HEALTH AND STRESS

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IGNORE THE EXPERTS AND EAT MORE MEAT AND FAT?

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This might sound like heresy to many but there is good evidence that decades of dietary guidelines urging fat restriction have boomeranged and are largely responsible for the current epidemic of obesity and Type 2 diabetes. While Americans are also eating more and increased caloric intake and sedentary lifestyles have undoubtedly contributed to these problems, not all calories are created equal. Where they come from may play a crucial role.

A gram of fat does contain twice as many calories as an equivalent amount of carbohydrate or protein but the notion that increased fat intake leads to obesity is a modem myth. Many authorities now agree that it is not fat, but carbohydrates that are the culprit, particularly those found in soft drinks, pasta, bread, bagels, cookies, crackers and other bakery items. When these are consumed in excess, the prompt resultant rise in blood sugar stimulates the secretion of insulin that causes the liver to convert any extra glucose into fat stores.

Up until a half century ago, it was generally believed that fat and protein protected against overeating by making people feel full fairly rapidly. In contrast, carbohydrates don't provide this sense of satiety, leading to increased consumption and weight gain. Ancel Keys was largely responsible for changing our eating habits because of his mistaken theory that dietary fat resulted in an increase in blood cholesterol that in turn was what caused heart attacks. Keys became famous in the 1950's for demonstrating a direct correlation between saturated fat intake and coronary death rates in seven countries he had arbitrarily selected. As noted in a prior Newsletter, this was not exactly honest since he had complete data from 8 additional countries that he conveniently decided to ignore. **Had he picked seven others, he would have concluded that a high saturated fat diet actually protected against coronary disease.**

Nevertheless, in 1977, a US Senate committee published its *Dietary Goals For The United States* advising Americans to drastically curb their fat intake to prevent an

ALSO INCLUDED IN THIS ISSUE

epidemic of "killer diseases" that was supposedly sweeping the country. This, despite the fact that testimony before the committee by leading experts on cholesterol metabolism protested that there was no scientific evidence to support such a stringent suggestion. People responded to low fat diets differently and there was no way to predict who might be helped and who would be harmed.

The High Fat → Heart Disease Fable

The American Heart Association quickly jumped on the low fat bandwagon by calling cholesterol a "killer" and promoting their "prudent diet" program designed to convince the public to reduce dietary fat intake as much as possible. The National Institutes of Health (NIH) joined the battle in 1984 by strongly urging that everyone over the age of two should avoid fat. **It subsequently spent several hundred million dollars in a vain attempt to demonstrate any connection between eating fat and coronary heart disease.**

In 1988, the Surgeon General's office announced that it would shortly be publishing a conclusive report proving the health hazards of fat consumption. Nothing appeared. Eleven years and four project officers later this definitive document was still not available. When queried about this, an official quietly admitted it was abandoned because "it had been initiated with a preconceived opinion of the conclusions, but on investigation the science behind those conclusions was nowhere near as solid as it was expected to be". **How could such a costly mistake have been made? Why does this myth persist despite overwhelming contradictory evidence?**

While much of this has been discussed in prior Newsletters, it deserves reemphasis in view of criticisms of Gary Taubes' excellent exposé in a *New York Times* article entitled "What If It's All Been A Big Fat Lie?" As he noted, although the NIH spent a fortune on five major studies that found no link between fat and heart disease, a sixth study that cost well over $100 million did conclude that lowering cholesterol with drugs could reduce coronary mortality. In a last gasp effort to save face and justify their untenable position, NIH administrators reasoned that if a cholesterol-lowering drug could reduce risk of heart attack then severe fat restriction should also lower blood cholesterol and have a similar effect.

This, despite the fact that all the evidence that existed failed to support this notion and most studies came to the opposite conclusion. The Framingham Heart Study (largely responsible for establishing smoking, hypertension and cholesterol as major risk factors for coronary disease) is often cited as proof of the lipid hypothesis. It began in 1948 and two groups were compared at five-year intervals - those who consumed little cholesterol and saturated fat and those who consumed large amounts. In 1988, the director of the study admitted that "In Framingham, Mass, the more saturated fat one ate, the more cholesterol one ate, the more calories one ate, the lower the person's serum cholesterol. We found that the **people who ate the most cholesterol, ate the most saturated fat, ate the most calories, weighed the least**."

