

# The FELIX Letter

Nos. 94 & 95

A COMMENTARY ON NUTRITION

1997

## I THINK THEY FORGAVE ME

I discovered my first Adelle Davis book just about the time I remarried and acquired a little stepson. He joined my own three kids, then aged 5, 7, and 9, in what quickly became a Wild West household with seven mouths (my new husband bought a Weimaraner pup) to feed over and over again *every blessed day*. No more quick trips to the hamburger 'n fries joint, no more deft openings of cans: I wanted to impress my architect-spouse with my culinary *savoir faire*. All I knew about nutrition B.A.D. (Before Adelle Davis) was that British sailors on long sea voyages used to die of scurvy, until someone put lime juice in their gin, or something. Since my kids and I didn't go on long sea trips, I figured we were safe.

Actually, I bought *Let's Eat Right To Keep Fit* (Harcourt, Brace & World, Inc., 1954) as a birthday gift for my father, who was a health nut without a clue. A few days before his birthday I began to read it, and found I couldn't put it down. This lady was saying food had something to do with *health* -- that the kids' round-robins of colds, sore throats, and earaches maybe had to do with the junk I fed 'em -- *imagine!*

I halted my not-so-convincing forays into *haute cuisine*. Now I was in the kitchen with a Purpose. Out went the junk foods, in came the health foods. Poor little kids -- they didn't know what hit 'em. Bad enough were the strange mounds of vitamin and mineral supplements to swallow. But the foods I prepared! To youngsters weaned on hot dogs and jelly doughnuts they must have seemed straight from the kitchens of Hell. Liver, lots of liver; bowls of whole-grain glop heavy with wheat germ; greens and more greens -- I even cooked dandelion leaves once, but our faithful Weimaraner, who would eat anything including the kids' smelly socks, took one bite and hid under the bed.

I must be the only mother in the world who added, to perfectly decent peanut butter and jelly sandwiches in their lunchboxes, *granular lecithin*. I'll never forget how the kids looked at me when they trooped home from school

that day. I think I only tried it that once.

An Adelle Davis blender mix of milk, blackstrap molasses, banana, and brewers' yeast, known as "Tiger's Milk," was a really big hit. (I do believe it's the reason the kids left home to seek their fortunes *early*.) The funny thing is, they got healthier, hardly ever got colds, and all kept their tonsils. Before I married his dad my stepson was scheduled twice, at ages 3 and 4, for tonsillectomies that got postponed because of chickenpox, etc. After he'd had about a year of vitamins and other Adelle Davis stuff, his tonsils healed and didn't have to be yanked.

Thank goodness, I cooked enough tasty stuff so I kept my credentials as a nice Mom and stepMom. The kids have all forgiven me...I hope. □

Hagar the Horrible/Chris Browne



## NAG, NAG, NAG

Sorry, dear people, I'm after your bagels again! Today's mail brought a story in the *CDF Newsletter*, a publication of the Celiac Disease Foundation<sup>1</sup>, by a woman who was told 28 years ago, when she was 24, that her gut problems and weight loss were caused by something called "sprue," an earlier term for celiac disease. If most doctors in the U.S. know so little about celiac today, you can imagine how rudimentary their knowledge was then. They didn't even counsel her to stick to a gluten-free diet -- the cornerstone of treatment *and the only cure for celiac disease*.

a gluten-free diet and received vitamin injections to slowly begin the healing process to the nerve damage in my feet and legs. I was also informed that the healing process would take approximately two years. This time, Dr. Lembo emphasized the maintenance of a strict 'gluten-free' diet."

Now, a year later, she has occasional edema but no more diarrhea. She is very careful to read labels and make sure her groceries don't contain gluten or gluten by-products. "I follow my diet religiously, take daily multi-vitamins and calcium supplements, and maintain a physical exercise program. "A year ago I could barely walk and today I can run..."

The June 14 issue of the British medical journal *The Lancet* has a good review, "Coeliac disease" [the British spelling], by two doctors from Finland. The illness, they say, is underdiagnosed, but improved diagnostic methods now suggest prevalence may be as high as *one in 100* in some populations. In any case, the classic symptoms of diarrhea, weight loss, and weakness may be absent in many individuals in whom intestinal biopsies show active celiac disease.

Nutrient loss can lead to a grim parade of health disorders. For example, patients "with coeliac disease may suffer from neurological symptoms such as peripheral neuropathy [e.g., like that in the woman described above whose legs and feet hurt all the time], ataxia [poor muscular coordination], intellectual deterioration and brain atrophy, and epilepsy with posterior cerebral calcifications." (Other reviewers have pointed out *depression* as a common finding in untreated celiacs, even in children.)

Enamel defects in teeth, infertility or miscarriages, arthritis or other joint symptoms, anemia -- believe it or not, these all can stem from untreated gluten intolerance. The Finnish doctors add: "Low bone-mineral density is a common feature in untreated coeliac disease; the density improves on a gluten-free diet, but not always completely."



