchitis, sinusitis, pneumonia, and diarrhea.

+ The immune system, having to handle the massive daily invasions of toxins and toxic by-products, eventually becomes overwhelmed and weakened. A key factor in the aging process.

+ The wastes, toxins, mutagens, and carcinogens that build up within cells, as well as the daily onslaught of excess free radicals eventually cause some cells to become cancerous - killing an estimated 30% of Americans.

+ In general, the natural aging process is accelerated by cooked food. People who switch to raw food often become biologically and visibly younger.

+ After eating a cooked meal there is a general increase in the white blood cells in the blood and a change in the relative proportions of different blood cells occurs. This phenomenon is called "digestive leukocytosis".

Leukocytosis and Cooked Food

In 1930, research was conducted at the Institute of Clinical Chemistry in Lausanne, Switzerland, under the direction of Dr. Paul Kouchakoff. The effect of food (cooked/processed vs. raw/natural) on the immune system was tested and documented.

Dr. Kouchakoff's discovery concerned the leukocytes, the white blood cells. It was found that after a person eats cooked food, his/her blood responds immediately by increasing the number of white blood cells. This is a well-known phenomena called "digestive leukocytosis", which means that there is a rise in the number of leukocytes, or white blood cells, after eating.

Since digestive leukocytosis was always observed after eating, it was considered to be a normal physiological response to eating. No one knew why the number of white cells would rise after eating, since this appeared to be a stress response, as if the body was reacting to something harmful, such as infection, trauma, or exposure to toxic chemicals.

Back in 1930, Swiss researchers of the institute of Chemical Chemistry studied the influence of food on human blood and made a remarkable discovery. They found that eating unaltered, raw food or food heated at low temperatures did not cause a reaction in the blood. In addition, if a food had been heated beyond a certain temperature (unique to each food), or if the food was processed (refined, added chemicals, etc.), this always caused a rise in the number of white cells in the blood.

The researchers renamed this reaction "pathological leukocytosis", since the body was reacting to highly altered food. They tested many different kinds of foods and found that if the foods were not overheated or refined, they caused no reaction. The body saw them as "friendly foods". However, these same foods, if heated at too high a temperature, caused a negative reaction in the blood, a reaction that is found only when the body is invaded by a dangerous pathogen or trauma.

The worst offenders of all, whether heated or not, were processed foods that had been refined (such as white flour or white rice), or homogenized (a process in which the fat in milk is subjected to artificial suspension), or pasteurized (also seen in milk, flash-heated to high temperatures to kill bacteria), or preserved (chemicals added to food to retard spoilage or to enhance taste or texture).

In other words, foods that were changed from their original God-given state. Good examples of these harmful foods are: pasteurized milk, chocolate, margarine, sugar, candy, white flour, and regular salt. The researchers found that if these altered, chemical foods were chewed very thoroughly, the harm to the blood could be lessened. In addition, another amazing finding was that if some of the same food in its raw state was eaten with the cooked counterpart, the pathological reaction in the blood was minimized. However, avoid these unnatural, processed foods; replace them with delicious whole foods for optimal health.

Comment: Do not try to switch to an all-raw food diet too fast. Most people can begin with eating 50% of their food uncooked, especially fresh fruit in the morning and including a fresh vegetable salad with lunch.

Kouchakoff, Paul, M.D.; "The Influence of Cooking Food on the Blood Formula of Man";First International Congress of Microbiology; Paris, 1930.

Five "Health Foods" to Avoid

This morning, if you ate what you considered to be a healthy breakfast such as wheat toast, orange juice, eggs cooked in vegetable oil and a glass of store-bought milk, you've just eaten 4 of the following 5 so-called "health" foods that should definitely be avoided. With so many new health claims in the news, you may be confused about what truly is healthy, not to mention the old, traditional claims that are just plain wrong but are so engrained in our society that they're hard to change. The following 5 foods are widely known as generally "healthy" foods, but as you'll soon read, you are much better off without them.

Wheat Bread

Since 1990, the U.S. Dietary Guidelines have recommended that Americans eat 6 to 11 servings of bread and other grain foods every day, and many consumers dutifully purchase wheat bread as opposed to white bread because they believe it is more nutritious. The American Academy of Pediatrics even says that "whole-wheat bread offers a nutritional advantage over white bread."

However, wheat bread should not be considered a healthy or even necessary part of the diet. Commercial wheat is often **contaminated with mycotoxins** and **mercury fumigants**, and is usually **highly heated** (baked at 350 to 400 deg. F, temperatures far above boiling - the maximum, body-friendly temperature). Most wheat products have not been soaked overnight before processing to eliminate their naturally occurring **enzyme inhibitors**, which can stress your digestion and deplete your enzyme reserves.

Negative Effects of Wheat. Due to all these factors, most wheat products, no matter what form you find, such as refined white wheat, wheat, whole wheat, cracked wheat, sprouted wheat, etc., they are all capable of causing these following problems:

- Celiac disease
- Rheumatoid arthritis
- Miscarriages
- Headaches
- Infertility
- Developmental Delay in Children
- Irritable Bowel Syndrome

Intolerance to highly heated wheat products is far more common than most doctors typically recognize. Although many health experts preach about the benefits of whole grains, wheat and nearly all other grain products have been highly heated which triggers the formation of toxic compounds. When consumed, these **trigger a complex immune response in the body**, spending the body's immune supply of leucocytes (i.e. white blood cells). These toxic wheat compounds **accelerate aging** by forming free radicals and toxic end-chain glycation products that also **tax the body's eliminatory organs** (liver, kidney), setting the stage for chronic illness and later, advanced diseases such as cancer. The best strategy is to limit or **avoid highly heated wheat products** altogether.

Caution for Kapha Types. If your metabolism is predominantly oriented as a "Kapha", an Ayuvedic constitutional type (about one-third of all people), then highly heated grains can also dramatically help create overweight, high cholesterol, high blood pressure and diabetes. However, no matter what constitutional type, if you indulge in eating highly heated grains, you may be heading for any num

ber of diseases. Avoiding most commercial wheat products may almost certainly mean an increased level of health for you.

Commercial Wheat Bread vs. Organic, Sprouted Wheat Bread. However, truly organically grown wheat (which has not been stored in carbon dioxide-gassed containers or fumigated with mercury fumigants at a later time — often the case even with organic wheat) can be a wonderful, healthy food. It can be sprouted (soaked overnight to eliminate its enzyme inhibitors) and then ground into a liquid paste with water and used to make "flat bread" when heated on a

skillet (takes only a minute or two to cook each pancake-like bread). You can use virgin coconut oil as an excellent cooking oil (it has a high smoke point and does not turn rancid at normal cooking temperatures). This delicious bread is heart-healthy and can be a great bread staple for the whole family. Flat breads have been used for centuries in many cultures.

Although it takes time to make homemade flat bread, do not be tempted to buy so-called sprouted bread. This type of bread is often made with wheat which has been contaminated (mold, mercury fumigants, pesticides, etc. – even if labeled organic) and has been highly heated (i.e. heated over boiling temperature – 212 deg. F.) to make the bread. Sprouted bread sources are usually best avoided.

Wheat vs. Wheat Grass. Do not confuse highly heated wheat grain products with organic wheat grass. Well grown, organic, non-fumigated wheat grass (which is not a grain, but a sprout – in the category of a vegetable) which has been low-temperature, air-dried has exceptional health benefits due to its content of a wide range of natural vitamins, minerals, antioxidants and more. Please note: literally no American-grown wheat grass or wheat grass juices test free of pesticides. Therefore, we recommend only South American-grown wheat grass as your best source.

Vegetable Oil

Polyunsaturated oils, which include vegetable oils like **corn, soy, safflower and canola**, are the worst oils you can eat, as generally Americans' intake of Omega-6 fat from these vegetable oils is far too high.

The Ideal 1:1 Omega Ratio. Experts looking at the dietary ratio of **Omega-6 to Omega-3 fatty acids** suggest that in early human history, the **ratio was about 1:1**. Currently, most Americans eat a dietary ratio that falls between **20:1 and 50:1**. The optimal ratio is most likely closer to the original ratio of 1:1. For most of us, this means we need to greatly reduce the Omega-6 fatty acids (as found in polyunsaturated oils) and increase the amount of Omega-3 fatty acids we consume.

Further**, polyunsaturated oils are the worst oils to cook with** because they tend to become **easily oxidized (rancid)** when exposed to heat from cooking. This results in the **formation of trans fat, acrylamides, damaging free radicals** and a host of other **carcinogens**.

Virgin Coconut Oil: The Oil of Choice. Unfortunately, **the truly healthy oil, unprocessed, virgin coconut oil**, is regarded as the 'dangerous' oil while vegetables oils are regarded as healthy -- when it is really the other way around. Ironically, most sources of coconut oil in the U.S. have been hydrogenated, thus making most coconut oil sources an unhealthy choice. The only coconut oil that is recommended for consumption is the one still in its original, pristine state -- extra virgin, unprocessed coconut oil from India (grown in lush soil near the sea).

Soy

In recent years, soy has emerged as a 'near perfect' food, with supporters claiming it can provide an ideal source of protein, lower cholesterol, protect against cancer and heart disease, reduce menopause symptoms, and prevent osteoporosis, among other things.

The Confusion of Whole Soy vs. Fermented Soy. However, the research has **confused the effects of whole soy vs. naturally fermented soy**. For centuries in many traditional cultures, naturally fermented soy products such as tofu, miso and tempeh, have been a mainstay in the food supply and have benefited the populations with increased health and longevity due to their immune-boosting probiotic levels (promoting digestive and intestinal health) and their highly bioavailable phytonutrients such as fermented isoflavones, proven protectors against chronic diseases such as cancer. Whole soy (which has not been fermented) simply does not have these beneficial effects - nor did the ancient cultures consume whole soy in an unfermented form.

Hormone-Balancing Effects of Fermented Isoflavones. Fermented soy (the only desirable form of soy) contains highly bioavailable isoflavones and phytoestrogens that can support healthy estrogen levels. Fermented isoflavones promote healthy menstrual cycles as well as provide dramatically beneficial support during and after menopause, often eliminating the need for synthetic estrogens.

Negative Effects of Unfermented Soy. Numerous studies have found that consumption of whole soy (unfermented) is associated with many health problems, including:

- Increase the risk of breast cancer in women, brain damage in both men and women, and abnormalities in infants
- Contribute to thyroid disorders, especially in women
- Promote kidney stones
- Weaken the immune system
- Cause severe, potentially fatal food allergies

Unfermented soy products, such as soy drinks, soy ice cream and other soy products readily available in health food stores are best avoided. Unfermented whole soy is particularly problematic for infants, and **soy infant formulas should be avoided**. It is very difficult to digest, causes colic (intestinal gas) as well as other health dysfunctions.

Pasteurized Dairy

Despite the widespread notion that milk is healthy, **drinking pasteurized milk** (as sold in most grocery stores) is frequently associated with a **worsening of health**.

Raw Milk and Cream. On the other hand, raw milk (unpasteurized) can be a wonderful health food, especially when made into homemade keifer. Raw cream (not pasteurized) is also an excellent, healthy food, eaten as is or when combined with raw milk to make kiefer. However, beware of your source of raw milk or raw cream. Raw dairy products from unhealthy cows or if left out of refrigeration for long periods of time, can grow unwanted pathogenic organisms which can then infect the consumer.

For all three constitution types (according to Ayurveda), homemade keifer can be an excellent, healthy source of protein, fat and probiotics. However, if you have a Kapha constitution (one of the 3 Ayurvedic constitutions), you may need smaller amounts of keifer to avoid weight gain. If you are a Pitta type, drinking small amounts of raw cream (with its high fat content and rich source of immune-promoting compounds) regularly can be an excellent, health-balancing food. Pasteurized milk or cream does not have these benefits and is best avoided.

Toxic Effects of Pasteurization. The pasteurization process creates many problems in milk. As Sally Fallon of the Weston Price Foundation states:

“Pasteurization destroys enzymes, diminishes vitamin content, denatures fragile milk proteins, destroys vitamin B12 and vitamin B6, kills beneficial bacteria, promotes pathogens and is associated with allergies, increased tooth decay, colic in infants, growth problems in children, osteoporosis, arthritis, heart disease and cancer.

Calves fed pasteurized milk die before maturity. Raw milk sours naturally, but pasteurized milk turns putrid and processors must remove slime and pus from pasteurized milk by a process of centrifugal clarification. Inspection of dairy herds for disease is not required for pasteurized milk.”

Unfortunately, raw milk is not commercially available. You will need to seek out a local dairy farmer in your area as a supplier. Sally Fallon has compiled a website that provides further information about this important food source, including where you can purchase raw milk.

Orange Juice (and All Fruit Juice)

Fruit juice has about 8 full teaspoons of sugar per 8-ounce glass. This sugar is a fruit sugar called fructose, which in concentrated quantities, can cause a major increase in insulin levels in the body. If consumed on a regular basis, this may contribute to insulin resistance and overweight.

Further, many commercial orange juices are contaminated with **mold from damaged fruit** when they are processed. Secondly, most commercial oranges are heavily sprayed with pesticides. When oranges are processed, they are squeezed with the rind still on the orange (where the pesticide sprays are), so the juice may contain **high pesticide residues**. If you drink commercial orange juice regularly, you will be exposed to these mold toxins and pesticide residues. In addition, some commercial orange juices add **refined sugar** to their products, often not listed on the label. Refined sugar consumption contributes to insulin resistance, immune system impairment, overweight as well as most chronic diseases.

Eat Fruit in its Whole Form. This doesn't mean that you must avoid fruit, just fruit juice. When the fruit is intact and whole, its fiber moderates the release of fructose into the bloodstream, thus moderating insulin release. A temporary compromise might be to obtain organic fruit, such as oranges, squeeze it to liberate its juice, then dilute it 50/50 with purified water or sparkling water. This helps to slow down the release of insulin when consumed.

Blended Fruit Drinks. If consuming fruit in its whole form is too boring for you, a wonderfully delicious and super healthy way to have a liquid fruit drink is to obtain a TurboBlend, a type of heavy-duty kitchen blender. This device will liquefy a whole fruit or combination of fruits within seconds to yield a thick, flavor-rich smoothie with all its fiber intact.

However, if you are overweight, have high blood pressure or high blood sugar, it may be wise to avoid eating most fruits (especially fruit juice) until you have these problems under control. Please see the "Tridosha Body Typing" section for specific fruit recommendations for your particular body type. If you do not know your body type, you can complete the "Tridosha Questionnaire" to determine your body type.

Seven Dangers of Common Beef

and Better Alternatives

Beef has been a mainstay in the traditional American diet – however, this beginning to changing now that mad cow disease as well as many other contaminants have been identified in commercial American beef. Many people are waking up, realizing that **eating commercial beef is now most definitely a potential risk to their health and well being.**

Americans eat more meat than any other nation in the world, with the typical American eating over 60 pounds of beef a year. However, the vast majority of beef is filled with harmful toxins and additives and is so poorly raised that the vitality of the animals suffers tremendously. The saying, "you are what you eat," is literally true in many ways – since you absorb and concentrate the nutrients (and toxins) into your body of whatever you eat.

Do you ever wonder about the beef you eat? Where did that steak or hamburger meat came from? How was the animal raised? What types of antiobiotics and chemicals was it given? What did it eat? Was it healthy or diseased? The real question really is: what exactly are you eating?

These questions might give you an uneasy feeling – but knowing the truth and then taking action may save your life.

Most Commercial Cattle are Fed Grain

Due to the popularity of the Atkin's diet and other weight loss diets that emphasize a no-grain diet, many people may turn to beef as a substitution. However, nearly all cattle are grain-fed before slaughter which abnormally alters the ratios of essential fatty acids. If you eat commercially raised beef, it will typically worsen your own body's ratio of omega-6:omega-3.

According to a recent 2002 study (published in T*he European Journal of Clinical Nutrition*), livestock fed on grain (as compared to wild animals or grass-fed livestock) have less omega-3 fat, which is beneficial for cardiac health, and more omega-6 fat in their tissues, which may promote heart disease.

Deceptive Ads. Since most all cattle are typically grass-fed at some point in their life cycle, some stores advertise their beef as grass-fed. However, this may be misleading because grass was not the predominant diet of the cattle. The key is what the cattle were fed in the 3 to 6 months prior to being slaughtered. This means you will need to contact the person who actually raised the cows, NOT the store manager, to find out the truth.

This deception may also be true of beef that is advertised as "free of added hormones". When we asked one health food store attendant about their "hormone-free" beef, they said that it means no hormones were given to the cows within 3 to 6 months of slaughter (but previous to that, they *were* given hormones). These actual facts were included in one of their brochures about their beef – but later, removed.

Hormones for Weight Gain

Most commercially raised beef calves start around 80 pounds and gain up to 1,200 pounds in a period of about 14 months. This is not a natural event. This is accomplished by feeding them large quantities of grain (usually corn) and protein supplements, in addition to various drugs and synthetic hormones, as the beef industry puts it, to "promote efficient growth."

Various combinations of hormones, estradiol, progesterone, and testosterone, and the synthetic hormones, zeranol and trenbolone acetate, may be given to cattle during their growing cycle. Another hormone, melengesterol acetate, may also be added to cattle feed to "improve weight gain and feed efficiency."

When humans eat this drug and hormone-tainted beef, measurable amounts of hormones are transferred to humans. Some researchers warn that human **consumption of estrogen from hormone-drugged beef can result in cancer, premature puberty and falling sperm counts.**

Antibiotics

The largest use of antibiotics (over 50% of all antibiotic use) in the U. S. is for animals. The antibiotics are used to help the cattle gain weight but also to prevent disease outbreaks since disease is more prevalent in animals that are raised in such crowded conditions. About 9 million pounds of antibiotic feed additives are used annually in the cattle-raising process.

Routine antibiotic use is contributing to the growing problem of antibiotic resistance in humans. In contrast to animals raised on large, commercial "factory farms," animals raised in natural farm environments rarely require antibiotics.

In addition to antibiotics, commercially raised cattle are given various vaccines and other drugs. The following is an example of a recommended course of care for a whole herd of cattle as shown on Pfizer.com:

- CattleMaster 4+VL5: a 4-way viral plus 5-way leptospirosis vaccine and vibriosis protection
- UltraChoice 8: a vaccine to prevent clostridial diseases
- Dectomax Pour-On or Dectomax Injectable: drugs to prevent and treat internal and external parasites
- ScourGuard 3®(K)/C: a vaccine to prevent calf scours

Residues of these drugs and antibiotics can end up in the beef, thus exposing the consumer to a mirage of chemical and drug residues.

Irradiation Causes Carcinogenic By-Products

Much commercial beef is now being irradiated which means it has been treated with gamma rays produced by the radioactive material, cobalt 60, or electricity to kill bacteria. Radiation of meat or other foods has been proven to produce bizarre radiolytic by-products in foods that are carcinogenic (i.e. cancer-causing).

As our cancer rates rise higher each year in the U.S., eating irradiated foods is in effect, an unfortunate experiment on the American public – where the long term effects remain to be seen. If you value your health, it is best to **avoid eating irradiated foods, including irradiated meat.**

No Labelling of Irradiated Meat. Although all meat is not irradiated, it is typically not labeled as such, so it almost impossible to find out which beef has been irradiated. Your best choice is bet is to purchase non-irradiated meat – which means you will need to find out what happened to the beef once it left the farm where it was raised.

Avoid Pasteurized Milk. This issue is virtually the same issue as with milk. Once milk is pasteurized or ultra-pasteurized (even worse) to "protect" us, its nutritional properties are seriously damaged which has been proven to cause more harm than good for most who drink it. However, if milk is consumed in its natural, raw (unpasteurized) form, then it is typically an excellent, health-producing food for most who consume it (assuming the milk has come from healthy cows and has been stored properly so it is contaminant and infection-free).

Stop Irradiated Beef in School Lunch Programs. Currently, school districts have the option of purchasing irradiated beef for their lunch programs, but parental notification is not required. If you are a parent, you can contact your child's school district to find out whether irradiated beef is being served for school lunches. If so, you can work with them to discourage the use of irradiated beef and other irradiated foods.

You can also contact the following website for more information on how to work with your school district to stop the purchase of irradiated foods: www.safelunch.org. In addition, contact your state representative and senators today to urge them not to support irradiated food in school lunches.

Mad Cow Disease in U.S. Beef

As of December, 2003, mad cow disease has now been officially identified in American beef – although it has long been suspected due to the frequently unregulated practice of feeding infected animal parts to cattle. How widespread mad cow disease is in U.S. beef is not currently known.

Prions are the infectious agents thought to cause mad cow disease, called bovine spongiform encephalopathy (BSE) in cattle, or the human version of mad cow disease, Creutzfeldt-Jakob disease (CJD). CJD is a degenerative brain disorder which causes punctuate, sponge-like lesions in the brain, which later leads to dementia as well as other brain symptoms and a gruesome, early death. **CJD is believed to be transmitted to humans by eating beef infected with bovine spongiform encephalopathy (BSE).**

The classic form of CJD (in which symptoms may be sporadic early on) usually surfaces among men and women in their 60s, but has been identified in younger people as well. There is no current cure for CJD nor is it routinely checked for in individuals who have degenerative brain symptoms.

In November, 2003 in a study published in the *New England Journal of Medicine*, for the first time, Swiss scientists identified a rogue protein implicated in CJD in human muscle tissue. They found traces of the so-called, disease-associated prion protein (PrPSc) in 8 out of 32 muscle samples, and in 10 out of 28 spleen samples, that were taken from 3 dozen patients who had died with the classic form of CJD.

PrPSc [prion protein] has so far only ever been found in tissue of the central nervous system. The Swiss researchers made the discovery by using a new chemical, phosphotungstic acid, which increased the sensitivity of conventional PrPSc tests threefold.

The discovery poses intriguing, but unresolved, questions about the molecular pathways taken by CJD to establish itself in humans, the scientists said. Patients with the rogue protein outside the central nervous system had "a significantly longer duration of disease and were more likely to have uncommon molecular variants" of the disease, they said.

Toxic Environmental Problems

In addition to dangers that commercially raised beef poses to your health, it also promotes **extensive dangers to our environment**. In the U.S., cattle production is a major source of environmental pollution in the U.S. as well as abroad. Substantial areas of forests, particularly the rain forests of Central America and the Amazon, are being cleared to make way for cattle. Deforestation contributes to the worldwide green house effect of global warming.

In the U.S., among the most severe problems are water pollution from the nearly 1 billion tons of fecal and urine waste produced by cattle each year. In addition, there are also enormous amounts of petrochemical fertilizers used to produce feed crops for cattle. Air pollution – both from waste and waste treatment methods of grain-fed cattle -- are responsible for producing a significant portion of carbon dioxide, methane and nitrous oxide (the 3 major gases that are largely responsible for global warming), along with other toxic gasses.