While the study did show that those who weighed more and had abnormally high blood cholesterol levels were slightly more at risk for future heart disease; **weight gain and cholesterol levels were inversely correlated with dietary fat and cholesterol consumption. The public was never informed of this**.

Similarly, in a British study involving several thousand men, half were asked to reduce intake of saturated fat and cholesterol, to stop smoking and to increase the amounts of unsaturated oils in their diet. After one year, **those on the "good" diet had 100% more deaths despite the fact that men on the "bad" diet continued to smoke**!

The author conveniently ignored these results in his politically correct conclusion, which stated that, "The implication for public health policy in the U.K. is that a preventive program such as we evaluated in this trial is probably effective." Back in the U.S., the NIH sponsored $128 million 7-year Multiple Risk Factor Intervention Trial (MRFIT) that established Type A Behavior as significant a risk factor for coronary heart disease as cholesterol, smoking and hypertension, also compared mortality rates and eating habits of over 12,000 men. Those with "good"

dietary and other habits (reduced saturated fat, cholesterol and cigarette consumption) showed a slight reduction in deaths due to coronary disease.

However, total mortality rates were higher! The few studies that did find some correlation between dietary fat reduction and a decrease in coronary deaths similarly reported a concurrent increase in total mortality rates. This same pattern also held true for trials with cholesterol-lowering drugs until the advent of the statins. **Coronary deaths may have been reduced but were more than offset by mortality from cancer and other causes.** This information has also been skillfully suppressed.

The cholesterol campaign's attempt to find support from epidemiological studies has also backfired, such as the claim that the reason the Japanese have the longest life span of any nation is due to a low fat diet. Although their average diet is low in dairy products, it contains moderate amounts of animal fats from eggs, pork, chicken, beef, seafood and organ meats. Together with shellfish and fish broth that are often a daily staple, the Japanese probably consume more cholesterol than most Americans do. **In Okinawa, where the average life span for women is 84 years, inhabitants eat large amounts of pork and seafood and do all their cooking in lard.**

Low fat diet fanatics never mention this or the fact that Japanese longevity has increased since World War II despite a steady rise in animal fat and protein intake. They also ignore the fact that the Swiss live almost as long on one of the fattiest diets in the world. Tied for third are Austria and Greece - both of which have high-fat diets.

Numerous other contradictory epidemiological observations were also ignored, such as:

- Jews living in Yemen, whose diets contained fats solely of animal origin and no sugar, had little heart disease or diabetes. Yemenite Jews transplanted to Israel, who consumed margarine and vegetable oils and sugar in amounts that were 25-30% of carbohydrate intake had high levels of both heart disease and diabetes.
- Although people in northern India consume 17 times more animal fat than those in southern India, their incidence of coronary heart disease is seven times lower.
- The African Masai subsist largely on milk and beef but coronary disease is rare and cholesterol levels tend to be low normal.
- Inhabitants of Crete have low rates of heart disease even though highly saturated fat from lamb, sausage and goat cheese accounts for up to 70% of their caloric intake.
- Eskimos who eat liberal amounts of fats from fish and marine animals are similarly relatively free from coronary disease.
- An extensive study throughout China found that those living in regions where large amounts of whole milk were consumed had half the rate of heart disease compared to others in districts with small amounts of dietary intake from animals.
- A study of the very elderly inhabitants of Soviet Georgia revealed that those who ate the most fatty meat also lived the longest.

Finally, although the French consume very large amounts of butter, eggs, cheese, cream, liver, meats and patés loaded with saturated fats, their coronary mortality rates are much lower than ours. One report found that 315 of every 100,000 middle-aged men in the U.S. died of heart attacks each year compared to only 145 in France. In Lyon and the Gascony region of France, where saturated fat intake is unusually high because of increased consumption of goose and duck liver, the death rate from coronary disease fell to an amazingly low rate of 80 per 100,000 middle-aged men. These cardioprotective benefits will likely vanish as fast food franchises infiltrate the country and dietary habits become "Americanized".