Robert Brown-Full

**P**hew!! That's a lot of misery, just because someone can't stay away from (undeniably tempting) crusty bread, cinnamon buns, or wheat pasta! The challenge, of course, when a patient shows up at a typical doctor's office with a confusing mess of ailments, is not just to treat symptoms as separate entities, but to search for a unifying cause -- and that's exactly what most doctors, at least in the U.S., are not trained to do.

Moreover, the authors write, "details of coeliac disease even in the most current textbooks are out of date. Clinical features have changed, symptoms are often minor or atypical, and the disease can even be clinically silent, also the spectrum of gluten sensitivity has widened during the past two decades. *All these factors add to the underdiagnosis of coeliac disease* [emphasis mine]."

Mind you, these are Finnish doctors saying this. In Europe, Scandinavia, and the U.K., where most of the studies come from, awareness of the ailment is far more highly developed than in the U.S. Here, giant food conglomerates, besides contributing to our nation's vast gluten-glut, also are big donors to nutrition journals and university research centers -- which may partly explain why there have been so few clinical studies in the U.S. (Is that why one of the best researchers in gluten biochemistry, Dr. Donald Kasarda, chooses to work for the U.S. Dept of Agriculture?)

If I had my way, the new improved blood tests to detect the disorder would become as routine as cholesterol tests. Anyone diagnosed as a 'celiac' merely has to avoid gluten, eat good foods, and take appropriate supplements. I wish most diseases responded in such a spectacular way to a simple remedy! Moreover, studies show that relentless consumption of gluten foods may *bring on* celiac disorder in some folks [see *FLs* 77/78 ]. By the way, one breed of *dogs* known to be susceptible to celiac disease is the Irish setter.

Unfortunately, to some folks giving up gluten foods feels like a death sentence. I can only offer my own and others' experiences: make sure to fill fridge and cupboards with tasty, tempting safe foods; always keep nongluten snack foods available at home or at work; take along safe snacks (keep them inconspicuous if possible) when partying or dining with friends. *Stay in touch with fellow-celiacs via newsletters and meetings to learn how others do it without pain or strain.* Celiac organizations around the country not only publish wonderful recipes, but list sources of baked goods, breads, pastas, and cereals. Local health stores carry many nongluten products. When one stays well-fed on these foods, the seductive stuff that wrecks the gut isn't nearly as tempting as it used to be.

If your ancestors came from northern climes, please be aware that most of Europe and North America was still covered until about 3000 years ago by glaciers from the last great Ice Age. The folks from 'up north' didn't grow wheat or much of anything, but lived on animals, seafood, and whatever plant foods they could find. Yet, during this same period, agriculture, including grain culture, had been flourishing in the warm, ice-free 'cradles of civilization' for 7000 years, allowing people there a longer span of time to adapt to the factors in gluten that can be toxic to less acclimated folks. Maybe that's where the 'hereditary' factor in celiac disease comes in.

Incidentally, none of the North or South American native peoples grew wheat. Spanish explorers and conquerors brought it (along with slavery and smallpox). Yet many Native Americans look upon *fried bread* as traditional food. This 'traditional' delicacy goes hand in hand with the deadly epidemics of obesity, diabetes, and alcoholism that ravage Native Americans -- scourges that didn't exist before the European invasions.

Yes, folks, the phenomenon known as *allergy-addiction to wheat and other gluten grains is associated strongly with alcoholism in a number of ethnic groups*<sup>2</sup>. Odd, isn't it, how we're beginning to get a correlation between gluten intolerance and high rates of alcoholism, for example, among the Irish, Scots, Welsh, Brits, Scandinavians (including the Finns), Inuits (Eskimos), and Native Americans -- that is, peoples who didn't grow or import wheat until late in their history. Today, wheat flour and its high-gluten goodies blanketing the world may be food for many, but truly are insidious poisons for others. I eat as little of them as I can, for health reasons but mainly as a form of social protest! Besides, the discipline is good for my character (hah-hah). □

1. Celiac Disease Foundation, 13251 Ventura Blvd., Suite 1, Studio City, CA 91604-1838. (818)990-2354.

2. Joan Mathews-Larson Ph.D. of Health Recovery Center in Minneapolis, and Julia Ross of Recovery Systems in Mill Valley, CA, pioneered the use of "biochemical restoration" to not only get alcoholics off the sauce but free them from cravings and enable them to get a life. I've written about allergy-addiction and bio-repair in *FLs* 56, 61, 68, & 73. Mathews-Larson's great book, *Seven Weeks to Sobriety*, and the new *Health Recovery Center Cookbook* can be ordered from her at 1-888-900-0709. Julia Ross' eye-opening success in helping Native American substance abusers to recover and *stay feeling good* has gotten cooperation from tribal councils and widespread press coverage. Recovery Systems: 415-383-3611.