Inhumane Treatment of Cattle

Commercially raised cattle are treated as commodities, forced to gain huge amounts of weight in a short time via synthetic hormones and drugs, by being raised in a completely artificial environment. These cattle are deprived of some of the most basic requirements of life -- fresh air, space, sunlight and normal social interaction.

Grass-Fed Beef

If you do desire to eat beef, the only real choice is grass-fed beef where the animals have been raised in a natural environment without toxic drugs or hormones. In addition, grass-fed beef has the omega 3 to 6 ratio in a more proper balance. Some websites on the internet offer variety of farmers that can provide sources of grass-fed beef.

However, even natural sources of beef are fraught with various problems:

a) Beef is much more difficult to digest than other foods, especially if cooked,
b) beef expends a much larger amount of your digestive enzymes to digest it, thus exhausting your own enzymes more readily, and at an earlier age,
c) beef perpetuates an arachidonic cascade in the body, contributing to inflammatory conditions and pain, d) eating cooked meat rapidly uses up your mineral supply so additional mineral supplementation is required,

e) beef contains “death hormones” liberated by the animal into its flesh at the time of its death, which ends up in the meat,
f) raising beef uses up tremendous amounts of natural resources (that could be used to raise more sustainable crops) and contributes to large amounts of environmental pollution (including naturally raised beef).

Even before beef was so contaminated, worldwide research on eating cooked meat has shown that it is associated with chronic neurodegeneration in all major nations where eating meat is predominant (associated with mineral and enzyme exhaustion).

The Protein of Choice

The best protein choice of all may be adding exotic mushrooms to your dinner table, such as shitake, maitake, Portobello mushrooms, trumpet mushrooms, oyster mushrooms and much more.

In contrast to beef (or other animal proteins such as chicken), exotic mushrooms are:
a) rich in very high in quality protein (higher than beef) but without the arachidonic cascade;,
b) in contrast to beef, they are very easy to digest, do not create a huge deficit in your enzyme supply,
c) contain no death hormones (or any other synthetic hormones),
d) are an environmentally sustainable crop which promotes a healthier environment which helps to protect against global warming and
e) these mushrooms typically contain natural, immune-boosting phytochemicals which supports better health.
f) In addition, these exotic mushrooms are absolutely delicious – and may be easily prepared in many tasty ways.

Even for the most died-in-the-wool beef or chicken eater, cutting up exotic mushrooms into thin strips or in bite-size pieces, when cooked and spiced correctly, look like strips of meat or chicken and taste similar (really much better!) than the best animal protein you have ever had.

Look in your local grocery store for these delightful mushroom protein enhancers. You’ll be stepping up to better digestion, a better immune system – and best of all, better health.

Abnormal Omega Fatty Acid Ratio in Commercial Beef

Research Citation from PubMed

Fatty acid analysis of wild ruminant tissues: evolutionary implications for reducing diet-related chronic disease. Cordain L, et al., Eur J Clin Nutr. 2002 Mar;56(3):181-91. Department of Health and Exercise Sciences, Colorado State University, Fort Collins, Colorado 80523, USA. cordain@cahs.colostate.edu

HYPOTHESES**: Consumption of wild ruminant fat represented the primary lipid source for pre-agricultural humans.** Hence, the lipid composition of these animals' tissues may provide insight into dietary requirements that offer protection from chronic disease in modern humans. METHOD: We examined the lipid composition of muscle, brain, marrow and subcutaneous adipose tissue (AT) from 17 elk (Cervus elaphus), 15 mule deer (Odocoileus hemionus), and 17 antelope (Antilicapra americana) and contrasted them to wild African ruminants and pasture and grain-fed cattle. RESULTS: Muscle fatty acid (FA) was similar among North American species with polyunsaturated fatty acids/saturated fatty acids (P/S) values from 0.80 to 1.09 and n-6/n-3 FA from 2.32 to 2.60. Marrow FA was similar among North American species with high levels (59.3-67.0%) of monounsaturated FA; a low P/S (0.24-0.33), and an n-6/n-3 of 2.24-2.88. Brain had the lowest n-6/n-3 (1.20-1.29), the highest concentration of 22:6 n-3 (elk, 8.90%; deer, 9.62%; antelope, 9.25%) and a P/S of 0.69. AT had the lowest P/S (0.05-0.09) and n-6/n-3 (2.25-2.96). Conjugated linoleic acid (CLA) isomers were found in marrow of antelope (1.5%), elk (1.0%) and deer (1.0%), in AT (deer, 0.3%; antelope, 0.3%) in muscle (antelope, 0.4%; elk, trace), but not in brain. CONCLUSIONS: Literature comparisons showed **tissue lipids of North American and African ruminants** were similar to pasture-fed cattle, but **dissimilar to grain-fed cattle**. The lipid composition of wild ruminant tissues may serve as a model for dietary lipid recommendations in treating and preventing chronic disease.

How do You Know . . .

If Your Food is Genetically Modified?

Dr. Joseph Mercola with Rachael Droege

When polled only about one-quarter of Americans report having eaten genetically modified food. However, if you **randomly pick an item off your grocery store's shelves**, you have a **70% chance of picking a food with genetically modified (GM) ingredients**. This is because at least **7 out of every 10 items have been genetically modified.**

If more Americans were aware of this fact, the polls would certainly turn out differently, but Americans are kept largely in the dark about GM products, and most are not aware they are eating these foods because there are **no labeling requirements for GM foods**.

This, despite the fact that there have been **no studies done with humans to show what happens when genetically modified foods are consumed**, and an ABC News poll (PDF) found that **92% of Americans want mandatory labels on GM foods**.

Even more concerning is the fact that genetically modified organisms are **not easily contained**. The Washington Post reported "techniques for confining genetically engineered . . . organisms are still in their infancy, and far more work needs to be done to make sure the new products do not taint the food supply or wipe out important species."

As a consumer, one way you can voice your resistance to these widely untested, experimental organisms is by not purchasing GM products, a task that is not easy to achieve when you consider the extent to which GM products have already saturated the American market.

There are, however, several ways to reduce your chances of eating GM foods -- if you know where to look.

Buy Organic

Buying organic is currently **the best way to ensure that your food has not been genetically modified**. By definition, food that is certified organic must be:

- Free from all GM organisms
- Produced without artificial pesticides and fertilizers
- From an animal reared without the routine use of antibiotics, growth promoters or other drugs

However, GM crops are becoming more and more prevalent, and **the spread of GM seeds and pollen is a major concern**. Even organic products may be contaminated with traces of GM elements that have been spread by wind or insects such as bees.

Read Labels

GM soybeans and corn make up the largest portion of genetically engineered crops. When looking at a product label, if any of the following ingredients are listed there's a good chance it has come from GM corn or soy (unless it's listed as organic):

Corn Derivatives (Food ingredients which may contain GM corn)

corn flour and meal	fructose and fructose syrup (unless specified non-corn)	**corn syrup**
malt	baking powder (corn starch is the usual filler)	malt syrup
malt extract	monosodium glutamate	maltodextrin
sorbitol	mono- and diglycerides	starch
food starch	modified food starch	confectioner's sugar
dextrin	**vitamins that do not state "corn-free"**	

Soy Derivatives (Food ingredients which may contain GM soy)

most miso	soy sauce	tamari	textured vegetable protein (usually soy)
teriyaki marinades	tofu	soy beverages	**soy protein isolate** or protein isolate
tempeh	shoyu	**lecithin** or soy lecithin	many non-stick sprays rely on soy lecithin
bread	pastry	**margarine**	

Mayonnaise and salad dressings also may include lecithin.

As you can see, there are many products that may contain GM soy or corn derivatives (or GM vegetable oil). Some of these products include:

Other Products (Food ingredients which may contain GM ingredients)

infant formula	**salad dressing**	**bread**
cereal	hamburgers and hot dogs	margarine
mayonnaise	crackers	cookies
chocolate	candy	fried food
chips	veggie burgers	meat substitutes
ice cream	frozen yogurt	tofu
tamari	soy sauce	soy cheese
tomato sauce	**protein powder**	baking powder
alcohol	vanilla	powdered sugar
peanut butter	**enriched flour and pasta**	

Non-food items include cosmetics, soaps, detergents, shampoo and bubble bath.

Aside from corn and soy, other **GM foods grown in the United States include cotton, canola, squash and papaya.**

Look at Produce Stickers

Those **little stickers on fruit and vegetables** contain **different PLU codes** depending on whether the fruit was conventionally grown, organically grown or genetically engineered. The PLU code for conventionally grown fruit consists of four numbers, organically grown fruit five numbers prefaced by the number 9, and **GM fruit five numbers prefaced by the number 8.**

For example:

- Conventionally grown PLU: 1022
- Organically grown PLU: 91022
- Genetically modified PLU: 81022

In terms of fruit, another strategy is to **avoid hybrid varieties**, which are fruits that have been **altered by humans**. Typically hybrid fruits contain more sugar than regular varieties so they taste sweeter and can be picked out because they **don't contain seeds** (seedless watermelon, seedless grapes, etc.).

Avoid Processed Foods

About 70% of all processed foods contain genetically modified ingredients, and the food manufacturers themselves often don't know for sure whether their products contain GM elements.

There are many reasons why processed foods are not optimal for your health -- for instance they often contain **trans fat**, **acrylamide** and little nutritional value -- so avoiding them will not only help you to cut back on the amount of GM foods you are consuming, but will also boost your health.

What is Trans Fat?

Trans fatty acids are also known as trans fat or hydrogenated oil. Trans fat is an artery-clogging fat that is formed when vegetable oils are artificially hardened into solid fat. This form of fat does not occur in nature and is sometimes called "plastic fat". Trans fat is associated with initiating poor health and degenerative diseases, including cancer. In fact, Dr. Johanna Budwig, a famous German biochemist and leading European authority on fats and nutrition, **proved that trans fat help to initiate cancer**. Trans fat does not belong in the human body if good health is desired.

What is Acrylamide?

Acrylamide is a white, odorless but potentially cancer-causing chemical, which has been found in many common foods such as potato chips, French fries, bread, rice and cereals. The chemical is a byproduct of cooking food at high temperatures. In 2002, Swedish researchers discovered acrylamide formation in highly heated food. Now, the FDA and many other countries have confirmed significant levels of acrylamide in many foods as a result of baking or frying – and most likely from grilling and roasting food. The Environmental Protection Agency's (EPA) website says: "EPA has classified acrylamide as a Group B2, **probable human carcinogen**," and according to the U.K. independent Committee on Carcinogenicity of Chemicals in Food, Consumer Products and the Environment (COC), ". . . exposure to **DNA-damaging carcinogens such as acrylamide** should be as low as reasonably practicable." Acrylamide has also been shown to **cause cancer and neurotoxic effects** in animal studies, and **damage to the nervous system in humans** who were exposed to the chemical at work.

Why Genetically Modified Crops Can Devastate Health

1. GM crops fail to deliver promised benefits.

The consistent finding from independent research and on-farm surveys since 1999 is that GM crops have failed to deliver the promised benefits of significantly increasing yields or reducing herbicide and pesticide use**. GM crops have cost the United States an estimated $12 billion in farm subsidies, lost sales and product recalls due to transgenic contamination**. Massive failures in Bt cotton of up to 100% were reported in India.

Biotech corporations have suffered rapid decline since 2000, and investment advisors forecast no future for the agricultural sector. Meanwhile worldwide resistance to GM has reached a climax in 2002 when Zambia refused GM maize in food aid despite the threat of famine.

2. GM crops create escalating problems on the farm.

The instability of transgenic lines has plagued the industry from the beginning, and this may be responsible for a string of **major crop failures**. A review in 1994 stated, "While there are some examples of plants which show stable expression of a transgene these may prove to be the exceptions to the rule. In an informal survey of over 30 companies involved in the commercialization of transgenic crop plants … almost all of the respondents indicated that they had observed some level of transgene inaction. Many respondents indicated that **most cases of transgene inactivation never reach the literature."**

Triple herbicide-tolerant oilseed rape volunteers that have combined transgenic and non-transgenic traits are **now widespread in Canada**. Similar multiple herbicide-tolerant volunteers and weeds have emerged in the United States. In the United States, glyphosate-tolerant weeds are plaguing GM cotton and soya fields, and atrazine, one of the most toxic herbicides, has had to be used with glufosinate-tolerant GM maize.

Bt biopesticide traits are simultaneously threatening to **create superweeds and Bt- resistant pests.**

3. Extensive transgenic contamination is unavoidable.

Extensive transgenic contamination has occurred in maize landraces growing in remote regions in Mexico despite an official moratorium that has been in place since 1998. **High levels of contamination** have since been found in Canada. In a test of 33 certified seed stocks, 32 were found contaminated.

New research shows that **transgenic pollen, wind-blown and deposited elsewhere, or fallen directly to the ground, is a major source of transgenic contamination**. Contamination is generally acknowledged to be **unavoidable**, hence there **can be no co-existence of transgenic and non-transgenic crops**.

4. GM crops are not safe.

Contrary to the claims of proponents, **GM crops have not been proven safe**. The regulatory framework was fatally flawed from the start. It was based on an anti-precautionary approach designed to expedite product approval at the expense of safety considerations. The principle of 'substantial equivalence', on which risk assessment is based, is intended to be vague and ill-defined, thereby giving companies complete license in claiming transgenic products 'substantially equivalent' to non-transgenic products, and hence 'safe.'

5. GM food raises serious safety concerns.

There have been **very few credible studies on GM food safety**. Nevertheless, the available findings already give cause for concern. In the still only systematic investigation on GM food ever carried out in the world, 'growth factor-like' effects were found in the stomach and small intestine of young rats that were not fully accounted for by the transgene product, and were hence attributable to the transgenic process or the transgenic construct, and may hence be general to all GM food. There have been at least two other, more limited, studies that also raised serious safety concerns.

6. Dangerous gene products are incorporated into crops.

Bt proteins, incorporated into 25% of all transgenic crops worldwide, have been found **harmful to a range of non-target insects**. Some of them are also potent immunogens and allergens. A team of scientists have cautioned against releasing Bt crops for human use.

Food crops are increasingly **used to produce pharmaceuticals and drugs**, including cytokines known to suppress the immune system, induce sickness and central nervous system toxicity; interferon alpha, reported to cause dementia, neurotoxicity and mood and cognitive side effects; vaccines; and viral sequences such as the 'spike' protein gene of the pig coronavirus, in the same family as the SARS virus linked to the current epidemic. **The glycoprotein gene gp120 of the AIDS virus HIV-1, incorporated into GM maize as a 'cheap, edible oral vaccine'**, serves as yet **another biological time-bomb**, as it can **interfere with the immune system and recombine with viruses and bacteria to generate new and unpredictable pathogens.**

7. Terminator crops spread male sterility.

Crops engineered with **'suicide' genes for male sterility** have been promoted as a means of 'containing', i.e. preventing, the spread of transgenes. In reality, the hybrid crops sold to farmers spread both male sterile suicide genes as well herbicide tolerance genes via pollen.

8. Broad-spectrum herbicides are highly toxic to humans and other species.

Glufosinate ammonium and glyphosate are used with the herbicide-tolerant transgenic crops that currently account for 75% of all transgenic crops worldwide. Both are systemic metabolic poisons expected to have a wide range of harmful effects, and these have been confirmed.

Glufosinate ammonium is linked to neurological, respiratory, gastrointestinal and hematological toxicities, and birth defects in humans and mammals. It is toxic to butterflies and a number of beneficial insects, also to the larvae of clams and oysters, Daphnia and some freshwater fish, especially the rainbow trout. It inhibits beneficial soil bacteria and fungi, especially those that fix nitrogen.

Glyphosate is the most frequent cause of complaints and poisoning in the UK. Disturbances of many body functions have been reported after exposures at normal use levels.

Glyphosate exposure nearly doubled the risk of late spontaneous abortion, and children born to users of glyphosate had elevated neurobehavioral defects. Glyphosate caused retarded development of the foetal skeleton in laboratory rats. Glyphosate inhibits the synthesis of steroids, and is genotoxic in mammals, fish and frogs. Field dose exposure of earthworms caused at least 50 percent mortality and significant intestinal damage among surviving worms. Roundup caused cell division dysfunction that may be linked to human cancers.

The known effects of both glufosinate and glyphosate are sufficiently serious for all further uses of the herbicides to be halted.

9. Genetic engineering creates super-viruses.

By far the most insidious dangers of genetic engineering are inherent to the process itself, which greatly enhances the scope and **probability of horizontal gene transfer and recombination, the main route to creating viruses and bacteria that cause disease epidemics**. This was highlighted in **2001** by the **'accidental' creation of a killer mouse virus** in the course of an apparently innocent genetic engineering experiment.

Newer techniques, such as DNA shuffling are allowing geneticists to create in a matter of minutes in the laboratory millions of recombinant viruses that have never existed in billions of years of evolution. Disease-causing viruses and bacteria and their genetic material are the predominant materials and tools for genetic engineering, as much as for the intentional creation of bio-weapons.

10. Transgenic DNA in food is taken up by bacteria in the human gut.

There is already experimental evidence that transgenic DNA from plants has been taken up by bacteria in the soil and in the gut of human volunteers. Antibiotic resistance marker genes can spread from transgenic food to pathogenic bacteria, making infections very difficult to treat.

11. Transgenic DNA may trigger cancer.

Transgenic DNA is known to survive digestion in the gut and to jump into the genome of mammalian cells, raising the **possibility for triggering cancer**. The possibility cannot be excluded that feeding GM products such as maize to animals also carries risks, not just for the animals but also for human beings consuming the animal products.

12. CaMV 35S promoter increases horizontal gene transfer.

Evidence suggests that transgenic constructs with the CaMV 35S promoter might be especially unstable and prone to horizontal gene transfer and recombination, with all the attendant hazards: gene mutations due to random insertion, cancer, reactivation of dormant viruses and generation of new viruses. This promoter is present in most GM crops being grown commercially today.

13. A history of misrepresentation and suppression of scientific evidence

There has been a history of misrepresentation and suppression of scientific evidence, especially on horizontal gene transfer. Key experiments failed to be performed, or were performed badly and then misrepresented. Many experiments were not followed up, including investigations on whether the CaMV 35S promoter is responsible for the 'growth-factor-like' effects observed in young rats fed GM potatoes.

In conclusion, **GM crops have failed to deliver the promised benefits** and are **posing escalating problems on the farm**. Transgenic contamination is now widely acknowledged to be unavoidable, and hence there can be no co-existence of GM and non-GM agriculture. Most important of all, GM crops have not been proven safe. On the contrary, sufficient evidence has emerged to raise serious safety concerns, that if ignored could result in irreversible damage to health and the environment. GM crops should be firmly rejected now.

Health Bars and Protein Powders

Three Ingredients You Should NEVER Consume

1. "Natural Flavors"[1] *Not Natural For Humans*

We continue to be surprised at how many so-called natural products are formulated with "natural flavors." "Natural flavors" is nice-sounding term for toxic MSG (monosodium glutamate)—a powerful neurotoxin that has the ability to damage and burst brain cells as well as creating global body symptoms, especially brain, memory, hormonal and nervous system distress and damage.

We often feel like a lone wolf trying to lead the health pack away from MSG. But "natural flavors" is such a great flavor enhancer and works so well to disguise any off-tastes, that it is just too tempting for most manufacturers not to use MSG in their products.

So you'll see MSG listed as "natural flavors" on almost every health bar and protein powder. It's hard to believe, but MSG lurks everywhere in many health products. Buyer beware.

2. Aspartame[2]

Aspartame (brand names: NutraSweet, Equal, NutraSweet Spoonful, Nutra Taste, etc.) is a toxic chemical sweetener contained in numerous consumer products (such as health bars, protein drinks, soft drinks, soup mixes, etc.). It is a powerful neurotoxin with the ability to powerfully disrupt normal cardiovascular, hormone and nervous system pathways.

Ask about your patient's aspartame consumption if they complain about any of the following symptoms: headaches, back pain, memory problems, hormonal concerns, depression, cardiovascular abnormalities, inability to think well or make decisions, fatigue, dizziness, chest pain, blood sugar problems, allergic reactions, allergies, weight gain, sexual problems, etc. (Turn this page over for a list of aspartame reactions.)

3. Fructose[3]

Fructose is a refined sugar that has no enzymes, vitamins, minerals and robs the body of its own micronutrients in order to be assimilated. Beware of this toxic sweetener contained in many so-called health foods (i.e. health bars, protein drinks, nutritional snacks, children's vitamins, cookies, etc.)

Research shows that fructose may help cause the following:

- Create insulin resistance and diabetes risk
- Increase fat weight gain
- Increase LDL, VLDL, triglycerides and heart disease risk
- Create mineral losses, especially iron and magnesium
- Inhibit copper metabolism
- Increase uric acid
- Increase acidosis
- Increase liver stress and diarrhea
- Create kidney imbalances
- Accelerate aging (increases cross-linkage of collagen in skin)

1 Blaylock, Russell, "Excitotoxins: The Taste That Kills," Health Press, Sante Fe, New Mexico, 1995.
2 Two former FDA scientists, Jacqueline Verrett and Adrian Gross, spent 3 months at Searle laboratories, discovering serious irregularities in research studies. Verrett called FDA's final decision to approve aspartame "a giant cover-up." *Food Magazine*, Vol 1 No.9, April/June 1990. (England)
3 Judith Hallfrisch, "Metabolic Effects of Dietary Fructose," *FASEB JOURNAL* 4 (June 1990): 2652-2660.

Aspartame Reactions

The following is list of adverse effects from short-term and/or long-term use of aspartame:

- seizures and convulsions
- dizziness
- tremors
- migraines and severe headaches (can trigger or cause them from chronic intake)
- memory loss
- slurring of speech
- confusion
- numbness or tingling of extremities
- chronic fatigue
- depression
- insomnia
- irritability
- panic attacks (common aspartame toxicity reaction)
- marked personality changes
- phobias
- rapid heart beat, tachycardia (another frequent reaction)
- asthma
- chest pains
- hypertension (high blood pressure)
- nausea or vomiting
- diarrhea
- abdominal pain
- swallowing pain
- itching
- hives / urticaria and other allergic reactions
- blood sugar control problems (e.g., hypoglycemia or hyperglycemia)
- menstrual cramps and other menstrual problems or changes
- impotency and sexual problems
- food cravings
- weight gain
- hair loss / baldness or thinning of hair
- burning urination & other urination problems
- excessive thirst or excessive hunger
- bloating, edema (fluid retention)
- infection susceptibility
- joint pain
- brain cancer (studies in animals)
- death

Aspartame consumption mimics symptoms or may worsen the following diseases:

Fibromyalgia, arthritis, multiple sclerosis (MS), Parkinson's disease, lupus, multiple chemical sensitivities (MCS), diabetes and diabetic complications, epilepsy, Alzheimer's disease, birth defects, chronic fatigue syndrome, lymphoma, Lyme’s disease, Attention Deficit Disorder (ADD and ADHD), panic disorder, depression and other psychological disorders

Fructose is *No* Answer For a Sweetener

By Nancy Appleton, Ph.D.