The American Low Fat Diet Fiasco

The defamation of dietary fat and the continued condemnation of cholesterol as the cause of coronary disease spawned an entirely new food industry to create fat substitutes. There were millions to be made from low fat and no cholesterol foods and some 15,000 different such substitutes were aggressively promoted for salad dressings,

butter, margarine, cheeses, frozen desserts, yogurt, cakes, cookies and other baked goods. The problem was that removing the fat required that it be replaced with something that would be equally pleasurable to the palate and nutritious.

Fats and oils makes foods smell and taste good because they supply structure, carry scents and aromas and in addition, release the flavors of other ingredients. A food's softness, chewiness and creaminess is largely determined by its content of fat, which reacts with other constituents to develop and mold texture, and the overall sensation of lubricity in the mouth. Fats contribute sheen, gloss and surface appearance that increase the attractiveness of snacks, crackers, confections and fried foods and we are also tempted by the palatability they provide. Fats also provide a concentrated source of energy and reduce feelings of hunger much more rapidly than carbohydrate and proteins.

More importantly, dietary fat supplies essential fatty acids that the body needs but cannot make on its own. Omega-3 and Omega-6 fatty acids have been shown to decrease the incidence of coronary heart disease and Omega-3 provides numerous other benefits as indicated in prior Newsletters. Fatty foods carry vitamins A, D, E and K, that we also require, which are not soluble in water

When manufacturers tried to remove fats from foods, they soon found out that it was very difficult to find an alternative to replace them without disastrous effects on taste and texture. In most instances, some sort of syrupy sugar was utilized, such as high fructose corn syrup. Although the sweetness was helpful to improve the taste of some products it was inappropriate for others and the nutritional benefits that fats provided were absent.

The first fat substitute was olestra (Olean), but it took 25 years and cost $200 million before it was finally approved in 1996. It was initially tried on salty snack foods like potato and Frito-Lay chips to disguise its taste, with mixed reviews. Initial enthusiasm was dampened because of gastrointestinal side effects, including diarrhea, loose stools, nausea, gas, fecal urgency and underwear staining.

There were also health concerns, since olestra is highly effective in reducing serum levels of fat-soluble vitamins A, D, E and K, which could cause problems for patients with osteoporosis, or taking anticoagulants. In clinical trials, olestra caused a prompt drop of over 50% in blood levels of beta-carotene, lutein, and lycopene and other carotenoids shown to prevent the development of macular degeneration and malignancies of the lung, esophagus, pharynx, mouth, stomach, colon, rectum, and bladder. **In long-term animal studies, possible precancerous lesions were seen in the liver of rats, and lung tumors were found in mice. Public interest groups have long petitioned the FDA to ban olestra and Canada did this several months ago.**

The lipid hypothesis dogma was also a windfall for pharmaceutical companies. In addition to highly profitable cholesterol-lowering drugs, the FDA approved the fat blocker xenical (Orlistat) in 1999. It reduces fat absorption by about a third but has many of the same gastrointestinal side effects of olestra, lowers fat soluble vitamin levels, interferes with certain drugs like cyclosporine, can aggravate gall bladder and kidney problems and should be avoided during pregnancy or breast-feeding.

Sales rose following reports that a high saturated fat diet raised risk of breast cancer by increasing estrogen production. However, a recent study found just the opposite. Postmenopausal women on low fat diets had the highest estrogen levels and hormone levels fell as fat consumption increased. Other claims that saturated fat caused endometrial, colon and prostate cancer have also not been substantiated. While Puerto Ricans consume large amounts of animal fat they have a very low incidence of colon and breast malignancies.

The Dilapidation Of The Food Pyramid

In its infinite wisdom (or lack of it) the government decided to tell us what types of food we should eat or avoid and how much of each by constructing a "Food Pyramid". This arbitrary guide essentially instructed everyone to eat more carbohydrates and less fat and has been accepted as gospel for the past decade, despite the objections of some

authorities to this "one size fits all" approach. The needs of infants are different from those of senior citizens and the same holds true for a burly laborer compared to a slender, sedentary female doing data entry on a computer.

More recently, other cracks in the Food Pyramid's shaky foundation have surfaced with mounting evidence that current recommendations have contributed to health problems rather than prevented them. Some critics seem incensed, as evidence by the following excerpts from a CNN television show that interviewed Dan Glickman, former Secretary of Agriculture.