### THE KINDNESS OF ANTS

For close to ten years I've been coaxing local ants to stay out of my abode, bribing them with bits of fish, shrimp, chicken, honey, etc. placed in a few strategic outside areas, usually under heavy flower pots to outwit cats and the occasional skunk, possum, and raccoon. (No, I don't live in the country, but this is Berkeley, where fauna from Tilden Park like to set up housekeeping in people's basements.)

The ploy has worked well; my kitchen floor and counters no longer hum with little foragers. As I wrote in *FL#79*, my ants keep the vittles in their feeding stations remarkably free of decay and odor, using a secretion unique to their kind: phenylacetic acid. Entomologists say its effectiveness against mold and bacteria helps ants "to colonize successfully in warm, moist, microorganism-filled environments."

Well, guess what the little critters can do as well? The brilliant German doctor and researcher, Hans A. Nieper, writes from Hannover (in *Townsend Letter for Doctors & Patients*, Nov. 1997) "Insects like ants can carry enormous loads of viruses within themselves without getting sick. They have, in addition, no vertebrate-like immunosystem. The substance which renders the ants so extremely resistant is called Iridodial, an activatable dialdehyde.

"We tried very limited quantities of Iridodial -- we do not have more -- in advanced cancer patients. In my lectures which I held in the USA this year, I demonstrated how even advanced malignancies just 'suffocate' under the effect of ant-derived Iridodial...."

Dr. Nieper is convinced herpes types of viruses play a role in the genesis of cancers. He asks: "Does Iridodial pull the viral 'key' out of the malignant disorder?"

Considering how relentlessly unlimited the supply of ants is worldwide, wouldn't it be nice if scientists came up with plenty of Iridodial for future research and treatment? □

### BLESS 'EM, ONE & ALL!

Truly wonderful news on the pediatric front, as described in the *S.F. Chronicle* on December 3:

"In its most forthright stance yet, the American Academy of Pediatrics is urging mothers to breast-feed for at least a year -- *six months longer than previously advised* [emphasis mine].

"The guidelines, issued in an era of shortened hospital stays and more mothers working outside the home, also urge employers to provide a place for women to nurse and recommend that insurance companies pay for services like lactation consultations to teach new mothers the basics....

"Breast-feeding's advantages include decreasing the incidence of infant ear infections, allergies, diarrhea and bacterial meningitis. It also may protect against childhood lymphoma, sudden infant death syndrome and diabetes. Breast-feeding mothers reduce their risk of ovarian cancer, early breast cancer and postmenopausal hip fractures, the academy said."

I can't say enough for the compassion and brilliance shown by the Academy's leaders in this action. □



### BRAS & GIRDLES

I've read reviews of a book *Dressed to Kill: The Link Between Breast Cancer and Bras* by Sydney Ross Singer & Soma Grismaier (Avery Publishing Group), describing a study in which the authors interviewed over 2000 women with breast cancer, and over 2600 women without the cancer, on their bra-wearing habits. Although some reviewers are critical of the study design and point to bias by the anthropologist-authors, the results are eye-opening: women who wore bras more than 12 hours a day were *nineteen times* more likely to develop breast cancer than women who wore bras less than 12 hours a day. Those who felt they needed to keep bras on day *and* night had over a hundred-fold increase in breast cancer incidence, compared with women who wore bras less than 12 hours a day.

The authors theorize that the constricting effect of bras impedes normal activity of lymphatic vessels in flushing out wastes, thus allowing toxins to build up in breast tissues.

It makes sense to me. I only wear the darn things on formal occasions, finding even the best of bras uncomfortable after ten minutes. Of course, I'm no longer a 9-to-5'er, nor do I face the public every day like the majority of working women. Also, I live in Berkeley, where sloppy but clean is okay. But I'd like to see women allowing themselves some leeway here. Fear of breast cancer is always lurking in our hearts. I vote for more loose, blousy tops, with strategically placed pleats, ruffles, etc. to soothe the prim. Yes, yes, I know all the arguments....we need the 'uplift' for garments to look good on us; jigging is too provocative, etc. etc. But at least let's think about it.

Girdles, now -- that's a different matter. Bring 'em back, I say! No, not because unharnessed rear ends offend my sensibilities. Rather, I have an unscientific theory about girdles and backs. It so happens that nearly every woman I know--young and not-so-young--has a "bad back," i.e., spells of spasm and pain, some serious enough to invoke surgical intervention, although most episodes are intermittent and only (only!) temporarily crippling. Without exception, none of these women wears a *real* girdle. (I'm not talking about soft panty girdles that are more panty than girdle.)