The consumption of fructose (corn syrup) has risen considerably in the general population within recent years. In 1980 the average person ate 39 pounds of fructose and 84 pounds of sucrose. In 1994, the average person ate 66 pounds of sucrose and 83 pounds of fructose. These 149 pounds are approximately 19% of the average person's diet.

This increase is due to several factors. There was a decreased use of cane and beet sugar (sucrose) in processed foods and a wide spread use of corn syrup due to economics. Corn is much cheaper and twice as sweet as table sugar. It is absorbed only 40% as quickly as glucose and causes only a modest rise in blood sugar.

A few years ago the medical community revealed that there was good news for diabetics. Many people had previously known that table sugar (sucrose) was not a healthy food for diabetics because it raised their blood sugar levels above normal.

Since diabetics have a hard time maintaining healthy blood sugar levels, doctors counseled diabetics not to eat sugar. The new revelation was that diabetics could eat fructose because fructose did not raise their blood sugar level extremely high. So far, so good, but there is more.

Many doctors were recommending fructose instead of glucose. Today fructose is not only being used by some diabetics but it is used for a variety of foods, drinks and confectionery around the world. It is used for candies for diabetics, desserts for weight watchers, drinks for the sportsman and jelly for the health conscious.

The medical community recommended it because of a low increase in glucose in the blood. The scientists did not look at other factors in the body when a person eats sugar. Let's look at some of these factors now.

Fructose: *The Facts*

1.) Robs the Body of Micronutrients. Fructose has no enzymes, vitamins, and minerals and robs the body of its micronutrient treasures in order to assimilate itself for physiological use.

Fructose browns food more readily (Maillard reaction) than with glucose. This may seem like a good idea, but it is not.

The Maillard reaction, a browning reaction, happens with any sugar. With fructose it happens seven times faster with than glucose, results in a decrease in protein quality and a toxicity of protein in the body.

This is due to the loss of amino acid residues and decreased protein digestibility. Maillard products can inhibit the uptake and metabolism of free amino acids and other nutrients such as zinc and some advanced Maillard products have mutagenic and/or carcinogenic properties. The Maillard reactions between proteins and fructose, glucose, and other sugars may play a role in aging and in some clinical complications of diabetes.

2.) May Increase LDL and Heart Disease Risk. Research showed that in subjects that had healthy glucose tolerance and those that had unhealthy glucose tolerance, fructose caused a general increase in both the total serum cholesterol and in the low density lipoproteins (LDL) in most of the subjects. This puts a person at risk for heart disease.

3.) May Increase VLDL. Another study showed that the very low density lipoproteins (VLDL) increased without an apparent change in high density lipoproteins (HDL). The VLDL and the LDL should be as low as possible and the HDL should be as high as possible.

4.) May Increase Uric Acid. There is a significant increase in the concentration of uric acid that is dependent on the amount of fructose digested. After glucose no significant change occurs. An increase in uric acid can be an indicator of heart disease.

5.) May Increase Lactic Acid and Acidosis. Fructose ingestion in humans results in increases in blood lactic acid, especially in patients with pre-existing acidotic conditions such as diabetes, postoperative stress, or uremia. The significance to human health is that extreme elevations cause metabolic acidosis and can result in death.

6.) May Create Liver Stress And Diarrhea. Fructose is absorbed primarily in the jejunum and metabolized in the liver. Fructose is converted to fatty acids by the liver at a greater rate than is glucose. When consumed in excess of dietary glucose, the liver cannot convert all of the excess of fructose in the system and it may be malabsorbed. What escapes conversion and being absorbed into the cells may be thrown out in the urine. Diarrhea can be a consequence.

7.) May Interact with Oral Contraceptives; Elevate Insulin. Fructose interacts with oral contraceptives and elevates insulin levels in women on "the pill."

8.) May Create Insulin Resistance. Fructose reduced the affinity of insulin for its receptor. This is the first step for glucose to enter a cell and be metabolized. As a result, the body needs to pump out more insulin, to handle the same amount of glucose.

9.) May Create Kidney Imbalances. Fructose consistently produced higher kidney calcium concentrations than did glucose in a study with rats. Fructose generally induced greater urinary concentrations of phosphorus and magnesium and lowered urinary pH compared with glucose.

The balance of minerals in the body is very important for the function of vitamins, enzymes and other body function. When the minerals are out of the right relationship, the body chemistry suffers. The presence of diarrhea might be the cause of decreased absorption of minerals.

10.) May Create Mineral Loss. Fructose-fed subjects lose minerals. They had higher fecal excretions of iron and magnesium than did subjects fed sucrose. Apparent iron, magnesium, calcium, and zinc balances tended to be more negative during the fructose feeding period as compared to balances during the sucrose feeding period.

11.) May Create Bowel Distress. A study of 25 patients with functional bowel disease showed that pronounced gastrointestinal distress may be provoked by malabsorption of small amounts of fructose.

12.) May Aggravate Herditary Fructose Intolerance. Many times fructose and sorbitol are substituted for glucose in parenteral nutrition (intervenous feeding, IV). This can have severe consequences with people with hereditary fructose intolerance, a congenital disorder affecting one in 21,000. A European doctor declared: "Fructose and sorbitol containing infusion fluids have no further place in our hospital pharmacies."

13.) May Accelerate Aging. There is significant evidence that high sucrose diets may alter intracellular metabolism, which in turn facilitates accelerated aging through oxidative damage. Scientists found that the rats given fructose had more undesirable cross-linking changes in the collagen of their skin than in the other groups.

These changes are also thought to be markers for aging. The scientists say that it is the fructose molecule in the sucrose, not the glucose, which plays the larger problem.

14.) Converts to Fat. Fructose is not metabolized the same as other sugars. Instead of being converted to glucose which the body uses, it is removed by the liver.

Because it is metabolized by the liver, fructose does not cause the pancreas to release insulin the way it normally does. Fructose converts to fat more than any other sugar. This may be one of the reasons Americans continue to get fatter.

15.) Raises Serum Triglycerides. Fructose raises serum triglycerides significantly. As a left-handed sugar, fructose digestion is very low. For complete internal conversion of fructose into glucose and acetates, it must rob ATP energy stores from the liver.

16.) Inhibits Copper Metabolism. Fructose inhibits copper metabolism. A deficiency in copper leads to bone fragility, anemia, defects of the connective tissue, arteries, and bone, infertility, heart arrhythmias, high cholesterol levels, heart attacks, and an inability to control blood sugar levels.

It seems that the magnitude of the deleterious effects varies depending on such factors as age, sex, baseline glucose, insulin, and triglyceride concentrations, the presence of insulin resistance, and the amount of dietary fructose consumed.

Some people are more sensitive to fructose. They include hypertensive, hyperinsulinemic, hypertrigly-ceridemic, non-insulin dependent diabetic people, people with functional bowel disease and postmenopausal women.

There is a continuing increase in sugar consumption in the United States. We now eat 153 pounds of sugar per person per year. This increase is mostly in the form of fructose. From the research presented, it seems that this increase is going to have a negative influence on our health.

Note: The 16 short-title headings (not the authors) were added to provide emphasis for each main point.

Nancy Appleton, Ph.D. is a clinical nutritionist, researcher, lecturer, and author of Lick the Sugar**,** Healthy Bones**,** Heal Yourself With Natural Foods and The Curse Of Louis Pasteur and Lick the Sugar Habit Sugar Counter.

ALERT: Do not be fooled by claims that fructose is a "safe" or "natural" sugar and can be eaten without harm. Read labels carefully to avoid many so-called "health foods" which claim to have "natural sweeteners" but which really contain fructose.

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**Do your patients have nerve and memory problems?*

Do your nutritional supplements contain "natural flavors**" (a disguised term for MSG)?*
Then carefully read below.

A Hidden Toxin Lurking in Your Supplements. The following excellent article by Dr. Russell Blaylock explains how a common additive often found in food and nutritional supplements, listed as "natural flavors," is not natural at all and is really a disguised term for MSG (monosodium glutamate). It is a known neurotoxin and excitotoxin, which is linked to many nerve disorders, depression and physical degeneration.

But "Natural Flavors" Sounds So Natural. Unbelievably, many nutritional supplements contain MSG (which is ***not*** listed under that name). Look on your supplement labels for the term, "natural flavors" (a deceptive name for MSG) -- such as "natural vanilla flavor" or "natural chocolate flavor" or "natural lemon flavor." For the best health of yourself and your patients, stop using products with "natural flavors." It's definitely ***not*** natural. So why is MSG put in nutritional products? To enhance the taste (or to cover up the "off taste" of bad-tasting or inferior ingredients).

Excitotoxins, Neurodegeneration, Neurodevelopment, Migraines, & Seizures

By Russell L. Blaylock, M.D.
Author of Excitotoxins: The Taste That Kills

There are a growing number of clinicians and basic scientists who are convinced that a group of compounds called excitotoxins play a critical role in the development of several neurological disorders including migraines, seizures, infections, abnormal neural development, certain endocrine disorders, neuropsychiatric disorders, learning disorders in children, AIDS dementia, episodic violence, lyme borreliosis, hepatic encephalopathy, specific types of obesity, and especially the neurodegenerative diseases, such as ALS, Parkinson's disease, Alzheimer's disease, Huntington's disease, and olivopontocerebellar degeneration.[(1)]

An enormous amount of both clinical and experimental evidence has accumulated over the past decade supporting this basic premise. [(2)] Yet, the FDA still refuses to recognize the immediate and long term danger to the public caused by the practice of allowing various excitotoxins to be added to the food supply, such as MSG, hydrolyzed vegetable protein, and aspartame. The amount of these neurotoxins added to our food has increased enormously since their first introduction. For example, since 1948 the amount of MSG added to foods has doubled every decade. By 1972 262,000 metric tons were being added to foods. Over 800 million pounds of aspartame have been consumed in various products since it was first approved. Ironically, these food additives have nothing to do with preserving food or protecting its integrity. They are all used to alter the taste of food. MSG, hydrolyzed vegetable protein, and natural flavoring are used to enhance the taste of food so that it taste better. Aspartame is an artificial sweetener.

These toxins (excitotoxins) are not present in just a few foods, but rather in almost all processed foods. In many cases they are being added in disguised forms, such as natural flavoring, spices, yeast extract, textured protein, soy protein extract, etc. Experimentally, we know that when subtoxic levels of excitotoxins are given to animals in divided doses, they experience full toxicity, i.e. they are synergistic. Also, liquid forms of excitotoxins, as occurs in soups, gravies and diet soft drinks are more toxic than that added to solid foods. This is because they are more rapidly absorbed and reach higher blood levels.

So, what is an excitotoxin?

These are substances, usually acidic amino acids, that react with specialized receptors in the brain in such a way as to lead to destruction of certain types of neurons. Glutamate is one of the more commonly known excitotoxins. MSG is the sodium salt of glutamate. This amino acid is a normal neurotransmitter in the brain. In fact, it is the most commonly used neurotransmitter by the brain. Defenders of MSG and aspartame use, usually say: How could a substance that is used normally by the brain cause harm? This is because, glutamate, as a neurotransmitter, exists in the extracellular fluid only in very, very small concentrations - no more than 8 to 12uM. When the concentration of this transmitter rises above this level the neurons begin to fire abnormally. At higher concentrations, the cells undergo a specialized process of delayed cell death known as excitotoxicity, that is, they are excited to death.

It should also be appreciated that the effects of excitotoxin food additives generally are not dramatic. Some individuals may be especially sensitive and develop severe symptoms and even sudden death from cardiac irritability, but in most instances the effects are subtle and develop over a long period of time. While the food additives, MSG and aspartame, are probably not direct causes of the neurodegenerative diseases, such as Alzheimer's dementia, Parkinson's disease, or amyotrophic lateral sclerosis, they may well precipitate these disorders and certainly worsen their pathology as we shall see. It may be that many people with a propensity for developing one of these diseases would never develop a full blown disorder had it not been for their exposure to high levels of food borne excitotoxin additives. Some may have had a very mild form of the disease had it not been for the exposure. Likewise, food borne excitotoxins may be harmful to those suffering from strokes, head injury and HIV infection and certainly should not be used in a hospital setting.

How Excitotoxins Were Discovered

In 1957, two opthalmology residents, Lucas and Newhouse, were conducting an experiment on mice to study a particular eye disorder.[3] During the course of this experiment they fed newborn mice MSG and discovered that all demonstrated widespread destruction of the inner nerve layer of the retina. Similar destruction was also seen in adult mice but not as severe as the newborns. The results of their experiment was published in the Archives of Opthalmology and soon forgotten. For ten years prior to this report, large amounts of MSG were being added not only to adult foods but also to baby foods in doses equal to those of the experimental animals.

Then in 1969, Dr. John Olney, a neuroscientist and neuropathologist working out of the Department of Psychiatry at Washington University in St. Louis, repeated Lucas and Newhouse's experiment. [4] His lab assistant noticed that the newborn of MSG exposed mice were grossly obese and short in statue. Further examination also demonstrated hypoplastic organs, including pituitary, thyroid, adrenal as well as reproductive dysfunction. Physiologically, they demonstrated multiple endocrine deficiencies, including TSH, growth hormone, LH, FSH, and ACTH. When Dr. Olney examined the animal's brain, he discovered discrete lesions of the arcuate nucleus as well as less severe destruction of other hypothalamic nuclei. Recent studies have shown that glutamate is the most important neurotransmitter in the hypothalamus.[5] Since this early observation, monosodium glutamate and other excitatory substances have become the standard tool in studying the function of the hypothalamus. Later studies indicated that the damage by monosodium glutamate was much more widespread, including the hippocampus, circumventricular organs, locus cereulus, amygdala- limbic system, subthalamus, and striatum.[6]

More recent molecular studies have disclosed the mechanism of this destruction in some detail.[7] Early on it was observed that when neurons in vitro were exposed to glutamate and then washed clean, the cells appeared perfectly normal for approximately an hour, at which time they rapidly underwent cell death. It was discovered that when calcium was removed from the medium, the cells continued to survive. Subsequent studies have shown that glutamate, and other excitatory amino acids, attach to a specialized family of receptors (NMDA, kainate, AMPA and metabotrophic) which in turn, either directly or indirectly, opens the calcium channel on the neuron cell membrane, allowing calcium to flood into the cell. If unchecked, this calcium will trigger a cascade of reactions, including free radical generation, eicosanoid production, and lipid peroxidation, which will destroy the cell. With this calcium triggered stimulation, the neuron becomes very excited, firing its impulses repetitively until the point of cell death, hence the name excitotoxin. The activation of the calcium channel via the NMDA type receptors also involves other membrane receptors such as the zinc, magnesium, phencyclidine, and glycine receptors.

In many disorders connected to excitotoxicity, the source of the glutamate and aspartate is indogenous. We know that when brain cells are injured they release large amounts of glutamate from surrounding astrocytes, and this glutamate

can further damage surrounding normal neuronal cells. This appears to be the case in strokes, seizures and brain trauma. But, food born excitotoxins can add significantly to this accumulation of toxins.

The FDA's Response

In July, 1995 the Federation of American Societies for Experimental Biology (FASEB) conducted a definitive study for the FDA on the question of safety of MSG.[8] The FDA wrote a very deceptive summery of the report in which they implied that, except possibly for asthma patients, MSG was found to be safe by the FASEB reviewers. But, in fact, that is not what the report said at all. I summarized, in detail, my criticism of this widely reported FDA deception in the revised paperback edition of my book, Excitotoxins: The Taste That Kills, by analyzing exactly what the report said, and failed to say.[9] For example, it never said that MSG did not aggravate neurodegenerative diseases. What they said was, there were no studies indicating such a link. Specifically, that no one has conducted any studies, positive or negative, to see if there is a link. A vital difference.

Unfortunately, for the consumer, the corporate food processors not only continue to add MSG to our foods but they have gone to great links to disguise these harmful additives. For example, they use such names as hydrolyzed vegetable protein, vegetable protein, textured protein, hydrolyzed plant protein, soy protein extract, caseinate, yeast extract, and natural flavoring. We know experimentally that when these excitotoxin taste enhancers are added together, they become much more toxic than is seen individually.[10] In fact, excitotoxins in subtoxic concentrations can be fully toxic to specialized brain cells when used in combination. Frequently, I see processed foods on supermarket shelves, especially frozen or diet foods, that contain two, three or even four types of excitotoxins. We also know, as stated, that excitotoxins in liquid forms are much more toxic than solid forms because they are rapidly absorbed and attain high concentration in the blood. This means that many of the commercial soups, sauces, and gravies containing MSG are very dangerous to nervous system health, and should especially be avoided by those either having one of the above mentioned disorders, or who are at a high risk of developing one of them. They should also be avoided by cancer patients and those at high risk for cancer, because of the associated generation of free radicals and lipid peroxidation.[11]

In the case of ALS, amyotrophic lateral sclerosis, we know that consumption of red meats and especially MSG itself, can significantly elevate blood glutamate, much higher than is seen in the normal population.[12] Similar studies, as far as I am aware, have not been conducted in patients with Alzheimer's disease or Parkinson's disease. But, as a general rule I would certainly suggest that person's with either of these diseases avoid MSG containing foods as well as red meats, cheeses, and pureed tomatoes, all of which are known to have higher levels of glutamate.

It must be remembered that it is the glutamate molecule that is toxic in MSG (monosodium glutamate). Glutamate is a naturally occurring amino acid found in varying concentrations in many foods. Defenders of MSG safety allude to this fact in their defense. But, it is free glutamate that is the culprit. Bound glutamate, found naturally in foods, is less dangerous because it is slowly broken down and absorbed by the gut, so that it can be utilized by the tissues, especially muscle, before toxic concentrations can build up. Therefore, a whole tomato is safer than a pureed tomato. The only exception to this as stated, based on present knowledge, is in the case of ALS. Also, the tomato plant contains several powerful antioxidants known to block glutamate toxicity.[13]

Hydrolyzed vegetable protein is a common food additive and may contain at least two excitotoxins, glutamate and cysteic acid. Hydrolyzed vegetable protein is made by a chemical process that breaks down the vegetable's protein structure to purposefully free the glutamate, as well as aspartate, another excitotoxin. This brown powdery substance is used to enhance the flavor of foods, especially meat dishes, soups, and sauces. Despite the fact that some health food manufacturers have attempted to sell the idea that this flavor enhancer is "all natural" and "safe" because it is made from vegetables, it is not. It is the same substance added to processed foods. Experimentally, one can produce the same brain lesions using hydrolyzed vegetable protein as by using MSG or aspartate.[14]

A growing list of excitotoxins are being discovered, including several that are found naturally. For example, L-cysteine is a very powerful excitotoxin. Recently, it has been added to certain bread dough and is sold in health food stores as a supplement. Homocysteine, a metabolic derivative, is also an excitotoxin.[15] Interestingly, elevated blood levels of homocysteine has recently been shown to be a major, if not the major, indicator of cardiovascular disease and stroke. Equally interesting, is the finding that elevated levels have also been implicated in neurodevelopmental disorders, especially anencephaly and spinal dysraphism (neural tube defects).[16] It is thought that this is the

protective mechanism of action associated with the use of the prenatal vitamins B12, B6, and folate when used in combination. It remains to be seen if the toxic effect is excitatory or by some other mechanism. If it is excitatory, then unborn infants would be endangered as well by glutamate, aspartate (part of the aspartame molecule), and the other excitotoxins. Recently, several studies have been done in which it was found that all Alzheimer's patients examined had elevated levels of homocysteine.[17]

One interesting study found that persons affected by Alzheimer's disease also have widespread destruction of their retinal ganglion cells.[18] Interestingly, this is the area found to be affected when Lucas and Newhouse first discovered the excitotoxicity of MSG. While this does not prove that dietary glutamate and other excitotoxins cause or aggravate Alzheimer's disease, it is powerful circumstantial evidence. When all of the information known concerning excitatory food additives is analyzed, it is hard to justify continued approval by the FDA for the widespread use of these food additives.

The Free Radical Connection

It is interesting to note that many of the same neurological diseases associated with excitotoxic injury are also associated with accumulations of toxic free radicals and destructive lipid oxidation products.[19] For example, the brains of Alzheimer's disease patients have been found to contain high concentration of lipid peroxidation products and evidence of free radical accumulation and damage. [20, 21, 22]

In the case of Parkinson's disease, we know that one of the early changes is the loss of one of the primary antioxidant defense systems, glutathione, from the neurons of the striate system, and especially in the substantia nigra. [23] It is this nucleus that is primarily affected in this disorder. Accompanying this is an accumulation of free iron, which is one of the most powerful free radical generators known. [24] One of the highest concentrations of iron in the body is within the globus pallidus and the substantia nigra. The neurons within the latter are especially vulnerable to oxidant stress because the catabolic metabolism of the transmitter-dopamine- can proceed to the creation of very powerful free radicals. That is, it can auto-oxidize to peroxide, which is normally detoxified by glutathione. As we have seen, glutathione loss in the substantia nigra is one of the earliest deficiencies seen in Parkinson's disease. In the presence of high concentrations of free iron, the peroxide is converted into the dangerous and very powerful free radical, hydroxide. As the hydroxide radical diffuses throughout the cell, destruction of the lipid components of the cell takes place, a process called lipid peroxidation. Of equal importance is the generation of the powerful peroxynitrite radical, which has been shown to produce serious injury to cellular proteins and DNA, both mitochondrial and nuclear. [25]

Using a laser microprobe mass analyzer, researchers have recently discovered that iron accumulation in Parkinson's disease is primarily localized in the neuromelanin granules (which gives the nucleus its black color). [26] It has also been shown that there is dramatic accumulation of aluminum within these granules. [27] Most likely, the aluminum displaces the bound iron, releasing highly reactive free iron. It is known that even low concentrations of aluminum salts can enhance iron-induced lipid peroxidation by almost an order of magnitude. Further, direct infusion of iron into the substantia nigra nucleus in rodents can induce a Parkinsonian syndrome, and a dose related decline in dopamine. Recent studies indicate that individuals having Parkinson's disease also have defective iron metabolism. [28]

Another early finding in Parkinson's disease is the reduction in complex I enzymes within the mitochondria of this nucleus. [29] It is well known that the complex I enzymes are particularly sensitive to free radical injury. These enzymes are critical to the production of cellular energy. As we shall see, when cellular energy is decreased, the toxic effect of excitatory amino acids increases dramatically.