"*CNN*: Mr. Secretary, when the tobacco industry executives apparently misled the country by saying tobacco was not addictive, people were outraged. Here we have the federal government, specifically the U.S. Department of Agriculture which you used to head, telling the population for many years now that they ought to eat more carbohydrates. **Now it turns out more carbohydrates make you fat. .... Doesn't the federal government have a lot to apologize for?**

GLICKMAN: Well, first of all, obesity is probably the biggest public health problem we face today. But what the government was saying was eat less fats and eat less sweets and eat more carbohydrates, which [are mainly] fruits, vegetables and grains. What we are now learning from modem science is the government needed to be more sophisticated, and it should have said eat more complex carbohydrates like whole grains and not breads and potatoes and other kinds of things that might make you fatter. So what's happened is that as we do more science, we're learning more. And that food guide pyramid, which is pretty good, could be made better by better science.

CNN: Well, it's quite an oversight, I have to say, because of course being the federal government, I respect it. I take it pretty seriously, pretty literally, which is one of the reasons that I eat chocolate chip Pop Tarts. You can see on the chocolate chip Pop Tarts container. It says — it has the food pyramid, bread and cereal group — six to 11 servings a day. The government is essentially ordering you to eat chocolate chip Pop Tarts. There's something wrong with that.

GLICKMAN: I doubt it. Although you look pretty good. I have to say you must have a good metabolism rate. But the fact of the matter is that what the government was trying to do is to get people to eat less sweets and less fats, and now we're learning that while breads and cereals may be OK, they're really good if they're whole grain and they're not refined. And that's basically what the new diet folks are saying — that we need to be more sophisticated. Don't just say eat breads and cereals, but you eat whole grains that have fiber in them, and that will tend to keep your weight down some. **All of this is in a vast degree of change right now. We're learning a lot about diet that we didn't know before. Things we thought were true 10, 20 and 30 years ago may not be true anymore. The most important thing about diet is common sense. That is eat less calories and exercise more**, and I don't think the government needs to tell people that."

Although the Food Pyramid is due to be revised, it is not clear what the new recommendations will be. The government has already released altered guidelines for children that "de-emphasizes" fat restriction to acknowledge the important role of fat in early growth and development. Tufts researchers have also published their own pyramid for senior citizens, whose nutritional needs also differ. This guide has a brand new base of eight 8-ounce glasses of water. The elderly have a reduced thirst mechanism and have to consciously think of drinking more, especially if they live in warm climates. There is also a new supplement "flag" at the peak because most don't get sufficient amounts of calcium, vitamin B-12 and vitamin D from their diets.

All Fats Are Not Created Equal

Statements and conclusions about the consequences of fat consumption have little significance unless you define the type of fat you are referring to. Despite the government's campaign to restrict dietary fat as much as possible to prevent coronary disease and cancer, it is clear that this is based on speculation rather than science. It is also counter intuitive, since nutritionally rich butter, beef and lamb

tallow, chicken, goose and duck fat, olive, palm, coconut, sesame and marine oils have nourished different cultures for thousands of years.

I forgot to mention lard, which is anathema to the cholesterol conscious and is also viewed by many others as the epitome of 'bad" fat. While admittedly not very appealing or appetizing, **the chances are that your ancestors cooked with lard extensively and were well aware of its health benefits**, especially if they were from Japan, Italy, Greece or other countries bordering the Mediterranean.

Fats and fatty acids are often classified as:

- **Saturated** - These are fats whose carbon bonds are saturated because they are filled with hydrogen atoms. They are found mainly in animal products and certain tropical oils and are viewed as particularly unhealthy by low cholesterol proponents. They tend to be stable and not become rancid, even when heated and most are solid or semisolid fat at room temperature.
- **Polyunsaturated** - Refers to fatty acids that have two or more pairs of double bonds lacking a hydrogen atom. The two most frequently found in foods are linolenic acid derivatives having either two or three unsaturated bonds and are labeled omega-6 or omega-3 fatty acids depending on the position of the first double bond. They are not only healthy, but are referred to as "essential" fatty acids because the body requires them and is unable to make them. Polyunsaturated fats are found in fish, soybean, safflower and other plant oils. They are highly reactive, go rancid readily, are liquid even when refrigerated and should not be heated or used in cooking.
- **Monounsaturated** - refers to fats with a double bond consisting of two carbon atoms so that they lack two hydrogen atoms. The most common dietary source of monounsaturated fat is oleic acid, a major component of olive oil and it is also found in almonds, pecans, cashews and other nuts as well as avocados. In addition, the body can make monounsaturated fats from saturated fats to use for different purposes. Monounsaturated fats are fairly stable and tend to be liquid at room temperature.