Now, in my mother's day, *all* women donned stiff girdles or even more rigid corsets. It's too late to do a survey of that generation, but I know my mother didn't have a "bad back." When I'd hear her and her lady friends having competitive discussions on whose list of ailments was longer, bad backs weren't even on the roster. I recall *men* of that generation having 'lumbago,' but it seemed to skip the womenfolk I knew.

My point is, modern women are supposed to dutifully follow fitness regimens to keep all muscles and ligaments gung-ho, thereby thwarting gravity's pull, pregnancy's tissue-wrenching, and just plain wear 'n tear. But reality is different: periodically, exercises are neglected, ligaments go limp, bellies sag, and back muscles can 'seize up.' I hereby suggest wearing a *firm* girdle that supports tummy and back. It can serve as a friendly preventive measure, both for fitness buffs during temporary layoffs, as well as for the unrepentant saggy-baggies among us. □



## WE HIT A GUSHER!

Researcher and friend Paul Stitt wrote me in November: "Here is the most exciting paper I've ever read about Omega-3!" With his letter was the 48-page study (491 references) by Harumi Okuyama and fellow scientists from the Faculty of Pharmaceutical Sciences, Nagoya City University.<sup>1</sup> It didn't just make my day, it made my decade. Here, illuminated by brilliant analysis, were cold statistics confirming the scenarios that Omega-3 research pioneers like Hugh Sinclair, Ralph Holman, Michael Crawford, William

1. Harumi Okuyama et al., "Dietary fatty acids -- the n-6/n-3 balance and chronic elderly diseases. Excess linoleic acid and relative n-3 deficiency syndrome seen in Japan." *Progress in Lipid Research*, Vol. 35, No. 4, 1997, pp 409-457.

Lands, Donald O. Rudin, and others were predicting against all odds twenty years ago. The small but obstinate corps of scientists exploring Omega-3 fats had sensed rightly that they were on the threshold of Big New Stuff. First of all, these long-ignored fatty acids, in tandem with Omega-6 essential fats, were turning out to be star players of a newly discovered *whole-body regulatory system*, directed locally in the body's cells. Until then, protein-based hormones secreted by specific endocrine organs and circulated via the blood, e.g., insulin, were the only acknowledged major coordinators of body functions.

Secondly, they began to realize Omega-3s had in large measure been shoved out of 20th century western diets. What on earth would the consequences be?

Their work was taking place a decade after the big new push starting around 1960 to knock out heart disease by replacing saturated fats with polyunsaturated oils and margarines. In industrialized western countries, the oils of choice such as corn and safflower, now being gulped down in vastly increased amounts, were very high in Omega-6 fatty acids and very low in Omega-3s. Classic suppliers of Omega-3s -- fish and seafood -- had long been replaced on U.S. tables by beef which has almost none. Heart disease was going down a little, but certain cancers, asthma, allergies, and mental ailments were rising.

Now the Japanese scientists have put most of the pieces of the oil story together. Beginning about 40 years ago, Japan began to emerge from its closed, highly traditional society. Westernizing influences seeped into every aspect of their culture, changing centuries-old dietary patterns. How did this affect a homogenous, racially intact people whose admirable health and longevity have always been ascribed to "hunting and gathering" from the sea? Hold on to your hats -- it's a powerful tale.

Simply put, as the Japanese 'westernized' their oil intake, they acquired a bunch of new, 'westernized' ailments.

[Readers, from this point on I'll use the "n" symbol for Omega, as the reviewers and many scientists do.] The Japanese now consume three times more n-6 vegetable oils than they ever did before.

They're eating less fish, especially the younger folks. The traditional n-6 to n-3 ratio of ingested fatty acids was 2.8-to-1 in 1955. Today it's almost 5-to-1.

An intake of five times more n-6 than n-3 doesn't seem all that shattering, does it? **In the U.S. and other western nations, it's 10 to 30 times more!** But listen to what the scientists say [My emphasis]:

*"In this review, we summarize the evidence which indicates that increased dietary linoleic acid and relative n-3 deficiency are major risk factors for western-type cancers, cardiovascular and cerebrovascular diseases, and also for allergic hyper-reactivity. We also raise the possibility that a relative n-3 deficiency may be affecting the behavioural patterns of a proportion of the young generation in industrialized countries."*

## Cancer

"After 1960, the mortalities from stomach and uterine cancers tended to decrease in Japan," they write. "Decreased salt intake, decreased numbers of births and improved hygienic conditions are believed to be the major reasons for the decreased incidence..."

*"In contrast, mortalities from lung, colorectal, breast, prostate, pancreatic, oesophageal, skin and other cancers are increasing rapidly in Japan. The mortalities from the latter types of cancer are currently very high in western industrialized countries, therefore these are called western-type cancers."* [Emphasis mine.]

They cite study after study showing that dietary linoleic acid (n-6) promotes carcinogenesis, but that oils rich in n-3 fatty acids such as alpha-linolenic (found in flax and perilla oils) and EPA & DHA (found in fish) suppress it. The Nagoya group's animal experiments indicate a diet high in perilla oil suppresses mammary gland, colon, rectum, and kidney tumors, while high n-6 oil diets stimulate growth of the cancers.