In the case of ALS there is growing evidence that similar free radical damage, most likely triggered by toxic concentrations of excitotoxins, plays a major role in the disorder.[30]. Several studies have demonstrated lipid peroxidation product accumulation within the spinal cords of ALS victims as well as iron accumulation.[31]

It is now known that glutamate acts on its receptor via a nitric oxide mechanism. [32] Overstimulation of the glutamate receptor can produce an accumulation of reactive nitrogen species, resulting in the generation of several species of dangerous free radicals, including peroxynitrite. There is growing evidence that, at least in part, this is how excess glutamate damages nerve cells. [33] In a multitude of studies, a close link has been demonstrated between excitotoxicity and free radical generation. [34- 37]

Others have shown that certain free radical scavengers (antioxidants), have successfully blocked excitotoxic destruction of neurons. For example, vitamin E is known to completely block glutamate toxicity in vitro.[38] Whether it will be as efficient in vivo is not known. But, it is interesting in light of the recent observations that vitamin E combined with other antioxidant vitamins slows the course of Alzheimer's disease and has been suggested to reduce the rate of advance in a subgroup Parkinson's disease patients as well. In the DATATOP study of the effect of alpha-tocopherol alone, no reduction in disease progression was seen. The problem with this study was the low dose that was used and the fact that the DL-alpha-tocopherol used is known to have a much lower antioxidant potency than D-alpha-tocopherol. Stanley Fahn found that a combination of D-alpha-tocopherol and ascorbic acid in high doses reduced progression of the disease by 2.5 years. [39] Tocotrienol may have even greater benefits, especially when used in combination with other antioxidants. There is some clinical evidence, including my own observations, that vitamin E also slows the course of ALS as well, especially in the form of D- alpha-tocopherol. I would caution that antioxidants work best in combination and when use separately can have opposite, harmful, effects. That is, when antioxidants, such as ascorbic acid and alpha tocopherol, become oxidized themselves, such as in the case of dehydroascorbic acid, they no longer protect, but rather act as free radicals themselves. The same is true of alpha-tocopherol. [40]

Again, it should be realized that excessive glutamate stimulation triggers a chain of events that in turn sparks the generation of large numbers of free radical species, both as nitrogen and oxygen species. These free radicals have been shown to damage cellular proteins (protein carbonyl products) and DNA. The most immediate DNA damage is to the mitochondrial DNA, which controls protein expression within that particular cell and its progeny, producing rather profound changes in cellular energy production. It is suspected that at least some of the neurodegenerative diseases, Parkinson's disease in particular, are affected in this way.[41]

Chronic free radical accumulation would result in an impaired functional reserve of antioxidant vitamins/minerals and enzymes, and thiol compounds necessary for neural protection. Chronic unrelieved stress, chronic infection, free radical generating metals and toxins, and impaired DNA repair enzymes all add to this damage.
We know that there are four main endogenous sources of oxidants:

1. Those produced naturally from aerobic metabolism of glucose. 2. Those produced during phagocytic cell attack on bacteria, viruses, and parasites, especially with chronic infections. 3. Those produced during the degradation of fatty acids and other molecules that produce H_2O_2 as a by-product. (This is important in stress, which has been shown to significantly increase brain levels of free radicals.) And 4. Oxidants produced during the course of p450 degradation of natural toxins. And, as we have seen, one of the major endogenous sources of free radicals is from the exposure of tissues to free iron, especially in the presence of ascorbate. Unfortunately, iron is one mineral heavily promoted by the health industry, and is frequently added to many foods, especially breads and pastas. Copper is also a powerful free radical generator and has been shown to be elevated within the substantia nigra of Parkinsonian brains.[42]

What has been shown in all these studies is a direct connection between excitotoxicity and free radical generation in a multitude of diseases and disorders such as seizures, strokes, brain trauma, viral infections, and neurodegenerative diseases. Interestingly, free radicals have also been shown to prevent glutamate uptake by astrocytes as well, which would significantly increase extracellular glutamate levels. [43] This creates a vicious cycle that will multiply any resulting damage and malfunctioning of neurophysiological systems, such as plasticity.

The Blood-Brain Barrier

One of the MSG industry's chief arguments for the safety of their product is that glutamate in the blood cannot enter the brain because of the blood-brain barrier (BBB), a system of specialized capillary structures designed to exclude toxic substance from entering the brain. There are several criticisms of their defense. For example, it is known that the brain, even in the adult, has several areas that normally do not have a barrier system, called the circumventricular organs. These include the hypothalamus, the subfornical organ, organium vasculosum, area postrema, pineal gland, and the subcommisural organ. Of these, the most important is the hypothalamus, since it is the controlling center for all neuroendocrine regulation, sleep wake cycles, emotional control, caloric intake regulation, immune system regulation and regulation of the autonomic nervous system. As stated, glutamate is the most important neurotransmitter in the hypothalamus. Therefore, careful regulation of blood levels of glutamate is very important, since high blood concentrations of glutamate would be expected to increase hypothalamic levels as well. One of the earliest and most consistent findings with exposure to MSG is damage to an area of the hypothalamus known as the

arcuate nucleus.This small hypothalamic nucleus controls a multitude of neuroendo-crine functions, as well as being intimately connected to several other hypothalamic nuclei. It has also been demonstrated that high concentrations of blood glutamate and aspartate (from foods) can enter the so-called "protected brain" by seeping through the unprotected areas, such as the hypothalamus or other circumventricular organs.

Another interesting observation is that chronic elevations of blood glutamate can even seep through the normal blood-brain barrier when these high concentrations are maintained over a long period of time.[44] This would be the situation seen when individuals consume, on a daily basis, foods high in the excitotoxins - MSG, aspartame and L-cysteine. Most experiments cited by the defenders of MSG safety were conducted to test the efficiency of the BBB acutely. In nature, except in the case of metabolic dysfunction (such as with ALS), glutamate and aspartate levels are not normally elevated on a continuous basis. Sustained elevations of these excitotoxins are peculiar to the modern diet. (and in the ancient diets of the Orientals, but not in as high a concentration.)

An additional critical factor ignored by the defenders of excitotoxin food safety is the fact that many people in a large population have disorders known to alter the permeability of the blood-brain barrier. The list of condition associated with barrier disruption include: hypertension, diabetes, mini-strokes, major strokes, head trauma, multiple sclerosis, brain tumors, chemotherapy, radiation treatments to the nervous system, collagen-vascular diseases (lupus), AIDS, brain infections, certain drugs, Alzheimer's disease, and as a consequence of natural aging. There may be many other conditions also associated with barrier disruption that are as yet not known.

When the barrier is dysfunctional due to one of these conditions, brain levels of glutamate and aspartate reflect blood levels. That is, foods containing high concentrations of these excitotoxins will increase brain concentrations to toxic levels as well. Take for example, multiple sclerosis. We know that when a person with MS has an exacerbation of symptoms, the blood-brain barrier near the lesions breaks down, leaving the surrounding brain vulnerable to excitotoxin entry from the blood, i.e. the diet.[45] But, not only is the adjacent brain vulnerable, but the openings act as points of entry, eventually exposing the entire brain to potentially toxic levels of glutamate. Several clinicians have remarked that their MS patients were made worse following exposure to dietary excitotoxins. I have seen this myself. It is logical to assume that patients with the other neurodegenerative disorders, such as Alzheimer's disease, Parkinson's disease, and ALS will be made worse on diets high in excitotoxins. Barrier disruption has been demonstrated in the case of Alzheimer's disease. [46]

Recently, it has been shown that not only can free radicals open the blood-brain barrier, but excitotoxins can as well. [47] In fact, glutamate receptors have been demonstrated on the barrier itself.[48] In a carefully designed experiment, researchers produced opening of the blood-brain barrier using injected iron as a free radical generator. When a powerful free radical scavenger (U-74006F) was used in this model, opening of the barrier was significantly blocked. But, the glutamate blocker MK-801 acted even more effectively to protect the barrier. The authors of this study concluded that glutamate appears to be an important regulator of brain capillary transport and stability, and that overstimulation of NMDA (glutamate) receptors on the blood-brain barrier appears to play an important role in breakdown of the barrier system. What this also means is that high levels of dietary glutamate or aspartate may very well disrupt the normal blood-brain barrier, thus allowing more glutamate to enter the brain, creating a vicious cycle.

Relation to Cellular Energy Production

Excitotoxin damage is heavily dependent on the energy state of the cell. [49] Cells with a normal energy generation systems are very resistant to such toxicity. When cells are energy deficient, no matter the cause - hypoxia, starvation, metabolic poisons, hypoglycemia - they become infinitely more susceptible to excitotoxic injury or death. Even normal concentrations of glutamate are toxic to energy deficient cells.

It is known that in many of the neurodegenerative disorders, neuron energy deficiency often precedes the clinical onset of the disease by years, if not decades. [50] This has been demonstrated in the case of Huntington disease and Alzheimer's disease using the PET scanner, which measures brain metabolism. In the case of Parkinson's disease, several groups have demonstrated that one of the early deficits of the disorder is an impaired energy production by the complex I group of enzymes within the mitochondria of the substantia nigra. [51, 52] Interestingly, it is known that the complex I system is very sensitive to free radical damage.

Recently, it has been shown that when striatal neurons are exposed to microinjected excitotoxins there is a dramatic, and rapid fall in energy production by these neurons. CoEnzyme Q-10 has been shown, in this model, to restore energy production but not to prevent cellular death. But when combined with niacinamide, both cellular energy production and neuron protection is seen.[53] I recommend for those with neurodegenerative disorders, a combination of CoQ-10, acetyl-L carnitine, niacinamide, riboflavin, methylcobalamin and thiamine.

One of the newer revelation of modern molecular biology, is the discovery of mitochondrial diseases, of which cellular energy deficiency is a hallmark. In many of these disorders, significant clinical improvement has been seen following a similar regimen of vitamins combined with CoQ10 and L-carnitine. [54] Acetyl L-carnitine enters the brain in higher concentrations and also increases brain acetylcholine, necessary for normal memory function. While these particular substances have been found to significantly boost brain energy function they are not alone in this important property. phosphatidyl serine, ginkgo biloba, vitamin B12, folate, magnesium, vitamin K and several others are also being shown to be important.

While mitochrondial dysfunction is important in explaining why some are more vulnerable to excitotoxin damage than others, it does not explain injury in those with normal cellular metabolism. There are several conditions under which energy metabolism is impaired. We know, for example, approximately one third of Americans suffer from reactive hypoglycemia. That is, they respond to a meal composed of either simple sugars or carbohydrates (that are quickly broken down into simple sugars, i.e. a high glycemic index.) by secreting excessive amounts of insulin. This causes a dramatic lowering of the blood sugar.

When the blood sugar falls, the body responds by releasing a burst of epinephrine from the adrenal glands, in an effort to raise the blood sugar. We feel this release as nervousness, palpitations of our heart, tremulousness, and profuse sweating. Occasionally, one can have a slower fall in the blood sugar that will not produce a reactive release of epinephrine, thereby producing few symptoms. This can be more dangerous, since we are unaware that our glucose reserve is falling until we develop obvious neurological symptoms, such as difficulty thinking and a sensation of lightheadedness.

The brain is one of the most glucose dependent organs known, since it has a limited ability to metabolize other substrates such as fats. There is some evidence that several of the neurodegenerative diseases are related to either excessive insulin release, as with Alzheimer's disease, or impaired glucose utilization, as we have seen in the case of Parkinson's disease and Huntington's disease. [55]

It is my firm belief, based on clinical experience and physiological principles, that many of these diseases occur primarily in the face of either reactive hypoglycemia or "brain hypoglycemia", a condition where the blood sugar is normal and the brain is hypoglycemic in isolation. In at least two well conducted studies it was found that pure Alzheimer's dementia was rare in those with normal blood sugar profiles, and that in most cases Alzheimer's patients had low blood sugars, and high CSF (cerebrospinal fluid) insulin levels. [56, 57] In my own limited experience with Parkinson's and ALS patients, I have found a disproportionately high number suffering from reactive hypoglycemia.

I found it interesting that several ALS patients have observed an association between their symptoms and gluten. That is, when they adhere to a gluten free diet they improve clinically. It may be that by avoiding gluten containing products, such as bread, crackers, cereal, pasta ,etc, they are also avoiding products that are high on the glycemic index, i.e. that produce reactive hypoglycemia. Also, all of these food items are high in free iron. Clinically, hypoglycemia will worsen the symptoms of most neurological disorders. We know that severe hypoglycemia can, in fact, mimic ALS both clinically and pathologically.[58] It is also known that many of the symptoms of Alzheimer's disease resemble hypoglycemia, as if the brain is hypoglycemic in isolation.

In studies of animals exposed to repeated mild episodes of hypoxia (lack of brain oxygenation), it was found that such accumulated injuries can trigger biochemical changes that resemble those seen in Alzheimer's patients.[59] One of the effects of hypoxia is a massive release of glutamate into the space around the neuron. This results in rapid death of these sensitized cells. As we age, the blood supply to the brain is frequently impaired, either because of atherosclerosis or repeated syncopal episodes, leading to short periods of hypoxia. Hypoglycemia produces lesions very similar to hypoxia and via the same glutamate excitotoxic mechanism. In fact, recent studies of diabetics

suffering from repeated episodes of hypoglycemia associated with over medication with insulin, demonstrate brain atrophy and dementia.[60]

Another cause of isolated cerebral hypoglycemia is impaired transport of glucose into the brain across the blood-brain barrier. It is known that glucose enters the brain by way of a glucose transporter, and that in several conditions this transporter is impaired. This includes aging, arteriosclerosis, and Alzheimer's disease. [61, 62]
This is especially important in the diabetic since prolonged elevation of the blood sugar produces a down-regulation of the glucose transporter and a concomitant "brain hypoglycemia" that is exacerbated by repeated spells of peripheral hypoglycemia common to type I diabetics.

With aging, one sees several of these energy deficiency syndromes, such as mitochondrial injury, impaired cerebral blood flow, enzyme dysfunction, and impaired glucose transportation, develop simultaneously. This greatly magnifies excitotoxicity, leading to accelerated free radical injury and a progressively rapid loss of cerebral function and profound changes in cellular energy production.[63] It is suspected that at least in some of the neurodegenerative diseases, Alzheimer's dementia and Parkinson's disease in particular, this series of events plays a major pathogenic role.[64] Chronic free radical accumulation would also result in an impaired functional reserve of antioxidant vitamins/minerals, antioxidant enzymes (SOD, catalase, and glutathione peroxidase) and thiol compounds necessary for neural protection. Chronic unrelieved stress, chronic infection, free radical generating metals and toxins, and impaired DNA repair enzymes all add to this damage.

It is estimated that the number of oxidative free radical injuries to DNA number about 10,000 a day in humans.[65] Under conditions of cellular stress this may reach several hundred thousand. Normally, these injuries are repaired by special DNA repair enzymes. It is known that as we age these repair enzymes decrease or become less efficient.[66] Also, some individuals are born with deficient repair enzymes from birth as, for example, in the case of xeroderma pigmentosum. Recent studies of Alzheimer's patients also demonstrate a significant deficiency in DNA repair enzymes and high levels of lipid peroxidation products in the affected parts of the brain. [67, 68] It is also important to realize that the hippocampus of the brain, most severely damaged in Alzheimer's dementia, is one of the most vulnerable areas of the brain to low glucose supply as well as low oxygen supply. That also makes it very susceptible to glutamate/ free radical toxicity.

Another interesting finding is that when cells are exposed to glutamate they develop certain inclusions (cellular debris) that not only resembles the characteristic neurofibrillary tangles of Alzheimer's dementia, but are immunologically identical as well. [69] Similarly, when experimental animals are exposed to the chemical MPTP, they not only develop Parkinson's disorder, but the older animals develop the same inclusions (Lewy bodies) as see in human Parkinson's. [70] There is growing evidence that protracted glutamate toxicity leads to a condition of receptor loss characteristic of neurodegeneration. [71] This receptor loss produces a state of disinhibition that magnifies excitotoxicity during the later stage of the neurodegenerative process.

Special Functions of Ascorbic Acid

The brain contains one of the highest concentrations of ascorbic acid in the body. Most are aware of ascorbic acid's function in connective tissue synthesis and as a free radical scavenger. But, ascorbic acid has other functions that make it rather unique.

In man, we know that certain areas of the brain have very high concentrations of ascorbic acid, such as the nucleus accumbens and hippocampus. The lowest levels are seen in the substantia nigra. [72] These levels seem to fluctuate with the electrical activity of the brain. Amphetamine acts to increase ascorbic acid concentration in the corpus striatum (basal ganglion area) and decrease it in the hippocampus, the memory imprint area of the brain. Ascorbic acid is known to play a vital role in dopamine production as well.

One of the more interesting links has been between the secretion of the glutamate neurotransmitter by the brain and the release of ascorbic acid into the extracellular space. [73] This release of ascorbate can also be induced by systemic administration of glutamate or aspartate, as would be seen in diets high in these excitotoxins. The other neurotransmitters do not have a similar effect on ascorbic acid release. This effect appears to be an exchange mechanism. That is, the ascorbic acid and glutamate exchange places. Theoretically, high concentration of ascorbic

acid in the diet could inhibit glutamate release, lessening the risk of excitotoxic damage. Of equal importance is the free radical neutralizing effect of ascorbic acid.

There is now substantial evidence that ascorbic acid modulates the electrophysiological as well as behavioral functioning of the brain. [74] It also attenuates the behavioral response of rats exposed to amphetamine, which is known to act through an excitatory mechanism. [75] In part, this is due to the observed binding of ascorbic acid to the glutamate receptor. This could mean that ascorbic acid holds great potential in treating disease related to excitotoxic damage. Thus far, there are no studies relating ascorbate metabolism in neurodegenerative diseases. There is at least one report of ascorbic acid deficiency in guineas pigs producing histopathological changes similar to ALS. [76]

It is known that as we age there is a decline in brain levels of ascorbate. When accompanied by a similar decrease in glutathione peroxidase, we see an accumulation of H202 and hence, elevated levels of free radicals and lipid peroxidation. In one study, it was found that with age not only does the extracellular concentration of ascorbic acid decrease but the capacity of the brain ascorbic acid system to respond to oxidative stress is impaired as well. [77]

In terms of its antioxidant activity, vitamin C and E interact in such a way as to restore each others active antioxidant state. Vitamin C scavenges oxygen radicals in the aqueous phase and vitamin E in the lipid, chain breaking, phase. The addition of vitamin C suppresses the oxidative consumption of vitamin E almost totally, probably because in the living organism the vitamin C in the aqueous phase is adjacent to the lipid membrane layer containing the vitamin E.

When combined, the vitamin C is consumed faster during oxidative stress than vitamin E. Once the vitamin C is totally consumed, vitamin E begins to be depleted at an accelerated rate. N-acetyl-L-cysteine and glutathione can reduce vitamin E consumption as well, but less effectively than vitamin C. The real danger is when vitamin C is combined with iron. This is because the free iron oxidizes the ascorbate to produce the free radical dehydroxyascorbate. Alpha-lipoic acid acts powerfully to keep the ascorbate and tocopherol in the reduced state (antioxidant state). As we age, we produce less of the transferrin transport protein that normally binds free iron. As a result, older individuals have higher levels of free iron within their tissues, including brain, and are therefore at greater risk of widespread free radical injury.

Neurodevelopment

Recent studies have shown that glutamate plays a vital role in the development of the nervous system, especially as regards neuronal survival, growth and differentiation, development of circuits and cytoarchitecture. [78] For example, it is known that deficiencies of glutamate in the brain during neurogenesis can result in maldevelopment of the visual cortices and may play a role in the development of schizophrenia. [79] Likewise, excess glutamate can cause neural pathways to produce improper connections, a process I call "mis-wiring of the brain". Excess glutamate during embryogenesis has been shown to reduce dendritic length and suppress axonal outgrowth in hippocampal neurons. It is interesting to note that glutamate can produce classic toxicity in the immature brain even before the glutamate receptors develop. High glutamate levels can also affect astroglial proliferation as well as neuronal differentiation. It appears to act via the phosphoinositide protein kinase C pathway.

It has been shown that during brain development there is an overgrowth of neuronal connections and cellularity, and that at this stage there is a peak in brain glutamate levels whose function it is to remove excess connections and neuronal over-expression. This has been referred to as "pruning". Importantly, glutamate excess during synaptogenesis and pathway development has been shown to cause abnormal connections in the hypothalamus that can lead to later endocrinopathies. [80]

In general, toxicological injury in the developing fetus carries the greatest risk during the first two trimesters. But, this is not so for the brain, which undergoes a spurt of growth that begins during the third trimester and continues at least two years after birth. Dendritic growth is maximal in the late fetal period to one year of age, but may continue at a slower pace for several more years. Neurotransmitter development also begins during the late fetal period but continues for as long as four years after birth. This means that alterations in dietary glutamate and aspartate are especially dangerous to the fetus during pregnancy and for several years after birth. The developing brain's succeptability to excitotoxicity varies, since each brain region has a distinct developmental profile. The type of excitotoxin also appears to matter. For example, kianate is non-toxic to the immature brain but extremely toxic to the mature brain. The glutamate agonist, NMDA, is especially toxic up to postnatal day seven while quisqualate and

AMPA have peak toxicity from postnatal day seven through fourteen. L-cysteine is a powerful excitotoxin on the immature brain.

Myelination can also be affected by neurotoxins. In general, excitotoxic substances affect dendrites and neurons more than axons but axon demyelination has been demonstrated. During the myelination process, each fiber tract has its own spatiotemporal pattern of development, accompanied by significant biochemical changes, especially in lipid metabolism. More recent studies have shown an even more complicated pattern of CNS myelination than previously thought. This is of importance especially as regards the widespread use of aspartame, because of this triple toxin's effects on neuronal proteins and DNA. Of special concern is aspartame's methanol component and its breakdown product, formaldehyde.81 Also, it is known that the aspartate moiety undergoes spontanous racemization in hot liquids to form D-aspartate, which has been associated with tau proteins in Alzheimer's disease.[82, 83]

As you can see, the development of the brain is a very complex process that occurs in a spatial and temporal sequence that is carefully controlled by biochemical, structural, as well as neurophysiological events. Even subtle changes in these parameters can produce ultimate changes in brain function that may vary from subtle alteration in behavior and learning to autism, attention deficit disorder and violence dyscontrol.[84, 85, 86]

Experiments in which infant animals were exposed to MSG, have demonstrated significant neurobehavioral deficits.[87, 88] Other studies have shown that when pregnant female animals were fed MSG their offspring demonstrated normal simple learning but showed significant deficits in complex learning, accompanied by profound reductions in several forebrain neurotransmitters.[89, 90] In human this would mean that during infancy and early adolescence learning would appear normal, but with entry into a more advance education level, learning would be significantly impaired. In several ways, this animal model resembles ADD and ADHD in humans. Kubo and co-workers found that neonatal glutamate could severely injure hippocampal CA1 neurons and dendrites and, as a result, impair discriminative learning in rats. [91]

It is also important to note that neonatal exposure to MSG has been shown to cause significant alterations in neuroendocrine function that can be prolonged. [92, 93] By acting on the hypothalamus and its connections to the remainder of the limbic connections, excitotoxins can profoundly affect behavior.

Conclusion

In this brief discussion of a most complicated and evolving subject I have had to omit several important pieces of the puzzle. For example, I have said little about the functional components of the receptor systems, the glutamate transporter and its relation to ALS and Alzheimer's dementia, receptor decay with aging and disease, membrane effects of lipid peroxidation products, membrane fluidity, effects of chronic inflammation on the glutamate/free radical cycle, stress hormones and excitotoxicity, the role of insulin excess on the eicosanoid system, or the detailed physiology of the glutamatergic system. I have also only briefly alluded to the toxicity of aspartame and omitted its strong connection to brain tumor induction.

