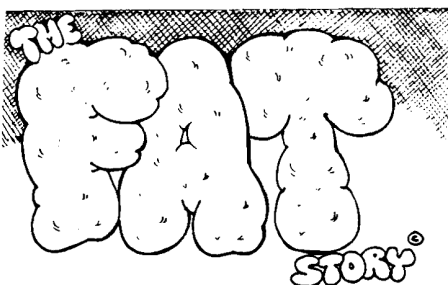


PART II: SAVE-THE-HEART DIETS

From observing exceptionally long-lived, vigorous populations who have little cancer or heart disease, we learn they eat high-fat foods and meat only frugally — sustaining themselves with grains, beans, yams, yogurt, vegetables, fruits, seeds and nuts, supplemented occasionally with fish or poultry.

One way to translate “frugal” fat intake into usable numbers is to find the ideal percentage that should be contributed by fats and oils to total calories. Currently in the U.S. it’s around 40 percent, meaning that in a diet providing 2000 calories a day, 800 of them or 40 percent will be from fats and oils, whether as “naked” fats and oils or those in foods. Recommendations range from a very low 5-10 percent, to a moderate 30 percent designated in 1979 by the McGovern committee of the U.S. Senate as an “ideal dietary goal,” close to what it was at the turn of the century.



By CLARA FELIX



ILLUSTRATED BY
CLAY GEERDES

Mackerel & Fat Calories

Yet, if for therapeutic or preventive reasons we embark on a diet high in fatty fish, will this drive the caloric contribution from fat too high? To find out, I devised a regimen based loosely on experimental ones that have fatty fish as the main protein and fat source. For the sake of simplicity, I set the total calories at 2000 per day.

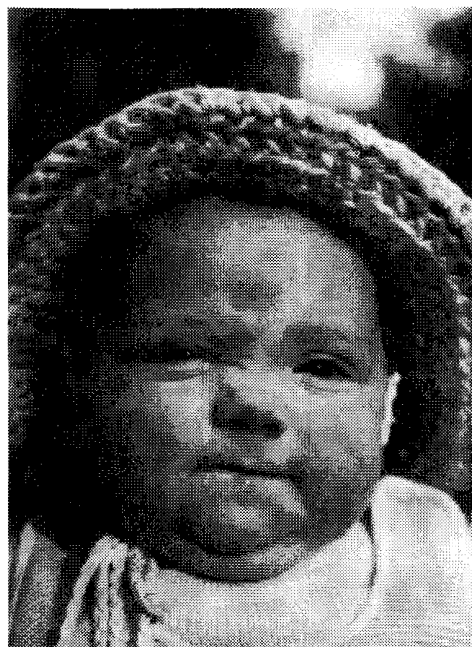


Photo by Clay Geerdes

Twelve ounces of mackerel provided 34 grams of fat, 90 grams of protein (very ample), and 600 calories.

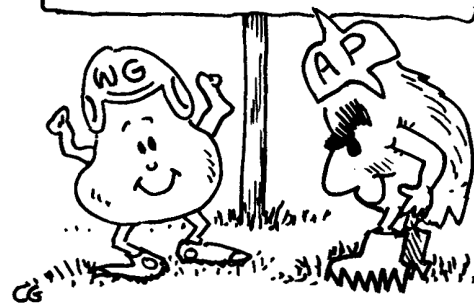
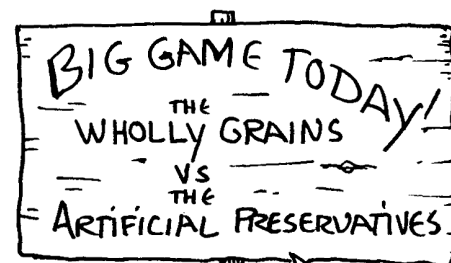
To emphasize that this diet might be designed to provide a stepped-up intake of Omega 3's to make up for years of depletion, I added a daily teaspoon of codliver oil as a good source of EPA and DHA, the ultra-polyunsaturated Omega 3's. In addition, to provide the “parent” Omega 3 (alpha-linolenic), I added one tablespoon of a mixture of linseed and walnut oil. For flavor, I added two teaspoons of butter.

The oils and butter provided 25 grams of fat. (Please note how quickly the grams of fat accumulate from straight oils and butter! A total of two tablespoons had only 9 grams less than a whopping portion of very fatty fish.)

The rest of the day's intake was especially chosen to (1) be very low in fat and low in protein, and (2) provide natural fiber and nutrients to handle the fats. It consisted of brown rice, whole grain bread, yams, raw and cooked vegetables, fruit, and low-fat desserts if desired, providing altogether 6 grams of fat.