They say a dose-response relationship between dietary n-6 linoleic acid and mammary cancer has been determined by many studies. "These results fit very well with the situation in the past 40 years in Japan; the average intake of LA [linoleic acid] increased from 2.6 to 6.2 energy percentage [percent of total calories] and the age-adjusted mortality from mammary cancer increased two-fold after 1955" [emphasis mine].

## How do n-6 fatty acids encourage cancer?

Answer: There's a lot more to be learned, but it's known that cancer can be associated with uncontrolled production of certain "eicosanoids" -- the activated forms of the fatty acids that include prostaglandins, thromboxanes, prostacyclins, leukotrienes, etc. Certain ones may suppress the immune system, allowing tumor cells to escape detection and begin multiplying; they can kindle inflammatory conditions that encourage tumors; they also are associated with metastasis -- the spreading of cancer. In the authors' words: "The persistent overproduction of inflammatory eicosanoids derived from LA [n-6 linoleic acid] may thus stimulate the proliferation of mutated cells leading to an increased incidence of cancer."

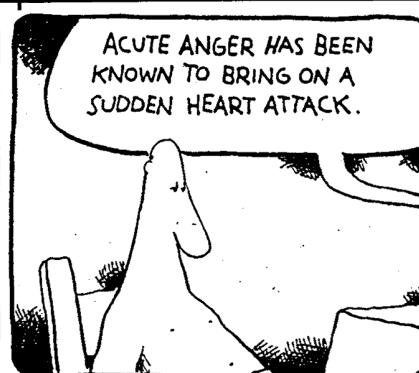
## How do n-3s figure in this? Are intake ratios of n-6/n-3 important in cancer?

Answer: Both n-3 and n-6 fats in our tissues use and compete for the same enzymes that transform them into eicosanoids. An optimal dietary balance of n-6 and n-3 fats *prevents the potentially calamitous imbalanced overproduction of n-6 eicosanoids*. (Luckily, eicosanoids from n-3 fats don't have the damaging potential of n-6 ones.)

## What is an optimal n-6/n-3 dietary ratio?

Answer: Ah, here we come to the heart of the matter! The authors offer a mountain of evidence to support their premise that one factor is consistent with the alarming rise of ailments, common in western countries, but never a serious problem before in Japan. **It's the change from the traditional 2.8-to-1 ratio of n-6/n-3 fatty acid intake in 1955, to a ratio of almost 5-to-1 in Japan today.**

**They say the ratio for foods consumed during the age of hunting and gathering is estimated to be 1-to-1. They propose a ratio of 2-to-1 or below "as the first step towards the prevention of the excess LA syndrome described above. For people living in frigid zones, even lower n-6/n-3 ratios are recommended."**



What can that mean to us in the western world? The only fatty-acid intake ratio of interest in most U.S. nutrition literature has been that of saturated to polyunsaturated fat. Textbooks are just beginning to acknowledge an important role for n-3s. In 1990, Canada's Minister of National Health & Welfare recommended a daily 6-to-1 ratio of n-6 to n-3 fatty acids for adults. In 'real life' the ratio is anywhere from 10 to 30 times more n-6, as noted before. Could that have something to do with the rise of many illnesses in our country?

The Japanese researchers are certain it does. In fact, epidemiological studies that fail to recognize n-6 fat as a risk factor for cancer are flawed, they say, because the subjects' intake of n-6 fats at about 6 - 8% of total calories is already "at saturating levels with respect to carcinogenesis-stimulatory activity," based both on animal experiments and the sharp increase in cancers in Japan at this level.

Moreover, they say the studies don't take into account how low the study populations' intake is of n-3 fatty acids -- the very ones needed to stop 'bad' n-6 eicosanoids from triggering cancer.

## Allergies on the Increase

Japan has seen an unsettling rise of allergies the past few decades. Higher exposure to pollutants and allergens was thought at first to be the reason, but even in areas where air pollution, for instance, has been greatly decreased, the number of asthma cases keeps rising, along with allergic dermatitis and food allergies. About a third of Japan's babies now show allergic symptoms.

Allergic reactivity is governed by both genetic and environmental factors. Wouldn't the fact that an unprecedented rise in such ailments is happening in a racially homogenous population clearly point to the environment, rather than heredity? The authors describe one such major environmental change: "Young Japanese commonly eat commercial foods that have been soaked in high-LA [n-6 linoleic acid] vegetable oils." Again, n-3's to the rescue: "Dietary supplementation with perilla oil or fish oil with very low n-6/n-3 ratios suppresses the production, activity and/or actions of lipid mediators of allergic, inflammatory reactions."