But, I have tried to show the reader that there is a strong connection between dietary and endogenous excitotoxin excess and neurological dysfunction and disease. Many of the arguments by the food processing industry has been shown to be false. For example, that dietary glutamate does not enter the brain because of exclusion by the blood-brain barrier, has been shown to be wrong, since glutamate can enter by way of the unprotected areas of the brain such as the circumventricular organs. Also, as we have seen, chronic elevations of blood glutamate can breech the intact blood-brain barrier. In addition, there are numerous conditions under which the barrier is made incompetent.

As our knowledge of the pathophysiology and biochemistry of the neurodegenerative diseases increases, the connection to excitotoxicity has become stronger. [94] This is especially so with the interrelationship between excitotoxicity and free radical generation and declining energy production with aging. Several factors of aging have been shown to magnify this process. For example, as the brain ages its iron content increases, making it more susceptible to free radical generation. Also, aging changes in the blood brain barrier, microvascular changes leading to impaired blood flow, free radical mitochondrial injury to energy generating enzymes, DNA adduct formation, alterations in glucose and glutamate transporters and free radical and lipid peroxidation induced alterations in the neuronal membranes all act to make the aging brain increasingly susceptible to excitotoxic injury.

Over a lifetime of free radical injury due to chronic stress, infections, trauma, impaired blood flow, hypoglycemia, hypoxia and poor antioxidant defenses secondary to poor nutritional intake, the nervous system is significantly weakened and made more susceptible to further excitotoxic injury. We know that a loss of neuronal energy generation is one of the early changes seen with the neurodegenerative diseases. This occurs long before clinical disease develops. But, even earlier is a loss of neuronal glutathione functional levels.

I included the material about the special function of ascorbic acid because few are aware of the importance of adequate ascorbate levels for CNS function and neural protection against excitotoxicity. As we have seen, it plays a vital role in neurobehavioral regulation and the dopaminergic system as well, which may link ascorbate supplementation to improvements in schizophrenia.

Our knowledge of this process opens up new avenues for treatment as well as prevention of excitotoxic injury to the nervous system. For example, there are many nutritional ways to improve CNS antioxidant defenses and boost neuronal energy generation, as well as improve membrane fluidity and receptor integrity. By using selective glutamate blocking drugs or nutrients, one may be able to alter some of the more devastating effects of Parkinson's disease. For example, there is evidence that dopamine deficiency causes a disinhibition (overactivity) of the subthalamic nucleus and that this may result in excitotoxic injury to the substantia nigra.[95] By blocking the glutamatergic neurons in this nucleus, one may be able to reduce this damage. There is also evidence that several nutrients can significantly reduce excitotoxicity. For example, combinations of coenzyme Q10 and niacinamide have been shown to protect against striatal excitotoxic lesions. Methylcobolamine, phosphatidylserine, pycnogenol and acetyl-L-carnitine all protect against excitotoxicity as well.

Of particular concern is the toxic effects of these excitotoxic compounds on the developing brain. It is well recognized that the immature brain is four times more sensitive to the toxic effects of the excitatory amino acids as is the mature brain. This means that excitotoxic injury is of special concern from the fetal stage to adolescence. There is evidence that the placenta concentrates several of these toxic amino acids on the fetal side of the placenta. Consumption of aspartame and MSG containing products by pregnant women during this critical period of brain formation is of special concern and should be discouraged. Many of the effects, such as endocrine dysfunction and complex learning, are subtle and may not appear until the child is older. Other hypothalamic syndromes associated with early excitotoxic lesions include immune alterations and violence dyscontrol.

Over 100 million American now consume aspartame products and a greater number consume products containing one or more excitotoxins. There is sufficient medical literature documenting serious injury by these additives in the concentrations presently in our food supply to justify warning the public of these dangers. The case against aspartame is especially strong.

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Relief of Fibromyalgia Symptoms Following Discontinuation of Dietary Excitotoxins

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Background: Fibromayalgia is a common rheumatologic disorder that is often difficult to treat effectively.

Case Summary: Four patients diagnosed with fibromyalgia syndrome for 2 to 17 years are described. All had undergone multiple treatment modalities with limited success. All had complete, or nearly complete, resolution of their symptoms within months after eliminating monosodium glutamate (MSG) or MSG plus aspartame from their diet. All patients were women with multiple comorbidities prior to elimination of MSG. All have had recurrence of symptoms whenever MSG is ingested.

Discussion: Excitotoxins are molecules, such as MSG and aspartate that act as excitatory neurotransmitters, and can lead to neurotoxicity when used in excess. We propose that these four patients may represent a subset of fibromyalgia syndrome that is induced or exacerbated by excitotoxins or alternatively, may comprise an excitotoxin syndrome that is similar to fibromyalgia. We suggest that identification of similar patients and research with larger numbers of patients must be performed before definitive conclusions can be made.

Conclusions: The elimination of MSG and other excitotoxins from the diets of patients with fibromyalgia offers a benign treatment option that has the potential for dramatic results in a subset of patients.

World Alert Over Cancer Chemical (Acrylamides) in Cooked Food

Uhlig, Robert, news at Telegraph.Co.Uk, May 18, 2002

A worldwide alert was issued after scientists announced that much of the **food we eat contains a chemical [acyrlamide] known to cause cancer, damage the nervous system and affect fertility.**

The Food Standards Agency said that its scientists had confirmed recent Swedish findings that **"significant levels" of acrylamide occurs in fried, baked and processed foods ranging from biscuits, bread and crisps to chips and possibly meat.**

The finding has the potential to change the way certain types of food are viewed, in much the same way that studies in the 1960s changed perception of the health risks of smoking.

Acrylamide causes gene mutations leading to a range of cancers in rats, including breast cancer, uterine cancer and tambours in the adrenal glands and the internal lining of the scrotum.

Among the products tested in the British study - some of which had **levels of acrylamide 1,280 times higher than international safety limits - were chipped and fried supermarket potatoes, Walkers crisps, crackers, Kellogg's Rice Crispies and Pringles crisps.**

The results have so alarmed health experts that they have called international meetings to discuss what should be done.

The British and Swedish findings were presented yesterday to the Scientific Committee on Food that advises the European Commission on food safety.

World Health Organization experts will discuss the research at a special meeting in Geneva next month. It is expected to recommend further studies.

According to the findings, acrylamide forms naturally in food when it is fried or baked. The scientists believe it also occurs in roasted, grilled and barbecued food. **As a genotoxic carcinogen, acrylamide is classified as a "probable" cancer-causing chemical with no safe dose.**

Diane Benford, a toxicologist at the FSA, said: "We cannot define a safe level. We have to assume that at any level of exposure there may be some risk, albeit very small."

With 30 to 40% of cancers caused by diet, Dr Benford said that it was too early to say whether acrylamide was one of the major causes of cancer.

Dr Benford said: "We are not advising any changes of diet or cooking procedures because we do not know enough yet."

Steve Wearne, head of contaminants at the FSA, said: "It's about any food that's cooked this way. It appears that any of these cooking processes in food production can lead to acrylamide forming. It's not clear what the factors are that lead to acrylamide formation; it may be due to the type of cooking, temperature, or chemical composition of the food, or other factors."

Our Comment:

Foods which have been highly heated (i.e. heated over boiling temperature, 212^0 F.) and thus, contain toxic acrylamides, should avoided for those who want to enjoy excellent health and a long life.

This new evidence further supports the concept of eating some raw (uncooked) food every day as a regular part of your diet. We recommend eating at least 50% of your diet as raw food, such as fresh fruit, raw vegetables (especially raw salads), soaked nuts and seeds (soaking them neutralizes their enzyme inhibitors which can interfere with human digestion), fermented seed cheese, raw homemade kefir, etc.

Boiling Temperature is Safe. When cooked foods are eaten, they should not be cooked over boiling temperature (212^0 F.) to avoid the formation of acrylamides. Foods heated in a microwave oven or a regular oven (which usually means temperatures between 300 – 450 deg. F) should be avoided. Examples of highly heated foods (best to avoid) are bread, cakes, cookies, buns, rolls, bagels, pizza, French fries, chips, donuts, etc.

An excellent, delicious alternative to eating most breads (typically highly heated) is to make your own homemade flatbread (using a skillet on your stove). Ask for our Flatbread recipe.

Standardization of Herbs

by Nathan Jaynes, M.H., Student Advisor, School of Natural Healing

A look into the way some plants are standardized should show just how un-natural this whole process is. Below is a common way alkaloids are extracted from raw plant material. This is not a recipe; some of these chemicals are very dangerous.

1. The plant material is first juiced and blended along with water.

2. Acetic acid (or some other acid) is added until the solution is around 5 pH. This acidic solution slowly converts the alkaloids into alkaloid salts.

3. The solution is heated for hours and sometimes days.

4. The aqueous solution is strained off and saved and the plant material goes through the process sometimes three or four times before the plant matter is finally discarded.

5. A defatting solvent like **methylene chloride** (see reverse), ether, chloroform, dichloromethane or naphtha (lighter fluid) is added to the solution. This will take out all fats and waxes from the product.

6. The mixture will separate into 2 parts the solvent with dissolved fats and oils and the alkaloid solution. The solvent mixture is discarded.

7. To this solution, a base chemical is added like ammonium hydroxide, sodium hydroxide (lye), ethyl acetate or potassium hydroxide until the pH is about 9 or 10. This un-hooks the salts and transforms the alkaloids into their free base form.

8. The alkaloids are no longer soluble in water and are extracted as in step 5 by again adding more methylene chloride, ether, chloroform, or naphtha (lighter fluid).

9. This yellow to brown extract (the color indicates alkaloid content) is allowed to evaporate or is heated and the process may be applied again and again until a final white crystalline product is achieved.

10. The resulting isolated alkaloid is then added to your herbs just before encapsulation. Even after adding all of these chemicals they market the end product as "all natural". Ephedrine, extracted in this manner from mahuang is as natural as cocaine from coco leaves or morphine from poppies. When did the herb stop being a natural and safe product and start being a dangerous and powerful chemical?

Answer: When the "inactive" phytochemicals that are usually present in the plant are taken out. These "inactive" phytochemicals work synergistically or as buffers with the so called "active" principles making the whole plant a safer and more effective medicine. The less mankind does to an herb between it being harvested and you ingesting it the better and more natural it is.

FACT SHEET: Methylene Chloride (Dichloromethane)

Methylene chloride, also known as *dichloromethane*, is a very widely-used solvent and is commonly used in processing herbs to standardize them. Beware that residues of this toxic solvent may remain in standardized herbs.

Methylene chloride is found in many common products, including:

- paint and varnish thinners and removers
- cleaning solutions
- paints and adhesives
- metal and plastic cleaners and degreasers
- aerosols (as a propellant)
- pesticides, fumigants, insecticides, and herbicides
- refrigeration and air conditioning equipment.

HEALTH EFFECTS
Overexposure to methylene chloride can cause serious health problems. Like most organic solvents, methylene chloride can damage the brain, as well as the skin, lungs, and other organs. In addition, methylene chloride has been shown to cause cancer in humans and laboratory animals. Most people cannot smell methylene chloride until it reaches a hazardous level — so don't depend on your sense of smell to warn you of overexposure. If you smell it, your exposure is too high.

How Can Methylene Chloride Get Into Your Body?
Methylene chloride can enter your body when you breathe in vapors. It can also be absorbed through your skin, so proper protective clothing is essential. If you eat, smoke, or drink in your work area, or if you don't wash your hands, you can also ingest (swallow) methylene chloride and other chemicals that you work with.

Short-Term (Acute) Health Effects
Methylene chloride can **irritate the eyes, nose, throat, and skin** and cause **skin rash, coughing, and shortness of breath.** At high levels, exposure to methylene chloride can also affect your central nervous system (brain) and cause the following symptoms: **"drunk" behavior, sluggishness, staggering, mental confusion, sleepiness, irritability, lightheadedness, dizziness, and headache.** At higher levels, symptoms can include **nausea, flushing, confusion, slurred speech, loss of balance and coordination.** Exposure can also **irritate the lungs,** causing a build-up of fluid that can lead to **death.**

Methylene chloride breaks down in the body to *carbon monoxide.* Carbon monoxide decreases the blood's ability to carry oxygen, and reduces the amount of oxygen that gets to your heart, brain, and other organs. This may result in **fatigue, shortness of breath, and chest pain.** If you are exposed to methylene chloride and carbon monoxide at work, both exposures should be kept to a minimum. Smoking also increases levels of carbon monoxide in the body. If you smoke, you may be more susceptible to the effects of methylene chloride exposure.

Long-Term (Chronic) Health Effects
Methylene chloride causes a variety of cancers in laboratory animals, including **cancer of the lung, liver, breast, and salivary glands.** Chemicals that cause cancer in animals are assumed to pose cancer risks to humans as well. (The Food and Drug Administration has just banned methylene chloride from hairsprays because of the potential cancer risks faced by hairdressers and consumers.) One study of workers indicated that methylene chloride may pose a risk of **cancer of the pancreas.**

Long-term exposure to methylene chloride can **damage the brain** (causing memory loss, blackouts, personality changes, poor coordination, and reduced thinking ability). At higher exposures, methylene chloride can also **damage your liver.** Methylene chloride also causes **kidney damage** in animals. One study has suggested that male workers exposed to methylene chloride may be at greater risk of **sterility.** Methylene chloride may **irritate the lungs,** especially when used near heat (furnaces, welding, etc.) Repeated exposures may cause **bronchitis with cough, phlegm, and/or shortness of breath.** When exposed to heat, methylene chloride breaks down into deadly phosgene gas. Exposure to methylene chloride may cause **heart disease** or aggravate pre-existing heart disease and cause **irregular heartbeat and rapid pulse.**

Fosamax

The Drug That Kills Bone Cells
To Produce Denser But More Brittle, Weaker Bone

- **Does Fosamax (alendronate) *really* prevent bone loss?**
- **Is it safe?**
- **Are there long-term studies?**

No Long Term Studies

Two studies reported that the drug, alendronate, prevents osteoporosis in younger postmenopausal women with almost the same effectiveness as hormone therapy. (*The New England Journal of Medicine*, 1998; 338:485-492; *Annals of Internal Medicine*, 1998;128:253-261, 313-314.) Although these studies were published in well respected medical journals, it is interesting to note that they were funded by the drug's manufacturer, Merck & Co.

More Harmful Than Helpful? Hormone replacement therapy, once considered the "therapy of choice" for menopausal women and widely prescribed by doctors for years, has now been abandoned – having been conclusively proven by long-term medical studies to be *more harmful* than helpful. What about all the women who faithfully used HRT for years – left like discarded guinea pigs to deal with the negative side effects of the hormone drugs which had not been thoroughly tested in long term studies.

Similarly, alendronate, the drug newly on the osteoporosis scene, is very controversial since no long term studies have been done. Although published studies show alendronate can increase bone density, it does so by abnormally altering bone metabolism -- by killing the bone's normal osteoclastic populations. The medical fallacy is that denser bone means stronger bone. Some researchers believe that alendronate actually *worsens* bone health. Although the bone may become denser, it is actually more brittle and weaker which can lead to increased risk of fracture.

Is alendronate another fiasco in the making?

Strong Opposition to Fosamax

Various medical researchers are opposed to the use of Fosamax, such as Dr. Joseph Mercola and Dr. John Lee. Dr. Lee, a well known medical doctor and researcher on women's hormones and bone density, is very strongly *opposed* to the use of Fosamax. He believes the key issue is that Fosamax does not stop bone loss or increase bone density in accordance with proper bone physiology – in fact, he finds it *worsens* bone health by abnormally altering bone tissue which actually becomes *weaker* as a result of its use.

The Dynamic System of Bone Building

Bone tissue is alive; it is a dynamic, interactive system with inherent self-cleansing and rebuilding properties. It is based on two key types of bone cells: osteoblasts and osteoclasts. The osteoblasts help build new bone; osteoclasts help tear down and replace old bone. In order to stay strong and healthy, bone tissue requires the balanced interaction of both types of these bone cells: both the removal and REPLACEMENT of old bone cells as well as the generation of new bone cells.

Fosamax: Brittle Bone

Fosamax does NOT build ANY new bone. It acts as a metabolic poison that actually kills the osteoclasts (the cells that remove old bone). By killing the osteoclasts, the old bone tissue is not properly removed to make way for new bone cells. Thus, the bone will become denser due to the abnormal buildup of sclerosed, dead-bone tissue, since the bone is no longer able to adequately clear the old bone cells.

Although this bone tissue is denser, it is actually weaker and more brittle because it has not been allowed to renew its bone cells in the normal manner, and thus adequately remold itself and readjust to the forces that are applied to the

bones. This brittle bone increases the risk of fracture over time. Fosamax is in the same chemical class (bisphosphonates) that is used in cleaners to remove soap scum from bath tubs.

Fosmax: Weakened Bone

After Fosamax use for four years, the bone has become weaker even though it is more dense and thus more susceptible to fracture.

Fosamax: Side Effects

Some of the known side effects of Fosamax are gastric and esophageal inflammation. Kidney failure, ocular damage, skin reactions, and hypocalcemia have also been reported. The company's own medical insert warns not to lie down after taking Fosamax for fear it may burn a hole in the esophagus or stomach.

In one reported case, a 77-year old woman developed hepatitis after taking alendronate for two months. (*The New England Journal of Medicine*, August 3, 2000;343:365-366.) The authors admit that the mechanism by which alendronate may cause liver damage is not known, although one possibility is that the Fosamax inhibits the synthesis of cholesterol in the liver, which may alter liver function.

The Osteoporosis Solution

Using a toxic chemical to stop bone resorption misses the big picture that osteoporosis is a complex process. Osteoporosis is not just loss of bone density: it is a full body phenomenon. Osteoporosis means diseased bone. In osteoporosis, the bone tissue is sick and has become unable to rebuild and repair itself.

To return to optimal bone health, a comprehensive approach must be used, supporting every aspect of the body's normal metabolism to restore normal bone metabolism and bone health. When a person has developed osteoporosis, the return to super healthy bone entails several key steps.

1. Stop the Bone Destroyers

The first step is to eliminate the bone destroyers. Substances which help promote rapid bone loss are: coffee, soda pop, refined foods, food chemicals, alcohol, smoking, high protein diet, chronic infections, prolonged emotional/physical stress, etc.

2. Load Up on Bone Builders: Natural-Source Vitamins and Minerals

a) Natural-Source Minerals. In order to reverse osteoporosis or to maintain healthy bones, great quality nutrition is the key. Healthy bones need much more than calcium; they need the full complement of macro and trace minerals in an ideal delivery matrix to achieve rapid recovery of ideal cellular resonance. The best source on the planet for highly absorbable minerals is sango reef coral (which has not been solvent-extracted). Avoid "rock" forms of minerals (such as calcium citrate, calcium carbonate, etc.) which are not easily absorbed and other forms of coral which have been secretly mined above ground (highly oxidized) and are magnesium-poor.

b) Natural-Source Vitamins. Also, include a full array of natural-source vitamins in your daily nutrient intake. Avoid "chemicalized" vitamins found in products which list the individual vitamins, such as vitamin A, vitamin B, vitamin C, etc. These isolated vitamins do not occur in nature and have been mostly chemically synthesized. Although they can initially be helpful, they are nothing like the real thing: naturally complexed vitamins in whole-nutrient concentrates which are capable of the most rapid shift to ideal cellular resonance and function.

c) Natural Progesterone Cream. Dr. Lee proved that using natural progesterone topically can actually increase bone strength and density. Natural progesterone does this by serving as a growth promoter for the osteoblasts (the cells that build bone). The synthetic version of progesterone, Provera, does not provide these benefits. Few studies have been published on natural progesterone because it is a natural substance which cannot be patented and no huge profits can be cornered by the drug companies.

If after using progesterone cream for a month or two and progesterone blood levels are not rising, this may be a consequence of exhausted adrenal glands. In this case, use a complete phytonutrient adrenal complex

formula (no glandulars) which can rapidly restore adequate adrenal function (3 to 6 weeks) and thereby, promote retention of natural progesterone.

3. Sunshine. A key factor in promoting adequate vitamin D synthesis to create strong, healthy bones is natural sunlight exposure outside (not through a window). Get outside for a minimum of 20 minutes of sunlight daily (and yes, even in the wintertime). Be sure to take your glasses off (or contacts) to get receive a full smorgasbord of healing sunlight factors absorbed via the retina which has been shown to be transmitted to the rest of the body's organs and glands. If you are not getting enough sunlight, then be sure to take USP-grade cod liver oil to get natural vitamin D (a non-toxic source).

4. Weight-Bearing Exercise. Lack of exercise encourages loss of bone density. Taking a 20-minute walk several times per week is a great way to stimulate bone strength and growth. If walking is too difficult, begin using a rebounder (gentle bouncing) for several minutes daily.

5. Osteoporosis Article. Get the full details on how to naturally prevent and reverse osteoporosis and what you can do to help yourself. Call for your free article today.

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Osteoporosis

The Mis-Information Disease

The Wrong Kind of Calcium. Many people are taught to think of osteoporosis as a calcium deficiency disease. Nothing could be further from the truth. The United States has one of the highest rates of osteoporosis in the world, yet is one of the highest consumers of dairy products, which are noted for their high calcium content. It is not that Americans are not getting enough calcium; the problem is that they are not getting enough of the right kind of calcium.

Dairy Products: Negative Calcium Balance. By consuming high amounts of pasteurized dairy products, Americans are losing more calcium than they ingest – ending up with a "negative calcium balance". Because of this, osteoporosis kills more women every year than cancer of the breast, cervix and uterus combined. A stunning 25 million people in this country been diagnosed with osteoporosis (with many others undiagnosed).

Weakened Bones. When bones lose density, they are called "porous", thus the name, osteoporosis, meaning "porous bones." When bone mass is lost, the bones are weakened and become more susceptible to fracture. Americans suffer more than 1.5 million fractures every year from osteoporosis. It is a widespread disease, affecting both men and women, with potentially devastating consequences. Approximately 25% will never walk again unassisted; 25% will end up in nursing homes and 25% will die within three months of conditions related to the fracture. Like most other chronic, degenerative diseases, osteoporosis is extremely rare among cultures that eat traditional plant-based diets.

Key Factors in Bone Loss. The human body replaces about 20% of its bone mass every year, but with osteoporosis, more bone is lost than is replaced. What accounts for this? If you eat a diet that is high in calcium-leaching foods, such as red meat, pasteurized milk, refined sugar, highly heated salt, inorganic phosphorous and caffeine, as well as a diet low in fresh fruits and vegetables, and don't get enough exercise, it's a sure recipe for osteoporosis. The following are a few key factors that can cause bone loss.