All fats and oils totaled 65 grams which, multiplied by 9 calories per gram, gave 585 calories. *This amounted to 29 percent of 2000 calories* — modest, considering that the diet provided a walloping 7 grams together of EPA and DHA (6 grams from the mackerel and 1 gram from codliver oil) plus generous amounts of other Omega 3 and 6 essential fats.

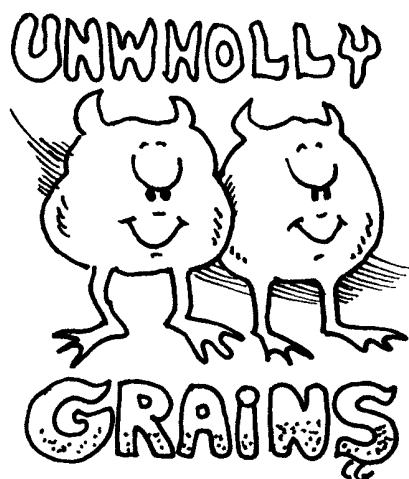
While I chose mackerel to illustrate the diet, other fatty fish such as salmon, herring, or sardines would serve just as well.



(It should be noted that my imaginary diet was not too far from that in a study of Japanese fishermen in a coastal village who ate about 9 ounces of fish most days of their lives, got about 5 grams of EPA and DHA, and had excellent health!)

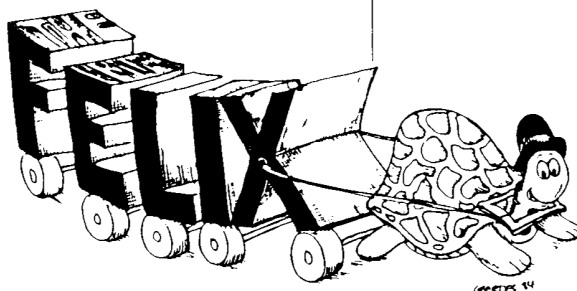
As a point of interest, if the 12 ounces of fatty fish are replaced by an equal amount of *medium fat beef* (providing the same amount of protein — 90 grams, but almost twice as much fat — 65 grams compared with 34 grams, and 380 more calories!), and the remaining fibrous foods reduced to offset the extra calories, *the caloric contribution from fat would jump to 43 percent.*

Though beef has almost no Omega 3's and very few Omega 6's, it's become a staple, replacing traditionally eaten better sources such as fish, beans, mutton, fowl, pork, and game.



Losing the Protection

The only protective Omega 3's in the theoretical diet if beef were substituted for fish would come from the oils and small amounts in vegetables and grains. If the oils were peanut, safflower, corn, or any typical commercial oil providing only Omega 6's, instead of codliver oil, linseed, or walnut, there would be only trace amounts of Omega 3's. This is standard in the U.S. today.



Recall that BOTH Omega 3's and 6's are directly involved in "packaging" cholesterol to ferry it safely through the blood. Balanced activities of prostaglandins from BOTH fatty acid families are needed to lessen plaque, clots, and spasms in our arteries, and to keep blood pressure normal. Without the tempering effect of Omega 3's, runaway production of certain Omega 6 prostaglandins may bring on, rather than prevent these dangerous problems (and many more).

Years of eating large amounts regularly of fatty meat and fatty dairy foods — the hallmark of prosperous western cultures — yet not getting enough Omega 3's, along with skimping on natural sources of the vitamins, minerals, and fiber needed to handle the fats providently, are an invitation to trouble — which is what we've got a lot of!

Nutrients to Make Fat Safe

The need for vitamins, mineral, and fiber is intertwined with fat intake. We need them for emulsification and digestion of fats, safe passage of bile acids through the intestines, and proper transport of fats and cholesterol from blood to tissues. Once fats reach our cells, vitamins and minerals are the catalysts that turn fats into important body components, or burn them for energy. Vitamins and minerals keep unsaturated fats in our cells from getting rancid. We need vitamins and minerals to make prostaglandins from Omega 3's and 6's.

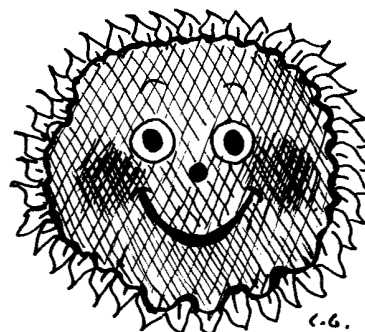
The higher the fat and oil content of diet, the more we may have to rely on supplemental amounts of vitamin E, vitamin C, and the mineral selenium to "defuse" attacks on the fatty acids in our membranes by free radicals and

other harmful products of cell metabolism, as well as by radiation and chemicals from the environment. *Modest supplemental amounts of B vitamins and zinc* also may help to metabolize fats. *Lecithin* is another useful supplement.