While allergies are too complex for simple answers, they suggest a logical starting point would be restoring the pattern of traditional fats intake that existed when asthma, skin disorders, and food allergies were rare.

This might be an appropriate point to mention that according to figures compiled by the National Institutes of Health the number of asthmatics in the U.S. in 1994 numbered *14.6 million, reflecting an astonishing increase since 1984 of 74 percent*, "despite pollution control programs that have made the nation's air demonstrably cleaner," according to the *S.F. Chronicle*, July 3, 1996.



### More Pneumonia & Bronchitis

"After World War II, mortalities from infectious diseases decreased significantly in Japan as in other industrialized countries, owing to the successful development of antibiotics and improved hygiene," the authors write. This was true of pneumonia and bronchitis until 1970, when they began to increase *and now are the fourth leading cause of death in Japan*. They're affecting all ages, not just the elderly, and are usually not responsive to antibiotics. The researchers suspect that "enhanced allergic hyper-reactivity may be an underlying cause." They suggest looking at increased LA intake, as well as chronic administration of drugs that may have allergic side effects, "as possible risk factors for the increasing incidence of pneumonia and bronchitis in Japan."

### Heart Disease

The Japanese still have an admirably low rate of coronary heart disease but that's changing. Along with cancers, allergies, pneumonia, and bronchitis, mortality from heart disease has gone up. The authors attribute that, too, to the steadily drastic shifts in fat intake.

Contrary to many western researchers, they do *not* point to higher meat and saturated fat intake as a factor. As a matter of fact, the increased availability of fresh vegetables and protein from meat some years after World War II ended, they say, was a big reason *for the drop in apoplexy* (cerebrovascular accident or stroke). Availability of fresh vegetables reduced the traditionally high salt intake from pickled vegetables and, together with added protein from meat, reduced the two main risk factors for apoplexy: high-salt and low-protein diets. (When the staples of Japanese diet before the war were grains and pickled salted vegetables, "the incidence of apoplexy was very high. Since the war, apoplexy has been decreasing along with the increased intake of meats and the decreased intake of salt...although the incidence is still much higher than in the U.S.A.")



No, it's not more meat that's pushing heart disease mortality upwards, nor higher saturated fat intake, the authors say, but the altered n-6/n-3 ratio in Japan. While the Japanese are eating somewhat less seafood than before, their LA (linoleic acid) consumption is so high now that even an extraordinary increase in n-3 foods and oils might barely stem the flood of "bad" n-6 eicosanoids.

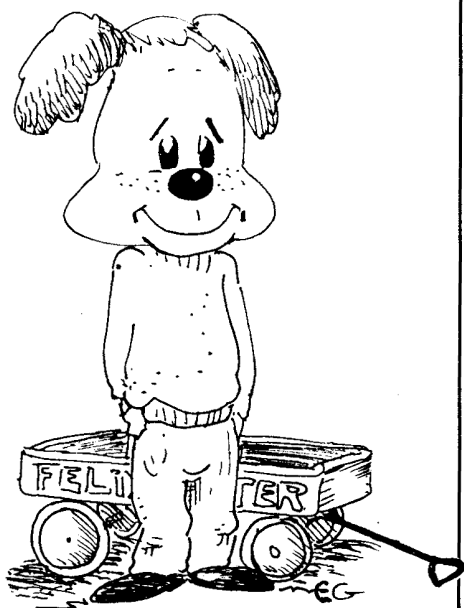
This is directly related to coronary heart disease, not just in Japan, the researchers say, but worldwide. They offer a mountain of evidence [far too much to compress here!] essentially showing that (a) the short-term effectiveness of high LA diets in lowering cholesterol is contradicted by their *ineffectiveness over the long term*; that (b) overproduction of eicosanoids from n-6 arachidonic acid is a recognized factor in platelet aggregation and atherosclerosis in coronary heart disease; and (c) that n-3 fatty acids play powerful roles in stemming the 'bad eicosanoid' tide.

In general, they warn that standard medical recommendations to lower saturated fat consumption "could be quite risky because n-6 fatty acids in tissue lipids would be expected to increase to even higher levels," and suggest that "decreasing LA intake while consuming larger amounts of n-3 fatty acids is the most effective approach."

### Behavioral Changes

Westernizing influences in Japan unquestionably have affected young people's behavior in what used to be a rigidly conformist society, but Dr. Okuyama and his group suspect that some of the changes for the worse stem strictly from diet. By now, a body of international literature has accumulated on the effects of deficiencies of DHA, the highly polyunsaturated n-3 that's needed in the brain and eyes for proper visual and central nervous system functions. Slower learning and poorer vision show up in young rats, monkeys, and even pre-term human infants who've been shortchanged of DHA. (There now is a big push to get DHA into all infant formulas; many European and Asian manufacturers already do so.)