1. Red meat is a high protein product. Animal protein is metabolized by the body to form forming two strong acids, sulfuric and phosphoric. To keep the blood pH slightly alkaline, the body needs to neutralize (buffer) these acids; calcium is the best substance the body has to do this. And the most plentiful source of calcium is, you guessed it, the bones. Animal protein also contains large amounts of phosphorous, which reacts with calcium to form an insoluble compound, which inhibits calcium absorption. If you eat a diet high in animal protein, consuming large amounts of calcium can rarely compensate – bone mass will still be lost.

2. Pasteurized Milk. Consuming pasteurized milk is another key factor in bone loss. Americans are one of the highest consumers of pasteurized milk in the world. If pasteurized milk were really good for bone integrity, Americans would have some of the strongest bones in the world, yet we have some of the weakest! For the same reasons as meat (high protein), the calcium in pasteurized dairy products causes a negative calcium balance; more calcium is lost than is gained. Additionally, the enzymes have all been killed in pasteurized milk, which act as needed co-factors to adequately absorb the milk's nutrients. Milk is also low in magnesium, a needed co-factor for calcium uptake. To improve your chances of *getting* osteoporosis, drinking plenty of pasteurized milk will speed you on your way!

3. White Sugar. Another contributor to osteoporosis is refined white sugar. Refined sugar is absorbed quickly and rapidly increases the glucose levels in the cells. These levels increase faster than the cell's oxygen level, which causes incomplete oxidation of the glucose, forming acids. These acids act to acidify the body, requiring buffering with calcium which leads to bone loss. Just like pasteurized milk, refined sugar strips the body's stores of magnesium, which is needed for bone re-mineralization. Common sources of hidden refined sugar are breakfast cereals, canned sauces, soft drinks, catsup, canned soups, bread, pastries, bagels, etc.

4. Soft Drinks. Soda drinks containing phosphoric acid also contribute to osteoporosis; once again, the acid must be neutralized with calcium. Although organic forms of phosphorus help mediate calcium levels, diets high in inorganic phosphorus, especially when you're low in calcium, will lead to osteoporosis. Phosphorus is added to many processed foods today since it helps to retain moisture and acts as an anti-caking agent. (Too much phosphorus in the diet can lead to muscle cramps, mini-strokes, high blood pressure, and soft tissue calcification as seen in kidney stones and atherosclerosis).

5. Smoking, Caffeine, Alcohol, Lack of Exercise. While a major culprit, diet isn't the only cause of osteoporosis. Bone loss can be also intensified by smoking, lack of weight-bearing exercise, and consuming caffeine (i.e. coffee) and alcohol.

Plant-Based Sources of Calcium. Besides bone loss, lack of bone *gain* also invites osteoporosis. Adequate absorption of vitamins and minerals are necessary to form new bone. As you might expect, calcium is a big player in this process. It is *usable* calcium that forms bone. Good sources of bio-available calcium are young grasses (such as barley, wheat, oat), many green vegetables (such as broccoli, celery, asparagus) and many fruits (such as mango, blueberries, strawberries). Human mother's milk contains 33 mg of calcium per 100 grams; compare to oranges (43), spinach (93), and lettuce (68)

The bottom line is that plant-based sources of natural calcium (and especially ionized coral powders) are superior in both absorption and quality to animal protein or rock-based calcium supplements (such as calcium citrate, dolomite or calcium carbonate). Plant-based sources do not have too much protein that can cause a negative calcium balance like pasteurized cow's milk and other animal products.

Plant-based sources of calcium also naturally contain many other naturally occurring minerals. For example, building bone requires magnesium, which converts vitamin D to its bioactive form necessary for calcium absorption. Exposure to adequate amounts of sunlight will provide with vitamin D. Manganese is another player, needed both for bone mineralization and for synthesis of the organic matrix on which calcification takes place.

A host of other nutrients are essential for strong bones. Natural sources of folic acid, vitamins K, B6, C, and the minerals silicon, boron and zinc also play a major role in bone building. Eating a plant-based diet consisting of a variety of fresh, unprocessed, organic fruits, vegetables, nuts and seeds is a great way to get these nutrients in abundance.

Osteoporosis is an avoidable disease. By adopting healthy lifestyle practices that help prevent bone loss and increase bone health, you can benefit by reducing the risk factors of other chronic, degenerative diseases as well. Along with a healthy diet, weight-bearing exercise, and the avoidance of lifestyle habits that interfere with calcium absorption, you help ensure strong, healthy bones for your entire life.

Stainless Steel: Potential Problems

(As Found in Stents, Cookware, Silverware)

Lancet, 2000; 356: 1895-1897

Contrary to common beliefs, contact with stainless steel may not be inert and benign. A new study has found that stainless steel coronary stents may trigger allergic reactions to substances such as nickel, molybdenum, or chromium, which are released. These allergic reactions may be a major factor in causing in-stent restenosis.

The researchers looked at 131 patients (avg. age 62 years) with coronary stainless-steel stents who underwent angiography for suspected restenosis. The average time since the stents were inserted was about 6 months. All patients underwent allergy skin tests for nickel, chromate, molybdenum, manganese, and small stainless-steel plates. In-stent restenosis (50% diameter stenosis) occurred in 89 patients. All 10 patients with positive patch-test results had restenosis (4 had positive reactions to molybdenum and 7 patients had positive reactions to nickel).

The authors conclude that "Allergic reactions to nickel and molybdenum released from stents may be one of the triggering mechanisms for in-stent restenosis."

COMMENT: This study shows that the use of stainless steel in contact with humans is not always inert. Although this study was not done on cooking with stainless steel, it does show that sensitive individuals can have adverse reactions to stainless steel devices placed into their body. Studies show that some of the ions which are released from stainless steel devices are able to destroy or damage enzymes and proteins, in addition to causing allergic reactions.

Stainless steel alloys all contain nickel, chromium, molybdenum, iron, carbon and various other metals. Most doctors do not realize is that nickel can be just as toxic as mercury. Some doctors believe that nickel is actually more toxic than mercury. **Nickel** is very likely more toxic than mercury and is the main reason for concern in using stainless steel cookware. It is unknown how many nickel ions are liberated during the cooking process with stainless steel cookware. Using stainless steel cookware in which the food touches the metal is best avoided.

Aluminum. Avoid aluminum cookware. Consuming small amounts of aluminum (gradually scraped off the pan over time) can bio-accumulate and create internal toxicity and is linked to Alzheimer's and other diseases.

Teflon. Avoid using Teflon-coated cookware. Research shows that fluoride can be released from Teflon into food. As scratches develop on the pan's surface, bits of the Teflon end up in your food. Under the Teflon is the typical metal, aluminum. As scratches develop, the food begins to come into contact with aluminum and you may end up eating small amounts of aluminum mixed into food. Higher temperatures increase the rate of leaching.

Recommended Cookware & Silverware: We recommend ceramic-coated metal for cooking which tends to be inert. However, buyer beware, some types of ceramic are radioactive. Our top choice for cookware is **Ultrex,** which has a non-toxic, non-stick surface (nonmetallic) that is easy to clean. Avoid using "silverware" which is typically made of stainless steel. Instead, we recommend eating utensil made of **Lexan** (nontoxic polycarbonate).

There are apparently two types of stainless steel -- one type that is attracted to magnets, the other type is not. The best type is the magnetically-attractive type of stainless steel, which usually has a very low or no nickel content and does not leach nickel into food. However, cooking food so it does not touch metal is best (such as Ultrex cookware). Lastly, acidic foods (such as tomatoes) may leach more metal from metallic cookware.

Teflon Non-Stick Pans

Potential Adverse Health Effects

Nature, July 19, 2001;412:321-324

Research: David A. Ellis, Department of Chemistry, University of Toronto; Jonathan W. Martin, Department of Environmental Biology, University of Guelph; Derek C.G. Muir, National Water Research Institute, Environment Canada, Burlington, Canada.

Nothing may stick to Teflon, but new research suggests that the byproducts of the heat-resistant coating may be sticking around in the environment for a long time.

Researchers in Canada have discovered that **heating Teflon** -- the coating used in non-stick frying pans -- and other similar compounds **releases potentially harmful chemicals**, including some linked to the destruction of the ozone layer and others that may linger in the environment for years and years.

The precise environmental and health impact of Teflon and similar heat-resistant coatings is uncertain, but the findings suggest that continued use of the compounds **may contribute to the depletion of the ozone layer and global warming**.

After ozone-depleting compounds called chlorofluorocarbons (CFCs) began to be replaced with alternative chemicals called hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs), scientists began to notice a rise in levels of trifluoroacetic acid (TFA) in the atmosphere. It turns out that as the alternatives to CFC degrade in the atmosphere, they produce TFA, which persists in the environment over time and can be harmful to plants.

But based on the amount of HFCs and HCFCs being used, Dr. Scott A. Mabury of the University of Toronto and colleagues realized that there was **too much TFA in the environment** to have been produced by these CFC alternatives alone.

Mabury's team suspected that some of the extra TFA in the environment may be produced when Teflon and other so-called fluoropolymers are exposed to high temperatures. Besides Teflon, other fluoropolymers are used in ovens, engines, circuits and other devices exposed to extreme heat.

Heating Teflon and other fluoropolymers produces TFA and a wide range of other chemicals. Some of these include CFCs, which destroy ozone, and fluorocarbons, which may contribute to global warming by **acting as "greenhouse" gases**.

Mabury noted that fluoropolymers also gave off larger versions of TFA that, like the smaller version, do not degrade in the environment. But it is possible that the larger compounds can make their way up the food chain, Mabury explained, since fish can absorb the chemicals from water.

The Toronto scientist stressed that the **findings need to be confirmed** and that the specific amounts of these chemicals released into the environment need to be measured. Although regular-sized TFA does not seem harmful to people, several groups of researchers are investigating **possible health effects** of the larger versions, Mabury said.

Comments from Paul Connett, PhD: Teflon is the trade name for the polymer polytetrafluoroethylene (PTFE) used in electrical insulating tape; combustion engines; chemical apparatus and tubing designed to resist attack from most chemicals, and in non-stick frying pans and other cookware.

Prior to this article there have been stories about caged birds dying in kitchens after fires involving Teflon cookware, suggesting the emissions of toxic gases when this polymer is burned.

This article is more serious because the researchers did not burn the Teflon but simply heated it. Presumably, typical cooking procedures would also heat the Teflon to the temperature range investigated by these researchers. Thus, this

material that is perceived by most as being benign, could be a source of both significant indoor and outdoor air pollution.

This is another nasty indication that the world of organofluorine compounds could be going the same way as their more famous cousins: the organochlorine compounds. In the latter case most of these products, such as organochlorine pesticides, solvents and PVC plastic (despite the toxic generating manufacturing processes that produce them) were perceived as benign.

However, they had several problems:

- They tended to be very persistent in the environment.
- They are fat soluble and resistent to normal detoxification processes in the liver.
- They accumulate and concentrate in animal and human body fat.
- They get passed on by the mother to the fetus through the placental membrane and then to the infant via breast milk.
- A number of them are endocrine disrupting chemicals (i.e. they interfere with the production or performance of hormones, which are the messengers produced in special glands to regulate body chemistry). To top it all, when these substances are burned in any facility ranging from a back yard burner to a trash incinerator, they produce highly toxic byproducts including dioxins and furans (PCDDs and PCDFs).

Twelve of these compounds (or families of compounds) were the subject of the POPs (persistent organic pollutants) treaty signed in Stockholm last May by many countries around the world, including the US. The bottom line is that nature doesn't make persistent things. Both in our bodies and in the environment, natural processes are constantly building up and breaking down all the chemical components used.

Nature attempts to protect itself from persistent fat soluble substances by converting them to water soluble substances, which can then be excreted through the kidney. If this strategy fails then they are stored in our fat. In the case of persistent (or permanent) water soluble substances like fluoride or lead, the body will excrete as much as it can through the kidney and what it can't ends up largely in our bones.

However, in the case of both fluoride and lead other more sensitive organs like the brain and pineal gland may also have mechanisms which allow their accumulation.

Returning to organofluorine compounds, it is also interesting to note that there are two forms of fluoride found in human plasma: free (or inorganic) fluoride and bound fluoride. According to Gary Whitford in his book, "The Metabolism and Toxicity of Fluoride" (Karger,1996), "perfluorooctanoic acid (PFOA, octanoic acid fully saturated with 15 fluorine atoms) . . . (constitutes) about 20-30% of the nonionic fluoride in human plasma. This surface-active agent, which is a component of plasticizers, lubricants, wetting agents, emulsifiers and other products, appear to enter the body through contact with or ingestion of commercial products. It has a very long half-life (approx. 1.5 years) in human males (Ubel et al., 1980)".

Thus the question raised by this new report in *Nature* is how many of the byproducts from heating Teflon are accumulating insidiously in our bodies like PFOA? Are any being passed onto the fetus? Will any of them turn out to be endocrine disrupters?

The Thyroid and Natural Progesterone

Some key points regarding the thyroid gland and the use of natural progesterone cream:

- Estrogen blocks the release of hormones from the thyroid gland, and natural progesterone facilitates the release. Estrogen excess or progesterone deficiency tends to cause enlargement of the thyroid gland, in association with a hypothyroid state. The use of natural progesterone cream can help re-establish this balance.

- Calcium and magnesium are typically deficient in hypothyroidism. An excellent, highly bio-available source of both minerals is coral minerals.

- For men (as well as women), leg cramps, insomnia and depression are often the result of hypothyroidism. Heart failure, gynecomastia (breast enlargement), liver disease, baldness and dozens of other problems can result from hypothyroidism.

- Some doctors feel that very low TSH (thyroid stimulating hormone) scores, even though they are within the "normal range", are consistent with hypothyroidism; in good health, very little TSH is needed.

- When too little protein, or the wrong kind of protein, is eaten, there is a stress reaction, which can suppress the thyroid's action. Many of the people who have difficulty with their thyroid balance may not be eating enough good quality protein. Sources of good quality, highly bio-available protein: primary nutritional yeast, quality mushrooms (such as shitake, maitake, Texas Pride button mushrooms or raw portabella mushrooms) and homemade kefir.

What is TSH?

TSH (thyroid stimulating hormone) is a chemical substance produced by the pituitary gland that stimulates the thyroid gland to synthesize and release its own hormones into the bloodstream. When too much thyroid hormone is produced, a condition called **hyper**thyroidism will result, often referred to as an **overactive** thyroid. When not enough thyroid hormone is produced, a condition called **hypo**thyroidism will result, often referred to as an **underactive** thyroid.

Because there are so many different health problems associated with either an underactive or overactive thyroid gland, it is essential that basic thyroid function be tested regularly. The easiest way to do this is by testing for TSH.

Are You Happy?

The following is a commentary written by George Carlin.

The paradox of our time in history is that we have taller buildings but shorter tempers; wider freeways, but narrower viewpoints. We spend more, but have less. We buy more, but enjoy less. We have bigger houses and smaller families; more conveniences, but less time. We have more degrees but less sense; more knowledge, but less judgment; more experts, yet more problems; more medicine, but less wellness.

We drink too much, smoke too much, spend too recklessly, laugh too little, drive too fast, get too angry, stay up too late, get up too tired, read too little, watch TV too much, and pray too seldom. We have multiplied our possessions, but reduced our values. We talk too much, love too seldom, and hate too often.

We've learned how to make a living, but not a life. We've added years to life, not life to years. We've been all the way to the moon and back, but have trouble crossing the street to meet a new neighbor. We conquered outer space but not inner space. We've done larger things, but not better things.

We've cleaned up the air, but polluted the soul. We've conquered the atom, but not our prejudice. We write more, but learn less. We plan more, but accomplish less. We've learned to rush, but not to wait. We build more computers to hold more information, to produce more copies than ever, but we communicate less and less.

These are the times of fast foods and slow digestion; big men and small character, steep profits and shallow relationships. These are the days of two incomes but more divorce; fancier houses, but broken homes. These are days of quick trips, disposable diapers, throwaway morality, one night stands, overweight bodies, and pills that do everything from cheer, to quiet, to kill.

It is a time when there is much in the showroom window, and nothing in the stockroom. A time when technology can bring this letter to you, and a time when you can choose either to share this insight, or to just hit delete.

Remember, spend some time with your loved ones, because they are not going to be around forever. Remember, say a kind word to someone who looks up to you in awe, because that little person soon will grow up and leave your side.

Remember, to give a warm hug to the one next to you, because that is the only treasure you can give with your heart and it doesn't cost a cent.

Remember, to say, "I love you" to your partner and your loved ones, but most of all mean it. A kiss and an embrace will mend hurt when it comes from deep inside of you.

Remember to hold hands and cherish the moment, for someday that person will not be there again. Give time to love, give time to speak, and give time to share the precious thoughts in your mind.

Life is not measured by the number of breaths we take, but by the moments that take our breath away.

How To Be Happy

1. Keep only cheerful friends. The grouches pull you down.

2. Keep learning. Learn more about crafts, gardening, nutrition, computers, whatever interests you.
Get off the “watching TV every night” routine. Be discerning in your choice of TV shows -- limit your TV watching to 10 hours per week total (or less). This opens up a lot of precious time for you to live your life yourself – not just sitting by watching others live life on a screen.

3. Enjoy the simple things in life. Eat a peach in silence and really taste every bite. Take time to watch a sunset and contemplate the power in this universe. Look at a flower – really look at it – and appreciate its wonderful symmetry and delicate petals.

4. Every day, find something you like about another person and tell them out loud – whether it’s the way they smile, their helpful attitude or a new shirt. People thrive on appreciation and kindness.

5. Laugh often, long and loud. Find the humor in life. Tell only clean jokes.

6. Tears happen. Endure, grieve and move on. The only person who is with you your entire life, is YOU. Be ALIVE while you are still alive.

7. Surround yourself with what you love, whether it's family, pets, keepsakes, music, plants, hobbies, whatever. Your home is your refuge.

8. Do not repeat negative stories about other people or events – even if you know they are true. Each time something negative is repeated, it decreases your joy.

9. Cherish your health: If it is good, preserve it. If it is poor, improve it. If it is beyond what you can improve by yourself, get expert help.

10. Be a person of excellence. Even when it is not required or expected, go the extra mile to do an excellent job – your very best. Whether anyone else notices or not is irrelevant – because YOU know.

11. Don't take guilt trips. Take a trip somewhere you really want to go. Let go of guilt – it only drags you down and stops your joy. Whatever you did in the past is ancient history. Let go and fully enjoy today.

12. Tell your loved ones that you love them at any given opportunity – for any reason or no reason at all.

13. The more you appreciate, the happier you feel. Take a small moment each day to give heartfelt thanks for all that you have been given in this lifetime -- lungs that breathe, legs that can walk, hands that can move, a brain that can think, friends that can cheer and help you, parents that love you, your job, your pet cat, your car and more. Do not take anything for granted. Appreciate everything.

14. Love yourself – as you are. When you talk to yourself, be kind and encouraging. Never say unkind words to yourself. Tell yourself how happy you are to be YOU.

The Doors of Perception

Why Americans Will Believe Almost Anything

by Dr. Timothy O'Shea, medical researcher

We are the most conditioned, programmed beings the world has ever known. Not only are our thoughts and attitudes continually being shaped and molded; our very awareness of the whole design seems like it is being subtly and inexorably erased.

The doors of our perception are carefully and precisely regulated. Who cares, right?

It is an exhausting and endless task to keep explaining to people how most issues of conventional wisdom are scientifically implanted in the public consciousness by a thousand media clips per day. In an effort to save time, I would like to provide just a little background on the handling of information in this country.

Once the basic principles are illustrated about how our current system of media control arose historically, the reader might be more apt to question any given story in today's news.

If everybody believes something, it's probably wrong. We call that Conventional Wisdom.

In America, conventional wisdom that has mass acceptance is usually contrived: somebody paid for it.
Examples:

- Pharmaceuticals restore health.
- Vaccination brings immunity.
- The cure for cancer is just around the corner.
- When a child is sick, he needs immediate antibiotics.
- When a child has a fever, he needs Tylenol.
- Hospitals are safe and clean.
- America has the best health care in the world.
- And many, many more

This is a list of illusions that have cost billions and billions to conjure up. Did you ever wonder why you never see the President speaking publicly unless he is reading? Or why most people in this country think generally the same about most of the above issues?

How This Set-Up Got Started

In Trust Us, We're Experts, Stauber and Rampton pull together some compelling data describing the science of creating public opinion in America.

They trace modern public influence back to the early part of the last century, highlighting the work of guys like Edward L. Bernays, the Father of Spin. From his own amazing chronicle, Propaganda, we learn how Edward L. Bernays took the ideas of his famous uncle, Sigmund Freud himself, and applied them to the emerging science of mass persuasion.

The only difference was that instead of using these principles to uncover hidden themes in the human unconscious, the way Freudian psychology does, Bernays used these same ideas to mask agendas and to create illusions that deceive and misrepresent, for marketing purposes.

The Father Of Spin

Bernays dominated the PR industry until the 1940s, and was **a significant force** for another 40 years after that. (Tye) During all that time, Bernays took on hundreds of diverse assignments to **create a public perception about some idea or product**. A few examples:

As a neophyte with the Committee on Public Information, one of Bernays' first assignments was to help sell the First World War to the American public with the idea to "Make the World Safe for Democracy." (Ewen)

A few years later, Bernays set up a stunt to popularize the notion of women smoking cigarettes. In organizing the 1929 Easter Parade in New York City, Bernays showed himself as **a force to be reckoned with**.

He organized the Torches of Liberty Brigade in which suffragettes marched in the parade smoking cigarettes as a mark of women's liberation. Such publicity followed from that one event that from then on women have felt secure about destroying their own lungs in public, the same way that men have always done.

Bernays popularized the idea of bacon for breakfast.

Not one to turn down a challenge, he set up the advertising format along with the AMA that lasted for nearly 50 years proving that cigarettes are beneficial to health. Just look at ads in issues of *Life* or *Time* from the 40s and 50s.

Smoke And Mirrors

Bernay's job was to **reframe an issue**; to create a desired image that would put a particular product or concept in a desirable light. Bernays described the public as a 'herd that needed to be led.' And this herdlike thinking makes people "susceptible to leadership."

Bernays never deviated from his fundamental axiom to "control the masses without their knowing it." The best PR happens with the people unaware that they are being manipulated.

Stauber describes Bernays' rationale like this: "the scientific manipulation of public opinion was necessary to overcome chaos and conflict in a democratic society." (Trust Us, p42)

These early mass persuaders postured themselves as performing a moral service for humanity in general - democracy was too good for people; they **needed to be told what to think**, because they were incapable of rational thought by themselves. Here's a paragraph from Bernays' Propaganda:

"Those who manipulate the unseen mechanism of society constitute an invisible government which is the true ruling power of our country. We are governed, our minds molded, our tastes formed, our ideas suggested largely by men we have never heard of.

This is a logical result of the way in which our democratic society is organized. Vast numbers of human beings must cooperate in this manner if they are to live together as a smoothly functioning society.

In almost every act of our lives whether in the sphere of politics or business in our social conduct or our ethical thinking, we are dominated by the relatively small number of persons who understand the mental processes and social patterns of the masses. It is they who pull the wires that control the public mind."