My own approach is to take supplements of these nutrients regularly, for I have seen their use in a wide group of friends and associates connected with far fewer heart attacks, cancer, arthritis, and so on. I say with conviction, however, they *work as an adjunct to, not a substitute for, the good foods I've been stressing that are natural sources of these and many other valuable nutrients, and of fiber besides.*

Incidentally, almost everything I've said about the role of nutrients in processing *fats*, from the first bite to the ultimate cellular products, is also true for the handling of dietary *proteins*, which we have to break down to amino acids and then rebuild to suit our cellular needs for thousands of different proteins.

A "traditional baseline evolutionary diet," using Rudin's term, keeps us healthy by providing ALL the nutrients required by the fatty acids and amino acids so they can do their job of building, renewing, and running our bodies.



Good Omega 3 Foods

Getting down to brass tacks, these are some of the best food sources of the missing Omega 3's:

FOR EPA AND DHA, THE ULTRA-POLYUNSATURATED OMEGA 3'S:

Fish, the fatter the better.

Herring, mackerel, salmon, sardines, tuna, carp, mullet, pilchard, Greenland halibut, sprat, trout and sable fish are among the best known fattier fish.

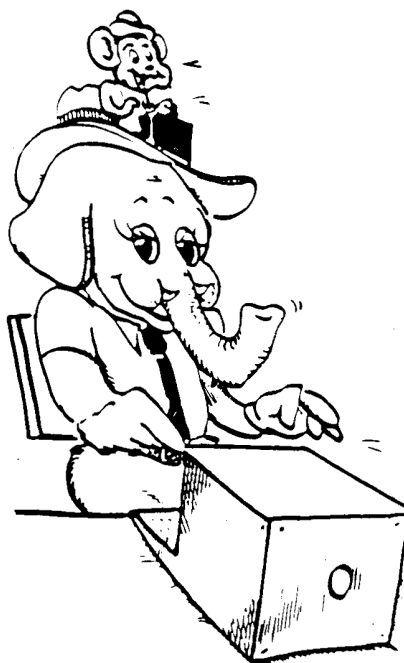
Canned sardines and salmon can be used liberally (not smoked), but you may want to rinse them quickly with cold water to remove some of the salt and packing oils.

Fish oils (codliver, salmon, etc.).

Shellfish: they don't have much fat, but it's loaded with EPA and DHA.

Egg yolk has some DHA.

Fresh (not dried) kelp and other edible sea vegetables.



SOURCES OF PRIMARY OMEGA 3, ALPHA-LINOLENIC:

Flaxseeds: I've found that small amounts blend nicely into soups, stews, blender drinks, cereals, and home-baked goods. Sprinkle them on salads or add them to yogurt-fruit dishes.

Walnuts: most of the commonly eaten nuts and seeds are good sources mainly of Omega 6, but flaxseed and walnuts have lots of both essential fats.

Wheat germ.

Beans: soy, kidney, navy, pinto, and red.

Green leafy vegetables have a little.

Butter, cream, and natural cheeses have a tiny bit of Omega 3.

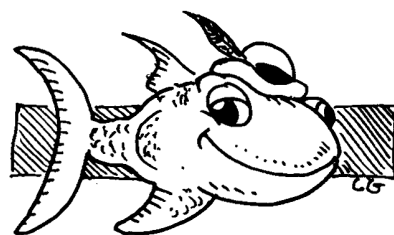
Poultry fat and homemade lard do also.

Vegetables oils: linseed, walnut, wheat germ, and non-hydrogenated soy. Switch to these as your standard oils for cooking, baking, and salads, experimenting with ways of combining small amounts of the strong-flavored ones with the milder tasting ones.

Make "linseed butter": Mix a few tablespoons of linseed oil into a cube of softened butter — the linseed flavor will disappear! Buy these oils in small amounts, **keep them refrigerated**, and don't keep them too long. They have more unsaturated bonds which oxidize easily.

USE ALL OILS SPARINGLY, unless in a specific therapeutic program under the guidance of health professionals. *This, of course, goes for the fish oils, too.*

VEGETARIANS PLEASE NOTE: You may need a bit more of the seed oils than those who eat fish, as the oils will probably be a major source of Omega 3's.



Back to the questions asked at the beginning of our report in Issue 20: **Full-fat dairy products** are important for young children, and safe for healthy adults who consume a few cups of milk or yogurt, several ounces of cheese, and a little butter in a day. Much beyond that, saturated fats and calories add up fast, and prudence should be used. **Organ meats**, cholesterol and all, are old friends of man, prized for their nutrients which far exceed those in muscle meats. As with meat generally, modest or occasional use is recommended by a lot of nutrition workers. **Shellfish** are now considered okay even by some conservative doctors who are saying cholesterol content is more than compensated for by their low-fat, high-nutrient qualities.