However, it's not that simple. Fatty acids are the building blocks of fat and most foods contain varying combinations of the above. Essential omega-3 fatty acids provide numerous health benefits but at least 60% of Americans have deficient blood levels. Omega-6 is also essential but blocks the actions of Omega-3 so that increased consumption of foods and oils with high Omega-6 concentrations can do more harm than good. We are urged to avoid meat because it contains saturated fat that allegedly raises cholesterol. The fact is that over half of the fat in a broiled porterhouse steak is monounsaturated, 90% of which is oleic acid, the same healthy fatty acid found in olive oil that lowers cholesterol. Saturated fat constitutes 45% of the total fat, but a third of that is stearic acid that raises "good" HDL as well as "bad" LDL and the remainder are polyunsaturated fats that also improve cholesterol.

The bottom line is that more than two thirds of the fat in a porterhouse steak will improve your cholesterol profile much more than consuming an equal amount of bread, potatoes, or pasta. According to the lipid hypothesis, eating steak would presumably reduce your risk for heart disease and so could lard. As Gary Taubes noted in his *New York Times* article "**If you work out the numbers, you come to the surreal conclusion that you can eat lard straight from the can and conceivably reduce your risk of heart disease.**"

About the only things everyone agrees on is that olive oil is healthy and that artificial "trans-fats" are very unhealthy, for numerous reasons that will be explained shortly.

Carbohydrates Can Also Be Confusing

Not all carbohydrates are created equal either, and it is unfortunate that food packaging and labels lump them all together.

They can be divided into three groups depending on their composition (monosaccharides, disaccharides and polysaccharides) but are commonly classified in terms of five main food categories:

- *Fruits* - including all with or without rind.
- *Vegetables* - all leafy greens, orange and non-orange fleshed varieties, root vegetables, tubers, legumes, and herbs but not starchy foods like peas and corn.
- *Starches* - includes potatoes, grains like rice, millet, wheat, corn, barley, bran but not non-starchy grains such as oats, man-made products (bread and pasta) and most beans.
- *Non-starch/Low Glycemic* - which include things such as whole rolled oats, black beans, yams, and a few foods that don't quite conform to other category standards.
- *Sugars* - includes foods like refined white sugar, brown sugar, corn syrup, high fructose corn syrup, fructose, barley malt, maltodextrin, dextrose, and sucrose.

Monosaccharides like glucose and fructose that are found in fruits and vegetables can not be broken down to a simpler form, whereas sucrose (table sugar), the most popular disaccharide is composed of glucose and fructose. The other most commonly consumed sugar is lactose, a disaccharide found in milk that consists of glucose and galactose. Polysaccharides include substances like cellulose, dextrin, glycogen and starch that can be broken down to yield simple sugars. **While each of these groups is referred to as carbohydrates, they have different effects when ingested.**

All carbohydrates are broken down during digestion to yield sugars that can enter the blood stream. Sucrose is hydrolyzed to deliver glucose and fructose to the liver. Glucose, needed to supply immediate energy, passes through the liver and back into the circulation to cells that require it and any excess is converted and stored in the liver as glycogen. Fructose is also transformed to glycogen in the liver and very little is found in the blood.

When the body needs more energy, the liver converts glycogen back into glucose that is transported via the blood stream to the brain, muscle or other organs. Body cells break down blood glucose into carbon dioxide and water, and energy is released. Glucose blood levels usually rise within 30 to 60 minutes after eating. The pancreas responds by producing insulin, which lowers the blood sugar level by helping glucose enter the cells. Individual carbohydrate foods vary greatly in their effects on blood sugar. Sucrose and even starchy carbohydrates like white bread, produce a very rapid response, while others, such as whole grain pastas, are associated with a slower rise.