Here Comes The Money

Once the possibilities of applying Freudian psychology to mass media were glimpsed, Bernays soon had more corporate clients than he could handle. Global corporations fell all over themselves courting the new Image Makers. There were dozens of goods and services and ideas to be **sold to a susceptible public**. Over the years, these players have had the money to make their images happen. A few examples:

Philip Morris	Pfizer	Union Carbide
Allstate	Monsanto	Eli Lilly
tobacco industry	Ciba Geigy	lead industry
Coors	DuPont	Chlorox
Shell Oil	Standard Oil	Procter & Gamble
Boeing	General Motors	Dow Chemical
General Mills	Goodyear	

The Players

Though world-famous within the PR industry, the companies have names we don't know, and for good reason.

The best PR goes unnoticed.

For decades they have created the opinions that most of us were raised with, on virtually any issue which has the remotest commercial value, including:

pharmaceutical drugs	vaccines
medicine as a profession	alternative medicine
fluoridation of city water	chlorine
household cleaning products	tobacco
dioxin	global warming
leaded gasoline	cancer research and treatment
pollution of the oceans	forests and lumber
images of celebrities, including damage control	crisis and disaster management
genetically modified foods	aspartame
food additives; processed foods	dental amalgams

Lesson #1

Bernays learned early on that the most effective way to create credibility for a product or an image was by "**independent third-party**" endorsement.

For example, if General Motors were to come out and say that global warming is a hoax thought up by some liberal tree-huggers, people would suspect GM's motives, since GM's fortune is made by selling automobiles.

If however some independent research institute with a very credible sounding name like the Global Climate Coalition comes out with a scientific report that says global warming is really a fiction, people begin to get confused and to have doubts about the original issue.

So that's exactly what Bernays did. With a policy inspired by genius, he set up "more institutes and foundations than Rockefeller and Carnegie combined." (Stauber p 45)

Quietly financed by the industries whose products were being evaluated, these "independent" research agencies would churn out "scientific" studies and press materials that could **create any image their handlers wanted**. Such front groups are given high-sounding names like:

Temperature Research Foundation	Manhattan Institute
International Food Information Council	Center for Produce Quality
Consumer Alert	Tobacco Institute Research Council
The Advancement of Sound Science Coalition	Cato Institute
Air Hygiene Foundation	American Council on Science and Health
Industrial Health Federation	Global Climate Coalition
International Food Information Council	Alliance for Better Foods

Sound pretty legit, don't they?

Canned News Releases

As Stauber explains, these organizations and hundreds of others like them are front groups whose sole mission is to advance the image of the global corporations who fund them, like those listed on page 2 above.

This is accomplished in part by an endless stream of 'press releases' announcing "breakthrough" research to every radio station and newspaper in the country. (Robbins) Many of these canned reports read like straight news, and indeed are purposely molded in the news format.

This saves journalists the trouble of researching the subjects on their own, especially on topics about which they know very little. Entire sections of the release or in the case of video news releases, the whole thing can be just lifted intact, with no editing, given the byline of the reporter or newspaper or TV station - and voilá! Instant news - copy and paste. Written by corporate PR firms.

Does this really happen? Every single day, since the 1920s when the idea of the News Release was first invented by Ivy Lee. (Stauber, p 22) Sometimes as many as half the stories appearing in an issue of the Wall St. Journal are based solely on such PR press releases. (22)

These types of stories are **mixed right in with legitimately researched stories**. Unless you have done the research yourself, you won't be able to tell the difference.

The Language Of Spin

As 1920s spin pioneers like Ivy Lee and Edward Bernays gained more experience, they began to formulate **rules and guidelines for creating public opinion**. They learned quickly that mob psychology must focus on emotion, not facts. Since the mob is incapable of rational thought, motivation must be based not on logic but on presentation.

Here are some of the axioms of the new science of PR:

- technology is a religion unto itself
- if people are incapable of rational thought, real democracy is dangerous
- important decisions should be left to experts
- when reframing issues, stay away from substance; create images
- never state a clearly demonstrable lie

Words are very carefully chosen for their emotional impact. Here's an example. A front group called the International Food Information Council handles the public's natural aversion to genetically modified foods.

Trigger words are repeated all through the text. Now in the case of GM foods, the public is instinctively afraid of these experimental new creations which have suddenly popped up on our grocery shelves which are said to have DNA alterations. The IFIC wants to reassure the public of the safety of GM foods, so it avoids words like:

Frankenfoods	Hitler	biotech
chemical	DNA	experiments
manipulate	money	safety
scientists	radiation	roulette
gene-splicing	gene gun	random

Instead, good PR for GM foods contains words like:

hybrids	natural order	beauty
choice	bounty	cross-breeding
diversity	earth	farmer
organic	wholesome	

It's basic Freudian/Tony Robbins **word association**. The fact that GM foods are not hybrids that have been subjected to the slow and careful scientific methods of real crossbreeding doesn't really matter. This is pseudoscience, not science. Form is everything and substance just a passing myth. (Trevanian)

Who do you think funds the International Food Information Council? Take a wild guess. Right - Monsanto, DuPont, Frito-Lay, Coca Cola, Nutrasweet - those in a position to make fortunes from GM foods.(Stauber,p20)

Characteristics Of Good Propaganda

As the science of mass control evolved, PR firms developed further guidelines for effective copy. Here are some of the gems:

- dehumanize the attacked party by labeling and name calling
- speak in glittering generalities using emotionally positive words
- when covering something up, don't use plain English; stall for time; distract
- get endorsements from celebrities, churches, sports figures, street people - anyone who has no expertise in the subject at hand
- the 'plain folks' ruse: us billionaires are just like you
- when minimizing outrage, don't say anything memorable, point out the benefits of what just happened, and avoid moral issues

Keep this list. Start watching for these techniques. Not hard to find - look at today's paper or tonight's TV news. See what they're doing; these guys are good!

Science For Hire

PR firms have become very sophisticated in the preparation of news releases. They have learned how to attach the names of famous scientists to research that those scientists have not even looked at. (Stauber, p 201)

This is a common occurrence. In this way the editors of newspapers and TV news shows are often not even aware that an individual release is a total PR fabrication. Or at least they have "deniability," right?

Stauber tells the amazing story of how leaded gas came into the picture. In 1922, General Motors discovered that adding lead to gasoline gave cars more horsepower.

When there was some concern about safety, GM paid the Bureau of Mines to do some fake "testing" and publish spurious research that 'proved' that inhalation of lead was harmless. Enter Charles Kettering.

Founder of the world famous Sloan-Kettering Memorial Institute for medical research, Charles Kettering also happened to be an executive with General Motors.

By some strange coincidence, we soon have the Sloan Kettering institute issuing reports stating that lead occurs naturally in the body and that the body has a way of eliminating low level exposure.

Through its association with The Industrial Hygiene Foundation and PR giant Hill & Knowlton, Sloane Kettering opposed all anti-lead research for years. (Stauber p 92). Without organized scientific opposition, for the next **60 years** more and more gasoline became leaded, until by the 1970s, 90% of our gasoline was leaded.

Finally it became **too obvious to hide that lead was a major carcinogen**, and leaded gas was phased out in the late 1980s. But during those 60 years, it is estimated that some 30 million tons of lead were released in vapor form onto American streets and highways. 30 million tons.

That is PR, my friends.

Junk Science

In 1993, a guy named Peter Huber wrote a new book and coined a new term. The book was Galileo's Revenge and the term was junk science. Huber's shallow thesis was that real science supports technology, industry, and progress.

Anything else was suddenly junk science. Not surprisingly, Stauber explains how Huber's book was supported by the industry-backed Manhattan Institute.

Huber's book was generally dismissed not only because it was so poorly written, but because it failed to realize one fact: true scientific research begins with no conclusions. Real scientists are seeking the truth because **they do not yet know what the truth is**.

True scientific method goes like this:

1. Form a hypothesis.
2. Make predictions for that hypothesis.
3. Test the predictions.
4. Reject or revise the hypothesis based on the research findings.

Boston University scientist Dr. David Ozonoff explains that ideas in science are themselves like "living organisms, that must be nourished, supported, and cultivated with resources for making them **grow and flourish**." (Stauber p 205)

Great ideas that don't get this financial support because the commercial angles are not immediately obvious - these ideas wither and die.

Another way you can often distinguish real science from phony is that real science points out flaws in its own research. Phony science pretends there were no flaws.

The Real Junk Science

Contrast this with modern PR and its constant pretensions to sound science. Corporate sponsored research, whether it's in the area of drugs, GM foods, or chemistry begins with predetermined conclusions.

It is the job of the scientists then to prove that these conclusions are true, because of the economic upside that proof will bring to the industries paying for that research. This invidious approach to science has shifted the entire focus of research in America during the past 50 years, as any true scientist is likely to admit.

Stauber documents the increasing amount of corporate sponsorship of university research. (206) This has nothing to do with the pursuit of knowledge. Scientists lament that research has become just another commodity, something bought and sold. (Crossen)

The Two Main Targets Of "Sound Science"

It is shocking when Stauber shows how the vast majority of corporate PR today opposes any research that seeks to protect:

- public health
- the environment

It's a funny thing that most of the time when we see the phrase "junk science," it is in a context of defending something that may threaten either the environment or our health.

This makes sense when one realizes that money changes hands only by selling the illusion of health and the illusion of environmental protection. **True public health and real preservation** of the earth's environment have very low market value.

Stauber thinks it ironic that industry's self-proclaimed debunkers of junk science are usually non-scientists themselves. (255) Here again they can do this because the issue is not science, but the creation of images.

The Language Of Attack

When PR firms attack legitimate environmental groups and alternative medicine people, they again use special words which will carry an emotional punch:

outraged junk science sound science scaremongering responsible

phobia hoax alarmist hysteria sensible

The next time you are reading a newspaper article about an environmental or health issue, note how the author shows bias by using the above terms. This is the result of very **specialized training**.

Another standard PR tactic is to **use the rhetoric of the environmentalists themselves to defend a dangerous and untested product that poses an actual threat** to the environment. This we see constantly in the PR smokescreen that surrounds genetically modified foods.

They talk about how GM foods are necessary to grow more food and to end world hunger, when the reality is that GM foods actually have lower yields per acre than natural crops. (Stauber, p173)

The grand design sort of comes into focus once you realize that almost all GM foods have been created by the sellers of herbicides and pesticides so that those plants can withstand greater amounts of herbicides and pesticides. (The Magic Bean)

Kill Your TV?

Hope this chapter has given you a hint to start reading newspaper and magazine articles a little differently, and perhaps start watching TV news shows with a slightly different attitude than you had before.

Always ask, what are they selling here, and who's selling it? And if you actually follow up on Stauber & Rampton's book and check out some of the other resources below, you might even glimpse the possibility of advancing your life one quantum simply by **ceasing to subject your brain to mass media**.

That's right - no more newspapers, no more TV news, no more *Time* magazine or *Newsweek.* You could actually do that. Just think what you could do with the extra time alone.

Really feel like you need to "relax" or find out "what's going on in the world" for a few hours every day? Think about the news of the past couple of years for a minute.

Do you really suppose the major stories that have dominated headlines and TV news have been "what is going on in the world?" Do you actually think there's been nothing going on besides the contrived tech slump, the contrived power shortages, the re-filtered accounts of foreign violence and disaster, and all the other non-stories that the puppeteers dangle before us every day?

What about when they get a big one, like with OJ or Monica Lewinsky or the Oklahoma City bombing? Do we really need to know all that detail, day after day? Do we have **any way of verifying all that detail**, even if we wanted to? What is the purpose of news?

To inform the public? Hardly. The sole purpose of news is to **keep the public in a state of fear and uncertainty** so that they'll watch again tomorrow and be subjected to the same advertising.

Oversimplification? Of course. That's the mark of mass media mastery - simplicity. The invisible hand. Like Edward Bernays said, the **people must be controlled without them knowing it**.

Consider this: what was really going on in the world all that time they were distracting us with all that stupid vexatious daily smokescreen? Fear and uncertainty -- that's what keeps people coming back for more.

If this seems like a radical outlook, let's take it one step further: What would you lose from your life if you stopped watching TV and stopped reading newspapers altogether?

Would your life really suffer any financial, moral, intellectual or academic loss from such a decision?

Do you really need to have your family continually absorbing the illiterate, amoral, phony, uncultivated, desperately brainless values of the people featured in the average nightly TV program? Are these fake, programmed robots "normal"?

Do you need to have your life values constantly spoon-fed to you?

Are those shows really amusing, or just a necessary distraction to keep you from looking at reality, or trying to figure things out yourself by doing a little independent reading?

Name one example of how your life is improved by watching TV news and reading the evening paper.

What measurable gain is there for you?

Planet of the Apes?

There's no question that as a nation, **we're getting dumber year by year**. Look at the presidents we've been choosing lately. Ever notice the blatant grammar mistakes so ubiquitous in today's advertising and billboards?

Literacy is marginal in most American secondary schools. Three fourths of California high school seniors can't read well enough to pass their exit exams. (SJ Mercury 20 Jul 01)

If you think other parts of the country are smarter, try this one: hand any high school senior a book by Dumas or Jane Austen, and ask them to open to any random page and just read one paragraph out loud. Go ahead, do it. **S.A.T. scales are arbitrarily shifted lower** and lower to disguise how dumb kids are getting year by year.

At least 10% have documented "learning disabilities," which are reinforced and rewarded by special treatment and special drugs. Ever hear of anyone failing a grade any more?

Or observe the intellectual level of the average movie which these days may only last one or two weeks in the theatres, especially if it has insufficient explosions, chase scenes, silicone, fake martial arts, and cretinesque dialogue.

Radio? Consider the low mental qualifications of the falsely animated corporate simians they hire as DJs -- they're only allowed to have 50 thoughts, which they just repeat at random.

And at what point did popular music cease to require the study of any musical instrument or theory whatsoever, not to mention lyric? Perhaps we just don't understand this emerging art form, right? The Darwinism of MTV - apes descended from man.

Ever notice how most articles in any of the glossy magazines sound like they were all written by the same guy? And this guy just graduated from junior college? And yet he has all the correct opinions on social issues, no original ideas, and that shallow, smug, homogenized corporate omniscience, which enables him to assure us that everything is going to be fine...

All this is great news for the PR industry - makes their job that much easier. Not only are very few paying attention to the process of conditioning; **fewer are capable of understanding it even if somebody explained it to them**.

Tea In the Cafeteria

Let's say you're in a crowded cafeteria, and you buy a cup of tea. And as you're about to sit down you see your friend way across the room. So you put the tea down and walk across the room and talk to your friend for a few minutes.

Now, coming back to your tea, are you just going to pick it up and drink it? Remember, this is a crowded place and you've just left your tea unattended for several minutes. You've given anybody in that room access to your tea.

Why should your mind be any different? Turning on the TV, or uncritically absorbing mass publications every day - these activities allow access to our minds by "just anyone" - anyone who has an agenda, anyone with the resources to create a public image via popular media.

As we've seen above, **just because we read something or see something on TV doesn't mean it's true** or worth knowing. So the idea here is, like the tea, the mind is also worth guarding, worth limiting access to it.

This is the only life we get. Time is our total capital. Why waste it allowing our potential, our personality, our values to be shaped, crafted, and limited according to the whims of the mass panderers?

There are many important issues that are crucial to our physical, mental, and spiritual well-being. If it's an issue where money is involved, objective data won't be so easy to obtain. Remember, if everybody knows something, that image has been bought and paid for.

Real knowledge takes a little effort, a little excavation down at least one level below what "everybody knows."

Our Comment:

Dr. O'Shea's comments help explain the details of how the media deceives you through the manipulation of PR by the **large corporations** who **do not have your best interest at heart**.

Together, we can change the entire system. By passing this article on to as many of your friends and relatives as possible, you can play a major role in helping to lift the veil of deceit that these corporations try to hide the truth with. Together, we can lift the veil of deceit for everyone and help save hundreds of thousands of people from agonizing, premature death and disability.

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The Drug Story

By Morris A. Bealle; Essay by Hans Ruesch http://educate-yourself.org/drugstory.html

"*The **truth about cures without drugs is suppressed**, unless it suits the purpose of the censor to garble it. Whether these cures are effected by chiropractors, Naturopaths, Naprapaths, Osteopaths, Faith Healers, Spiritualists, Herbalists, Christian Scientists, or MDs who use the brains they have, **you never read about it in the big newspapers**."*

Morris Bealle Wakes Up. In the 1930s, Morris A. Bealle, a former city editor of the old *Washington Times and Herald*, was running a county seat newspaper, in which the local power company bought a large advertisement every week. This account took quite a lot of worry off Bealle's shoulders when the bills came due. But according to Bealle's own story, one day the paper took up the cudgels for some of its readers that were being given poor service from the power company, and Morris Bealle received the dressing down of his life from the advertising agency which handled the power company's account. They told him that any more such 'stepping out of line' would result in the immediate cancellation not only of the advertising contract, but also of the gas company and the telephone company.

That's when Bealle's **eyes were opened to the meaning of a 'free press'**, and he decided to get out of the newspaper business. He could afford to do that because he belonged to the landed gentry of Maryland, but not all newspaper editors are that lucky.

The Drug Story. Bealle used his professional experience to do some deep digging into the freedom-of-the-press situation and came up with two shattering exposes - ***The Drug Story*** and ***The House of Rockefeller***. The fact that in spite of his familiarity with the editorial world and many important personal contacts, he couldn't get his revelations into print until he founded his own company, The Columbia Publishing House, Washington D.C., in 1949, was just a prime example of the silent but adamant censorship in force in 'the Land of the Free and the Home of the Brave'. Although ***The Drug Story*** is **one of the most important books on health and politics ever to appear in the USA**, it has **never been admitted to a major bookstore nor reviewed by any establishment paper**, and was sold exclusively by mail. Nevertheless, when we first got to read it, in the 1970s, it was already in its 33rd printing, under a different label - *Biworld Publishers*, Orem, Utah.

As Bealle pointed out, a business which makes 6% on its invested capital is considered a sound money maker. Sterling Drug, Inc., the main cog and largest holding company in the Rockefeller Drug Empire and its 68 subsidiaries, showed operating profits in 1961 of $23,463,719 after taxes, on net assets of $43,108,106 - a 54% profit. Squibb, another Rockefeller controlled company, in 1945 made not 6% but 576% on the actual value of its property.

Pushing Shots. That was during the luscious war years when the Army Surgeon General's Office and the Navy Bureau of Medicine and Surgery were not only acting as promoters for the Drug Trust, but were actually forcing drug trust poisons into the blood streams of American soldiers, sailors and marines, to the tune of over **200 million 'shots'**. Is it any wonder, asked Bealle, that the Rockefellers, and their stooges in the Food and Drug Administration, the U.S. Public Health Service, the Federal Trade Commission, the Better Business Bureau, the Army Medical Corps, the Navy Bureau of Medicine, and thousands of health officers all over the country, should **combine to put out of business all forms of therapy that discourage the use of drugs**.

Gifts with Strings Attached. 'The last annual report of the **Rockefeller Foundation**', reported Bealle, 'itemizes the gifts it has made to colleges and public agencies in the past 44 years, and they total somewhat **over half a billion dollars**. These colleges, of course, teach their students all the drug lore the Rockefeller pharmaceutical houses want taught. Otherwise, there would be no more gifts, just as there are **no gifts to any of the 30 odd colleges in the United States that don't use therapies based on drugs.**

'Harvard, with its well publicized medical school, has received $8,764,433 of Rockefeller's Drug Trust money, Yale got $7 ,927,800, Johns Hopkins $10,418,531, Washington University in St. Louis $2,842,132, New York's Columbia University $5,424,371, Cornell University $1,709,072, etc.'

And while 'giving away' those huge sums to drug-propagandizing colleges, the Rockefeller interests were growing to a world-wide web that no one could entirely explore. Already well over 30 years ago, it was large enough for Bealle to demonstrate that the Rockefeller interests had created, built up and developed the most far reaching industrial empire ever conceived in the mind of man. **Standard Oil** was of course the foundation upon which all of the other Rockefeller industries have been built. The story of Old John D., as ruthless an industrial pirate as ever came down the pike, is well known, but is being today conveniently ignored. The keystone of this mammoth industrial empire was the **Chase National Bank**, now renamed the Chase Manhattan Bank.

Selling Drugs. Not the least of its holdings are in the drug business. The **Rockefellers own the largest drug manufacturing combine in the world, and use all of their other interests to bring pressure to increase the sale of drugs**. The fact that most of the 12,000 separate drug items on the market are harmful is of no concern to the Drug Trust . . .

The Rockefeller Foundation was first set up in 1904 and called the **General Education Fund**. An organization called the Rockefeller Foundation, ostensibly to supplement the General Education Fund, was formed in 1910 and through long finagling and lots of Rockefeller money got the New York legislature to issue a charter on May 14, 1913.

Controlling Public Information. It is therefore not surprising that the House of **Rockefeller** has **had its own 'nominees' planted in all Federal agencies that have to do with health**. So the stage was set for the **'education' of the American public**, with a view to turning it into a population of drug and medico dependents, with the early help of the parents and the schools, then with direct advertising and, last but not least, the influence the advertising revenues had on the media makers.

A compilation of the magazine *Advertising Age* showed that as far back as 1948, the larger companies in America spent for advertising the sum total of $1,104,224,374, when the dollar was still worth a dollar and not half a zloty. Of this staggering sum, the interlocking Rockefeller-Morgan interests (gone over entirely to Rockefeller after Morgan's death) **controlled about 80%**, and utilized it to **manipulate public information on health and drug matters** - then and even more recklessly now.

The News Services –Manipulated & Controlled. 'Even the most independent newspapers are dependent on their press associations for their national news,' Bealle pointed out, 'and there is no reason for a news editor to suspect that a story coming over the **wires of the Associated Press, the United Press or the International News Service** is **censored when it concerns health matters. Yet this is what happens constantly**.'

The Associated Press. In fact in the '50s, **the Drug Trust** had one of its **directors on the directorate of the Associated Press**. He was no less than Arthur Hays Sulzberger, publisher of the New York Times and as such one of the most powerful Associated Press directors.

It was thus easy for the Rockefeller Trust to persuade the Associated Press Science Editor to adopt a policy which would **not permit any medical news to clear that is not approved by the Drug Trust 'expert'**, and this censor is not going to approve any item that can in any way hurt the sale of drugs.

This accounts to this day for the **many fake stories of serums and medical cures and just-around-the-corner breakthrough victories over cancer, AIDS, diabetes**, multiple sclerosis, which go out brazenly over the wires to all daily newspapers in America and abroad.

Emanuel M. Josephson, MD, whom the Drug Trust has been unable to intimidate despite many attempts, pointed out that the National Association of Science Writers was 'persuaded' to adopt as part of its code of ethics the following chestnut: 'Science editors are incapable of judging the facts of phenomena involved in medical and scientific

discovery. Therefore, they only report 'discoveries' approved by medical authorities, or those presented before a body of scientific peers.'