**V**iolent behavior among younger Japanese has taken a sharp upturn, and maybe it's not just the influence of television and movies. A double-blind test where "aggression against others" by university students was monitored during the whole school year showed no change in normal behavior by students *who were supplemented with DHA*, whereas the control group who received no DHA showed a big rise in aggressive behavior! (T. Hamazaki et al., *J. of Clinical Investigations*, 97, 1996, pp1129-1134.) Hamazaki et al. suggest the subjects' brains might have been **deficient in DHA**, a deficiency which was ameliorated by DHA supplements. It's known that a certain proportion of younger Japanese have very low plasma n-3 fatty acids -- not surprising, as they are the biggest consumers of commercial foods "soaked in high-LA vegetable oils" and eat less seafood and vegetables than older people.

**T**he authors suggest the upsurge in "attention-deficit hyperactive disorder" among the young in western countries might in part arise from the same kind of dietary imbalance. Also, they point out that in a number of the western intervention trials that used a high LA and low animal fat intake to reduce coronary heart disease, a very unexpected effect was a *high incidence of violent death (accident, suicide, etc.)*, so that overall mortality was not

reduced. Rather than interpreting this as caused by decreased output of soothing steroid hormones from cholesterol, which is one ongoing theory, they speculate that the relative n-3 deficiency produced by the high LA diet might have led to the increased violent deaths *through altered behavioral patterns* such as those described above.

#### **Okinawa - A Crucible for Oil Change!**

**O**kinawa prefecture consisting of the southwesternmost islands of Japan was under direct U.S. jurisdiction from the end of World War II until 1972, so that its traditional food patterns were altered faster and more radically than those of the rest of the country. Until then, Okinawa's people had "the highest longevity among the 47 prefectures of Japan, and indeed in the world," with very low mortalities from stroke, heart disease, and cancers.

**"D**uring earlier times, animal fats were mainly used for cooking in Okinawa, but there was a rapid shift to the use of vegetable oils during the period of U.S.A. rule." Less fish and more meat began to be consumed, leading to lower n-3 intake.

**A**t the time the rest of Japan began to climb on the n-6 oil bandwagon, Okinawans were already aboard, consuming levels comparable to the high U.S. intake. Their n-6 oil intake still is higher than anywhere else in Japan.

#### **The Consequences**

**In 1990, Okinawan males dropped down to fifth in longevity from their previous top position.** "The age distribution of the survival rates of male Okinawans in 1990 is also interesting. The mortalities from all causes for the generations over 70 years of age were the lowest, whereas for those males less than 50 years old they were the highest among the 47 prefectures."

**O**kinawans are dying of pneumonia, bronchitis, and lung cancer in the older generations; coronary heart disease in middle generations; **and violent death in the young generations.**

**T**he researchers state: "The recent trends in lipid nutrition and disease patterns in Okinawa are thus characterized by the most rapid westernization among the Japanese prefectures, and clearly indicate the excess LA intake and an increased n-6/n-3 ratio are **major negative factors for extending longevity**" [emphasis mine].

#### **The Scientists' Recommendations**

**A** decrease in the n-6/n-3 ratio of foods is recommended "for the suppression of ageing, carcinogenesis and atherosclerosis. This is because n-3 fatty acids suppress but n-6 fatty acids stimulate ischaemia/inflammation which causes increased free radical injuries.

**"W**e suggest that a relative n-3 deficiency as evidenced by the very high n-6/n-3 ratios of plasma lipids might be affecting the behavioural patterns of a significant part of the young generations in industrialized countries.

**"A**s a first step towards the prevention of the excess LA syndrome prevailing in industrialized countries, we recommend a **n-6/n-3 ratio of 2 or below**, "while keeping the **intake of LA at 3 to 4 percent of total energy.**" [Emphasis mine.]

**H**igh alpha linolenic acid vegetable oils, such as perilla and flaxseed, while not useful for deep fat frying, could replace "high-LA vegetable oils and oil products (margarine, mayonnaise, dressing)....EPA and DHA could be taken as seafoods, and fish oil capsules when necessary."

FRANK & ERNEST® by Bob Thaves



## My Own Two Cents

**M**y mother's generation, reared in old country ways, used to render chicken fat to use in sauteing. Mediterranean mamas used olive oil.....still do. Real pork fat--not the hydrogenated kind--is a staple in many cultures. Coconut and palm oils are good for baking and either heavy duty frying or light sauteing. Butter -- so unnecessarily vilified -- works just fine for many culinary chores. They're all time-honored by centuries of traditional use.

**B**ut we still need the good Omega-3s -- from fish and shellfish, flaxseed oil, flaxseed meal, and perilla oil (if it ever gets here from Asia).