The relative rate of blood glucose elevation following ingestion of a food is referred to as its Glycemic Index (GI). Sugar has a GI of 100 and the GI of 97 for white bread signifies that it produces a rise that is 97 per cent of that seen with sugar, in contrast to nuts with a GI of 15, which means the rate of sugar rise is only 15 per cent. An elevation or rapid rise in blood sugar triggers the release of insulin and chronically high insulin levels cause fat storage. **Excess insulin also leads to the insulin resistance seen in Syndrome X, which is associated with increased risk for diabetes, coronary heart disease and hypertension.** Nearly everyone with type 2 diabetes is insulin resistant and at least 25 percent of people with normal glucose tolerance tests are estimated to be severely insulin resistant.

There is compelling evidence that the current epidemics of obesity and diabetes stem from insulin resistance and that excess carbohydrate intake can contribute to this. Some believe that insulin resistance can be reduced by selecting low GI foods like apples (59) and broccoli (23) that are high in fiber, instead of high GI bananas (82) or raisins (91) with relatively little fiber. **In contrast, high fat dairy products protect against insulin resistance.** In one study that followed over 3,000 adults for 10 years, overweight subjects who ate dairy products more than 35 times a week had 72 percent less insulin resistance than those consuming dairy less than 10 times a week.

What's Wrong With The Current American Diet? What Can Be Done To Correct It?

The diet followed by most people in the U.S. now consists largely of processed foods, junk foods and fast foods that have a high content of sodium, sugar and saturated fat. This is a particular problem for children and teenagers who have alarming rates of obesity and are increasingly developing what used to called "adult onset" diabetes. A half century ago, the American Medical Association expressed concern about sweetened carbonated beverages, candy, and other foods rich in sugar but poor in nutrients and urged that "all practical means be taken to limit consumption" of such foods. Since then, soft drink consumption has increased about seven-fold and overall sugar consumption has increased by one-third. **Twenty years ago, teens consumed almost twice as much milk as soda; today they consume twice as much soda as milk.** Added sugars found largely in junk foods such as cakes, and cookies as well as soft drinks have replaced healthier foods. They now account for 16 percent of the calories consumed by the average American and 20 percent of teenagers' calories compared to only 11 percent two decades ago. Sodas and soft drinks contain about nine teaspoons of sugar per 12-ounce can but the industry has increased the single-serving size from a standard 6-ounce bottle to a 20-ounce bottle. At movie theaters, 7-Eleven stores and some fast food chains, the **most popular size is now the 64-ounce "Double Gulp" containing 48 teaspoons of sugar**. Adolescent and young males are the biggest consumers, averaging almost 2 quarts a day. Several studies have linked soft drink consumption to bone fractures in girls, osteoporosis, stomach erosions, tooth decay, food addictions, eating disorders as well as emotional and neurological disturbances due to caffeine. The industry has begun to market so-called stimulant soft drinks containing higher levels of caffeine, along with other stimulants that led to the death of one 18 year-old athlete in Ireland; some establishments refuse to sell them because of associated increased aggressive and violent behavior. Soft drinks bring in $54 billion/year in the U.S. and billions are spent on advertising, mostly directed to children. A 1999 article stated that "Influencing elementary school students is very important to soft drink marketers" and Coca-Cola's goal was to increase consumption by at least 25%/year.

Trans fats, vegetable oils that are hydrogenated in order to solidify them to form margarine and shortening, are particularly dangerous. They are found in pastries, doughnuts, cake mixes, crackers, deep-fried or breaded fast foods and most processed foods, making them almost impossible to avoid. These man-made phantom fats interfere with the function of healthy fatty acids, increase insulin and LDL, lower HDL, and have been linked to heart disease, cancer, immune system dysfunction, sterility, learning disabilities, growth problems and osteoporosis. Because of these harmful effects, their amounts will soon have to be listed on food labels and fast food chains are cutting down on their use. There's plenty more wrong with our diet - so stay tuned!

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Paul J. Rosch, M.D., F.A.C.P.
Editor-in-Chief
www.stress.org
e-mail: stress124@optonline.net