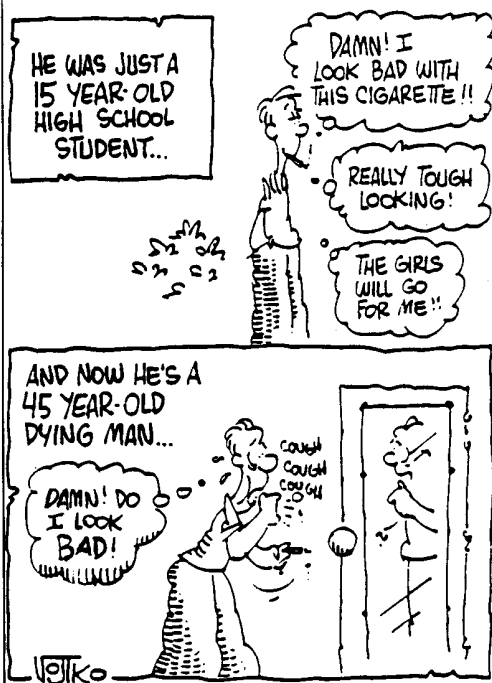
Margarine: STAY AWAY FROM ANYTHING MADE FROM PARTLY OR FULLY HYDROGENATED OILS. This includes all vegetable shortenings and margarine. **Most packaged baked goods are made with them. Read labels and be wary.** A few **trans-fatty acids** won't kill us, but many folks have been eating them all their lives and the time to stop is now. The term "polyunsaturated" when used with margarines is misleading.



Salad oils: Most commercial oils have been partly hydrogenated to get rid of Omega 3's, and as a result contain little or no Omega 3's and lots of *trans*-fatty acids (about 17%). Avoid them wherever possible. Olive oil and sesame oil, while very low in Omega 3's, are usually non-hydrogenated. Their use also is rooted in tradition in many Mediterranean and middle-eastern countries, so they may have something going for them. Again, modest use is recommended.

A few additional don't's: The high heat of frying causes breakdown of a percentage of oil into noxious forms that are shown experimentally to increase cancers. Repeated frying of foods in the same oil, as in fast-food places or in packaged fried foods, causes a big increase in these dangerous particles. Best to avoid making such foods a big part of your life.

Butter, poultry fat, and home-made (unhydrogenated) lard are safer than commercial fats and oils, since they are produced from churning or by simple rendering, not chemical hydrogenation. They also have a long tradition of use.



All fats and oils, please remember, add up quickly in grams of pure fat content which provide 9 calories per gram. *Less energy is required to convert fat in foods to fat in our adipose cells* than either protein foods or carbohydrates. That's great, if you're among the lucky .03 percent who need to fill out.

If we are embarking on a program to replenish our Omega 3's by eating fatty fish liberally and adding fish oil and/or linseed oil on a regular basis, I believe it wiser to cut down on other sources of fats or oils. *The liver has the major job of handling fats* — taking them apart, putting them together, and sending them on their way. Giving the liver a heavy burden, and also having to cope with extra bile acids in our intestinal tract (as noted in Part 1), are some of the ways we pay for a high-fat diet. Getting fat is another one. Let's be careful out there!

New Paths

As I survey the current literature, I'm fully aware conservative medical and nutrition bodies are a long way off from accepting the need to increase regular intake of Omega 3's, the well-worn dictum being there is NO possibility on a "balanced" diet of incurring [in this best of all best-fed lands!] a deficiency of these fatty acids. Although I've noted an encouraging trend in the medical journals to push fish consumption, it may be years before official blessings are given to a "new" save-the-heart campaign incorporating the principles Rudin and others are developing.

In the interim, all of us will have to embark on an experimental voyage, using rudders and compasses derived from our knowledge of primitive and ancestral diets, anecdotal information (the people-to-people grapevine!), and good counsel by the advanced thinkers in the biomedical and nutrition community.



As far as I'm concerned, the most important nutrition information today is that we can directly influence our bodies to produce the kinds of prostaglandins that promote health (of the heart, immune system, brain, etc.) **BY THE FATTY ACIDS WE CHOOSE TO EAT.** Since studies show the turnover in many tissues of these essential fatty acids to be a dynamic and rapid process, I'd say it's worth the little time and effort it takes to select the best building materials for the job of restoring a great structure: the architecture of our cellular system! ■



Illustrations are by Clay Geerdes and other artists as noted.

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