**A**s for the Omega-6s, after reading and re-reading the incredibly rich, controversial, *very* provocative review by the Nagoyan scientists, I've decided that nature did us a splendid favor by *providing stores of Omega-6 polyunsaturated fats in every edible whole grain, seed, and nut.* Thus, if we make a habit of eating a handful of many kinds of seeds and nuts, e.g., pumpkin seeds, sunflower seeds, chia seeds, walnuts, almonds, pecans, hazelnuts, etc., as well as real whole grain breads and cereals regularly, we'll cover our Omega-6 requirements with some to spare. This way, I'm now convinced, is safer and wiser than all those years we've spent sloshing around in corn, safflower, and soy oils, convinced they were protecting us!

**O**kay, let's get practical. **Okuyama et al. recommend an intake of LA (Omega-6 linoleic acid) at 3 to 4 percent of total calories.** Women need on the average about 2000 calories a day, men about 2700. If we choose 3.5 percent as an average, 3.5% of 2000, or about **70 calories from LA a day are needed by women.** At 3.5% of 2700, men would need about **95 calories from LA.**

**Each gram of fatty acid provides 9 calories; thus, women need (70 divided by 9) about 7.7 grams of LA; and men about 10.5 grams.**

**I**'ve checked my 'bibles' -- numerous food tables -- and lo and behold! it's easier than I thought to get our Omega-6 requirements.

**F**or instance, these nuts and seeds are not particularly high in LA, but equal amounts of each in 1 oz, or 28 grams (about a handful) provide the following amounts of LA;

### Linoleic Acid

- **Peanuts** - 1 g
- **Cashews** - 0.5 g
- **Pumpkin seeds** - 1+ g
- **Almonds** - 0.7 g

**Total: 3.2 grams of LA.** At 9 calories per gram, **that's about 29 calories from LA.**

**S**o, here in one easy-to-consume handful of nuts, women and men can get almost half to one-third respectively of their Omega-6 linoleic acid requirements!

**N**ow, try an ounce divided equally among nuts and seeds with higher LA content:

### Linoleic acid

- **Pine nuts** - 1.5 g
- **English walnuts** - 2.4 g
- **Sunflower seeds** - 2 g
- **Brazil nuts** - 1.8 g

**Total: 7.7 grams of LA.** At 9 calories per gram, that's close to **70 LA calories from just one tasty snack -- a full day's n-6 LA requirement for women!** That wasn't hard, was it?

**W**here would additional LA come from? Impossible to avoid in a decent diet! Fresh corn, whole grain cereals and breads, wheat germ, brown rice, beans (especially soy and garbanzo) -- all good sources. If you use flaxseed oil or flaxseed meal, they contain quite a bit of LA, along with Omega-3 alpha linolenic. The fatter dairy products, including cheeses, contain fair amounts. Even fish and seafood have some. Chicken and turkey, especially dark meat and skin, are respectable sources -- almost 2 grams LA in three ounces.

### Now, what about the Omega-3s?

**S**ince a safe ratio is what we're after, we'll need less if we're consuming less Omega-6, won't we? The Nagoyan researchers prefer an Omega-6/Omega-3 ratio of 2 or below. Turning the ratio upside down, we get *half* as many Omega-3 calories as Omega-6, or **about 35 calories from Omega-3 for women, and 50 for men.**

That brings a day's requirements to about **4 grams Omega-3 for women, and 5.5 grams for men.** This refers to the intake of alpha-linolenic acid (Alena) found primarily in plant foods, and/or EPA and DHA, mainly found in fish and shellfish.

**L**ook how easy it is to get your day's quota:

- 2 tsps flaxseed oil - 4 g Alena
- 1 rnd Tblspn flaxmeal - 2 g Alena
- About 6 walnuts - 1 g Alena
- 3 oz canned salmon - 2.4 g total n-3
- 3 oz Atlantic salmon - 1.4 g total n-3
- 3 oz trout - 0.6 g total n-3
- 3 oz striped bass - 0.8 g total n-3
- 3 oz shrimp - 0.5 g total n-3

**A**lthough not as abundant in land-based foods as Omega-6, moderate amounts of Omega-3 are found in beans, eggs, lamb, and pork. Common weedlike purslane is an unusually good plant source. Egg producers are starting to feed flaxseed or fish meal to poultry, an effective way to beef up Omega-3 levels in eggs.

**O**nce we appreciate the necessity for cutting out Omega-6 oils, or cutting way back on them and relying instead on *foods* to supply these essential fats, *then the Omega-3s we consume will be more effective.* And if occasionally we veer towards overconsumption of Omega-3s, it's nice to know the eicosanoids made from them tend to be the kindly sort! □



*Illustrations by the late Clay Geerdes and other artists as noted.*

**THE FELIX LETTER**, P.O. Box 7094, Berkeley CA 94707, has been published independently, irregularly, and improvisely by Clara Felix since 1981, supported solely by subscriptions. Descriptive list of available issues plus sample, \$1. Six-issue subscription \$12, 12-issue sub \$22, U.S. & Canada (U.S. funds only).

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