Censoring Books. This explains why Bantam Books, America's biggest publisher, made a colossal mistake in its initial enthusiasm and optimism sending review copies of ***SLAUGHTER OF THE INNOCENT*** to the 3,500 'science writers' on its list, instead of addressing them to the literary book reviewers who are not subject to medical censorship. One single censor decreed "NO" and *SLAUGHTER OF THE INNOCENT* sank in silence.

Thus **newspapers** continue to be **fed with propaganda about drugs and their alleged value**, although according to the Food and Drug Administration (FDA) 1.5 million people landed in hospitals in 1978 because of medication side effects in the U.S. alone, and despite recurrent statements by intelligent and courageous medical men that most pharmaceutical items on sale are useless at best, but more often harmful or deadly in the long run.

Drugless Cures Suppressed. The truth about cures without drugs is suppressed, unless it suits the purpose of the censor to garble it. Whether these cures are effected by Chiropractors, Naturopaths, Naprapaths, Osteopaths, Faith Healers, Spiritualists, Herbalists, Christian Scientists, or MDs who use the brains they have, you never read about it in the big newspapers.

To teach the Rockefeller drug ideology, it is necessary to teach that Nature didn't know what she was doing when she made the human body. But statistics issued by the Children's Bureau of the Federal Security Agency show that **since the all-out drive of the Drug Trust for drugging, vaccinating and serumizing the human system, the health of the American nation has sharply declined**, especially among children. Children are now given 'shots' for this and 'shots' for that, when the only safeguard known to science is a pure bloodstream, which can be obtained only with clean air and wholesome food. Meaning by natural and inexpensive means. Just what the Drug Trust most objects to.

Testifying Against Drugless Practitioners. When the FDA, whose officials have to be acceptable to Rockefeller Center before they are appointed, has to put an independent operator out of business, it goes all out to execute those orders. But the orders do not come directly from Standard Oil or a drug house director. As Morris Bealle pointed out, **the American Medical Association (AMA) is the front for the Drug Trust**, and furnishes the quack doctors to testify that even when they know nothing of the product involved, it is their considered opinion that it has no therapeutic value.

Wrote Bealle: 'Financed by the taxpayers, these Drug Trust persecutions leave no stone unturned to destroy the victim. If he is a small operator, the resulting attorney's fees and court costs put him out of business. In one case, a Dr. Adolphus Hohensee of Scranton, Pa., who had stated that vitamins (he used natural ones) were vital to good health, was taken to court for 'misbranding' his product. The American Medical Association furnished ten medicos who reversed all known medical theories by testifying that 'vitamins are not necessary to the human body'. Confronted with government bulletins to the contrary, the medicos wiggled out of that one by declaring that these standard publications were outdated!'

In addition to the FDA, Bealle listed the **following agencies** having to do with 'health' - i.e., with the health of the Drug Trust to the detriment of the citizens - as being **dependent on Rockefeller**: U.S. Public Health Service, U.S. Veterans Administration, Federal Trade Commission, Surgeon General of the Air Force, Army Surgeon General's Office, Navy Bureau of Medicine & Surgery, National Health Research Institute, National Research Council, National Academy of Sciences.

Collusion with Drug Promoters. The **National Academy of Sciences** in Washington is considered the all-wise body which investigates everything under the sun, especially in the field of health, and gives to a palpitating public the last word in that science. To the important post at the head of this agency, the Drug Trust had one of their own appointed. He was none other than Alfred N. Richards, one of the directors and largest stockholders of Merck & Company, which was making huge profits from its drug traffic.

When Bealle revealed this fact, Richards resigned forthwith, and the Rockefellers appointed in his place the President of their own Rockefeller Institution, Detlev W. Bronk.

Denouncing Natural Remedies and Drug-Free Practitioners. The medico-drug cartel was summed up by **J.W. Hodge, MD**, of Niagara Falls, N.Y., in these words: 'The **medical monopoly or medical trust, euphemistically called the American Medical Association, is not merely the meanest monopoly ever organized, but the most arrogant, dangerous and despotic organization which ever managed a free people** in this or any other age. **Any and all methods of healing the sick by means of safe, simple and natural remedies are sure to be assailed and denounced by the arrogant leaders of the AMA doctors' trust as fakes, frauds and humbugs.** Every practitioner of the healing art who does not ally himself with the medical trust is denounced as a 'dangerous quack' and impostor by the predatory trust doctors. Every sanitarium who attempts to restore the sick to a state of health by natural means without resort to the knife or poisonous drugs, disease imparting serums, deadly toxins or vaccines, is at once pounced upon by these medical tyrants and fanatics, bitterly denounced, vilified and persecuted to the fullest extent.'

The Lincoln Chiropractic College in Indianapolis requires 4,496 hours, the Palmer Institute Chiropractic in Davenport a minimum of 4,000 60-minute classroom hours, the University of Natural Healing Arts in Denver five years of 1,000 hours each to qualify for a degree. The National College of Naprapathy in Chicago requires 4,326 classroom hours for graduation. Yet the medico drug cartel spreads the propaganda that the practitioners of these three 'heretic' sciences are poorly trained or not trained at all - the real reason being that they cure their patients without the use of drugs. In 1958, one of those 'ill trained' doctors, Nicholas P. Grimaldi, who had just graduated from the Lincoln Chiropractic College, took the basic science examination of the Connecticut State Board along with 63 medics and osteopaths. He made the highest mark (91.6) ever made by a doctor taking the Connecticut State Board examination.

Rockefeller's various 'educational' activities had proved so profitable in the U S. that in 1927, the International Educational Board was launched, as Junior's own, personal charity, and endowed with $21,000,000 for a starter, to be lavished on foreign universities and politicos, with all the usual strings attached. This Board undertook to export the 'new' Rockefeller image as a benefactor of mankind, as well as his business practices. Nobody informed the beneficiaries that every penny the Rockefellers seemed to be throwing out the window would come back, bearing substantial interest, through the front door.

'Westerning' Chinese Medicine. Rockefeller had always had a particular interest in China, where Standard Oil was almost the sole supplier of kerosene and oil 'for the lamps of China'. So he put up money to establish the **China Medical Board** and to build the Peking Union Medical College, playing the role of the Great White Father who has come to dispense knowledge on his lowly children. The **Rockefeller Foundation invested up to $45,000,000 into 'westernizing' (read "corrupting") Chinese medicine.**

Medical colleges were instructed that if they wished to benefit from the Rockefeller largesse, they had better convince 500 million Chinese to throw into the ashcan the safe and useful but inexpensive herbal remedies of their barefoot doctors, which had withstood the test of centuries, in favor of the expensive carcinogenic and teratogenic 'miracle' drugs 'Made in USA,' which had to be replaced constantly with new ones, when the fatal side effects could no longer be concealed; and if they couldn't 'demonstrate' through large-scale animal experiments the effectiveness of their ancient acupuncture, this could not be recognized as having any 'scientific value'. Its millenarian effectiveness proven on human beings was of no concern to the Western wizards.

But when the Communists came to power in China and it was no longer possible to trade, the Rockefellers suddenly lost interest in the health of the Chinese people and shifted their attention increasingly to Japan, India and Latin America.

JD Rockefeller and Standard Oil. 'No candid study of his career can lead to other conclusion than that he is victim of perhaps the ugliest of all passions, that for money, money as an end. It is not a pleasant picture.... this money maniac secretly, patiently, eternally plotting how he may add to his wealth.... He has turned commerce to war, and honey-combed it with cruel and corrupt practices.... And he calls his great organization a benefaction, and points to his church-going and charities as proof of his righteousness. This is supreme wrong-doing cloaked by religion. There is but one name for it - hypocrisy. '

This was the description **Ida Tarbell** made of John D. Rockefeller in her **'History of the Standard Oil Company'**, serialized in 1905 in the widely circulated McClure's Magazine. And that was several years before the 'Ludlow

Massacre', so JDR was as yet far from having reached the apex of his disrepute. But after World War II, it would have been hard to read, in America or abroad, a single criticism of JDR, nor of Junior, who had followed in his father' s footsteps, nor of Junior' s four sons who all endeavored to emulate their illustrious forbears. Today's various encyclopedias extant in public libraries of the Western world have nothing but praise for the Family. How was this achieved?

Two Negative Events. Ironically, the two apparently most NEGATIVE events in the career of JDR brought about a huge POSITIVE change in his favor, to a degree that he himself could not foresee. To wit: In the year when according to the current Encyclopedia Britannica (long become a Rockefeller property and transferred from Oxford to Chicago), **Rockefeller** had 'retired from active business', namely in 1911, he had been **convicted by a U.S. court of illegal practices and ordered to dissolve the Standard Oil Trust**, which comprised **40 corporations**. This imposed dissolution was to provide his Empire with added might, to a degree that was unprecedented in the history of modem business. Until then, the Trust had existed for all to see - an exposed target. After that, it **went underground**, and thereby its power was cloaked in security, and could keep expanding unseen and therefore unopposed.

The second apparently negative experience was a certain 1914 event that persuaded JDR, until then utterly contemptuous of public opinion, to gloss over his own image.

The United Mine Workers had asked for higher wages and better living conditions for the miners of the Colorado Fuel and Iron Company, one of the many Rockefeller owned companies.

The miners - mostly immigrants from Europe's poorest countries - lived in shacks provided by the company at exorbitant rent. Their low wages ($1.68 a day) were paid in script redeemable only at company stores charging high prices. The churches they attended were the pastorates of company-hired ministers; their children were taught in company-controlled schools; the company libraries excluded books that the Bible-thumping Rockefellers deemed 'subversive', such as 'Darwin's Origin of the Species.' The company maintained a force of detectives, mine guards, and spies whose job it was to keep the camp quarantined from the danger of unionization.

When the miners struck, JDR, Jr., then officially in command of the company, and his father's hatchet man, the Baptist Reverend Frederick T. Gates, who was a director of the Rockefeller Foundation, refused even to negotiate. They evicted the strikers from the company-owned shacks, hired a thousand strike-breakers from the Baldwin-Felts detective agency, and persuaded Governor Ammons to call out the National Guard to help break the strike.

The Ludlow Massacre. Open warfare resulted. Guardsmen, miners, their women and children, who since their eviction were camping in tents, were ruthlessly killed, until the frightened Governor wired President Wilson for Federal Troops, who eventually crushed the strike, The New York Times, which then already could never be accused of being unfriendly to the Rockefeller interests, reported on April 21, 1914.

'A 14-hour battle between striking coal miners and members of the Colorado National Guard in the Ludlow district today culminated in the killing of Louis Tikas, leader of the Greek strikers, and the destruction of the Ludlow tent colony by fire.'

And the following day. 'Forty five dead (32 of them women and children), a score missing and more than a score wounded is the known result of the 14-hour battle which raged between state troops and coal miners in the Ludlow district, on the property of the Colorado Fuel and Iron Company, the Rockefeller holding. The Ludlow is a mass of charred debris, and buried beneath it is a story of horror unparalleled in the history of industrial warfare. In the holes that had been dug for their protection against rifle fire, the women and children died like trapped rats as the flames swept over them. One pit uncovered this afternoon disclosed the bodies of 10 children and 2 women.'

The worldwide revulsion that followed was such that JDR decided to hire the most talented press agent in the country, Ivy Lee, who got the tough assignment of whitewashing the tycoon's bloodied image.

Donations with Obligations. When Lee learned that the newly organized Rockefeller Foundation had **$100 million** lying around for promotional purposes without knowing what to do with it, he came with a **plan to donate large sums** - none less than a million- **to well-known colleges, hospitals, churches** and benevolent organizations. The plan was accepted. So were the millions. And they made headlines all over the world, for in the days of the gold standard and the 5-cent cigar there was a maxim in every newspaper office that a million dollars was always news.

That was the **beginning of the cleverly worded medical reports on new 'miracle' drugs** and **'just-around-the-corner breakthroughs' planted in the leading news offices** and press associations that continue to this day, and the flighty public soon forgot, or forgave, the massacre of foreign immigrants for the dazzling display of generosity and philanthropy financed by the ballooning Rockefeller fortune and going out, with thunderous press fanfare, to various 'worthy' institutions.

Controlling the News Media. In the following years, **not only newsmen, but whole newspapers were bought, financed or founded with Rockefeller money.** So Time Magazine, which Henry Luce started in 1923, had been taken over by J.P. Morgan when the magazine got into financial difficulties. When Morgan died and his financial empire crumbled, the House of Rockefeller wasted no time in taking over this lush editorial plum also, together with its sisters Fortune and Life, and built for them an expensive 14-story home of their own in Rockefeller Center - the Time & Life Building.

Newsweek. Rockefeller was also **co-owner of Time's 'rival' magazine**, **Newsweek**, which had been established in the early days of the New Deal with money put up by Rockefeller, Vincent Astor, the Harrimann family and other members and allies of the House.

For all his innate cynicism, JDR must have been himself surprised to discover **how easily the so-called intellectuals could be bought**. Indeed, they turned out to be **among his best investments**.

By founding and lavishly endowing his Education Boards at home and abroad, **Rockefeller won control** not only of the governments and politicos but also of the **intellectual and scientific community**, starting with the Medical Power - the organization that forms those priests of the New Religion that are the modern medicine men. No Pulitzer or Nobel or any similar prize endowed with money and prestige has ever been awarded to a declared foe of the Rockefeller system.

Time Magazine. Henry Luce, officially founder and editor of Time Magazine, but **constantly dependent on House advertising**, also distinguished himself in his adulation of his sponsors. JDR's son had been responsible for the Ludlow massacre, and an obedient partner in his father's most unsavory actions. Nonetheless, in 1956 Henry Luce put Junior on the cover of Time, and the feature story, soberly titled 'The Good Man', included hyperbole like this:

'It is because John D. Rockefeller Junior's is a life of constructive social giving that he ranks as an authentic American hero, just as certainly as any general who ever won a victory for an American army or any statesman who triumphed in behalf of U.S. diplomacy.'

Clearly, **Time's editorial board** wasn't given the choice to change its tune even after the passing of Junior and Henry Luce, since it remained just as **dependent on House of Rockefeller advertising**. Thus, when in 1979 one of Junior's sons, Nelson A. Rockefeller died - who had been one of the loudest hawks in the Vietnam and other American wars, and was personally responsible for the massacre of prisoners and hostages at Attica prison - Time said of him in its obituary, without laughing: 'He was driven by a mission to serve, improve and uplift his country.'

Perhaps it was all this that Prof. Peter Singer had in mind when telling the judges in Italy that the Rockefeller Foundation was a humanitarian enterprise bent on doing good works. One of their best works seems to be sponsoring **Prof. Peter Singer**, the world's greatest animal friend and protector who **claims that vivisection is indispensable for medical progress** and for more than 20 years, refuses to mention that **legions of medical doctors are of the opposite view.**

Another interesting revelation in the article of Time was that many years ago already Singer 'was pleasantly surprised when Britannica approached him to distill in about 30,000 words the discipline that is, at its heart, the systematic study of what we ought to do.' So now we touch the subject of sponsorship and patronage. They don't always mean immediate cash but, more important, long-term profits.

Encyclopedia Britannica. Many decades ago, the Encyclopedia Britannica moved from Oxford to Chicago because Rockefeller had bought it to add much needed luster to the University of Chicago and its medical school, the first one he had founded. Peter Singer, 'the world's greatest animal defender' who keeps a door permanently open to vivisection and the lucrative medical swindle, gets millions of dollars free publicity thanks to the worldwide engagement of the Rockefeller Foundation and the media makers who are in no position to oppose it.

From the article in *Time*, we also learned that Singer' s mother had been a medical doctor in the old country, which could mean that little Peter started assimilating all the Rockefeller superstition on vivisection with his mother's milk.

Source: The CIVIS Foundation Report number 15, Fall-Winter 1993; CIVIS: POB 152, Via Motta 51-CH 6900, Massagno/Lugano, Switzerland; originally web posted at: http://www.eurosolve.com/charity/bava/story.htm (Repost courtesy of Michael Forrest, Jaguar Enterprises)

How Drug Companies Deceive Medical Journals

The Guardian, December, 7 2003

The medical journals have enormous influence on which drugs doctors prescribe and the treatment hospitals provide. It has been revealed that hundreds of journals were never written by doctors but by ghostwriters, who the pharmaceutical companies hire.

By lending their name and reputation on the journals, the doctors can get paid a well-off amount of money while the ghostwriters remain hidden.

Another field where ghostwriting is becoming an increasing problem is psychiatry.

Our Comment:

This article contains excellent evidence documenting the powerful influence that the drug companies have on the media and public, as well as on the minds of unsuspecting doctors who prescribe drugs.

When you are dealing with issues as important as medical research and drug effects that will affect doctors' opinions and the drugs they prescribe to people, it is of the utmost importance that the data be accurate.

Fortunately, we don't have to be fooled any more. It is always important to find out who really wrote a medical journal article (not just the names of the doctors on the article) and who funded the study. The old saying, "follow the money", is more accurate than ever today.

Conflicted Science:

How Industry Corrupts Research

y Judy Brady; quoted on Breast Cancer Website at www.bcaction.org

It's worse than you thought. Most of us who have been paying attention in recent years are aware that **science is often manipulated to serve the interests of whoever is paying for it**. But a first-of-its-kind conference last summer in Washington, D.C., laid it out.

"Conflicted Science," sponsored by the Center for Science in the Public Interest (CSPI), was an intense daylong conference during which the presenters addressed from their own experience the central question: **To what extent has the commercialization of science undermined science itself**?

Journalists, researchers, and university professors from a wide range of fields (from environmental planning to pediatrics to criminal justice) recounted how **corporate money has corrupted or stifled their disciplines**. Hearing similar stories from so many people, one after the other, brought home a powerful and disturbing message: **we can no longer trust what is presented to us as "science,"** not even when it comes from what appear to be independent sources. Nonprofit organizations, public universities, and health charities, all too often dependent on corporate money, have become the messengers for corporate interests.

The **American Cancer Society**, for instance, got more than **$100,000 in 2002** from each of nearly a hundred corporations, mostly drug, chemical, and cosmetic companies**. The ACS program "Look Good, Feel Better," funded by the perfume and cosmetics industries**, is a good example of what happens with such "partnerships." The ACS has remained silent about the **carcinogenic chemicals used in most cosmetics**.

There were stories of **purposeful cover-ups in the lead, asbestos, tobacco, oil, and food industries**, but one story stood out to this city-bred attendee. Two presenters from the South, epidemiologist Steven Wing from the University of North Carolina and JoAnn Burkholder, professor of aquatic biology from North Carolina State University, gave graphic and fascinating accounts of how a particular industry in their state, hog farming, thwarts any scientific investigation of its impact on neighboring communities—because if there's no noise, there's no problem. These **CAFOs (confined animal feeding operations)** are not the independent businesses they claim to be but are, in fact, **owned by huge corporations** that control all aspects of hog farming. Called "family farms" for tax purposes, the CAFOs produce 5 tons of animal fecal waste per person per year (a human being produces about 80 pounds of waste a year). When there is any public outcry about the waste dumps, it's because of the terrible stench.

You can imagine how unpleasant it would be to live downwind from a hog-farm waste pool, but they do more than just stink. That waste, dumped into **huge lagoons covering acres of land, contaminates the air and seeps into water supplies** (most people depend on well water) as well as streams used for subsistence fishing, seriously threatening the health of the mostly low-income people-of-color communities that furnish workers for the CAFOs.[1] Hog farming is one of North Carolina's biggest industries, so there is no official attention paid to the steep price extracted from the animals, the workers, and the surrounding communities for those huge hog-farm profits.

The hog-farm industry responded to Wing's research by demanding to know the names of people interviewed with health questionnaires, on which he based his findings. He and his team had promised the respondents confidentiality (they are the workers on those hog farms), and he could not betray that trust; both he and the industry knew that such a betrayal would mean no one in a community would ever again be available for epidemiological research. Finally, after many legal maneuverings, threats, and counter-threats, Wing was forced to turn over the individual questionnaires, but he managed to delete the identifying information first.

When asked how the university reacted to his investigation of and publications about the hog industry, Wing said his job is often on the line. The university gets its money from the state, allocated to it by the state legislature. The members of the legislature get elected to office by the power of corporate campaign contri-butions. Hog farming is a huge and lucrative industry and therefore supplies much of that campaign funding.

Industry Weapons

Industries have more tricks than simple economic pressure to stifle exposés. Tools customarily used by researchers digging for information hidden under corporate lock and key now serve corporate management in its efforts to foil science.

The **Freedom of Information Act (FOIA)**, for instance, is used by industries to force the premature disclosure of data so that the data can be attacked as flawed before a study is ever completed. And the last bastion of information gathering, which most of us have considered a powerful and indestructible weapon—the Internet—is now poised to become one more obstacle to investigators. Much of the evidence gathered against industries that have polluted our environment and our bodies has come from using the FOIA to uncover documents disclosing industrial crimes and proving that industry honchos knew they were engaged in criminal acts. But today's paperless communication of the Internet will render the FOIA useless because a paper trail will no longer exist.

What are scientists to do? While most of the conference highlighted the abuses of corporate money, there were also attempts to propose solutions. None of the solutions offered, however, were really up to the challenge. Among the suggestions:

- Universities should have ombudsmen on board to help researchers being pressured by industry
- Policymakers must implement the precautionary principle
- The media should refer to scientists who act on behalf of industry as "academic entrepreneurs," not simply as "scientists"
- The definition of "scientific misconduct" should be broadened to include industry-funded scientists influencing public policy

Most people **advocated stricter disclosure policies for journals and scientific advisory boards**, yet major medical journals have recently relaxed their disclosure policies because it's **nearly impossible to find a scientist for peer review who is not connected to an industry**. Further, there's no way to force complete disclosure, so **disclosure policies really boil down to a voluntary procedure**.

The outrage expressed by the presenters and the audience stemmed generally from the perceived threat to the objectivity of science through the infusion of corporate money. Belief in the "objectivity" of Western science is a cultural cornerstone, and it is defended with the zeal of religious evangelism.

Yet Wing pointed out that what **we call science was invented, as he said, by wealthy white males**, and it reflects the racism, sexism, and other cultural biases of the society that nurtures it. That culture is increasingly fashioned by the needs of global corporate capitalism, so that more and more institutions, from agriculture to education and government, are becoming handmaidens of the corporate empire. While there are certainly pockets of resistance in science as in other spheres of modern life, it is unrealistic to expect that science will remain untainted.

Neil Munro, a journalist with the *National Journal*, remarked that we might as well bump the science column over to the business pages, since that's where much of it really belongs. For those of us working to end the cancer epidemic, recognizing the reality of "conflicted science" means cultivating a constantly critical eye.

TAKE ACTION: Get informed! Visit the CSPI's web site for conflicts of interest in science.

[1] See Steve Wing's article, "Social Responsibility and Research Ethics in Community-Driven Studies of Industrialized Hog Production" in *Environmental Health Perspectives*, May 2002.