The American Institute of Stress

HEALTH AND STRESS

Your source for science-based stress management information

Volume 27 Issue 3 July 2015

Cholesterol, Dietary Fat & Heart Disease

How Could We Be So WRONG For So LONG

The mission of AIS is to improve the health of the community and the world by setting the standard of excellence of stress management in education, research, clinical care and the workplace. Diverse and inclusive, The American Institute of Stress educates medical practitioners, scientists, health care professionals and the public; conducts research; and provides information, training and techniques to prevent human illness related to stress.

AIS provides a diverse and inclusive environment that fosters intellectual discovery, creates and transmits innovative knowledge, improves human health, and provides leadership to the world on stress related topics.

Your source for science-based stress management information

HEALTH AND STRESS

We value opinions of our readers.

Please feel free to contact us with any comments, suggestions or inquiries. Email: editor@stress.org

Editor In Chief:

Paul J. Rosch, MD, FACP

Associate Editor:

Helen M. Kearney, PhD

Donna Telyczka, B.A. in Psychology

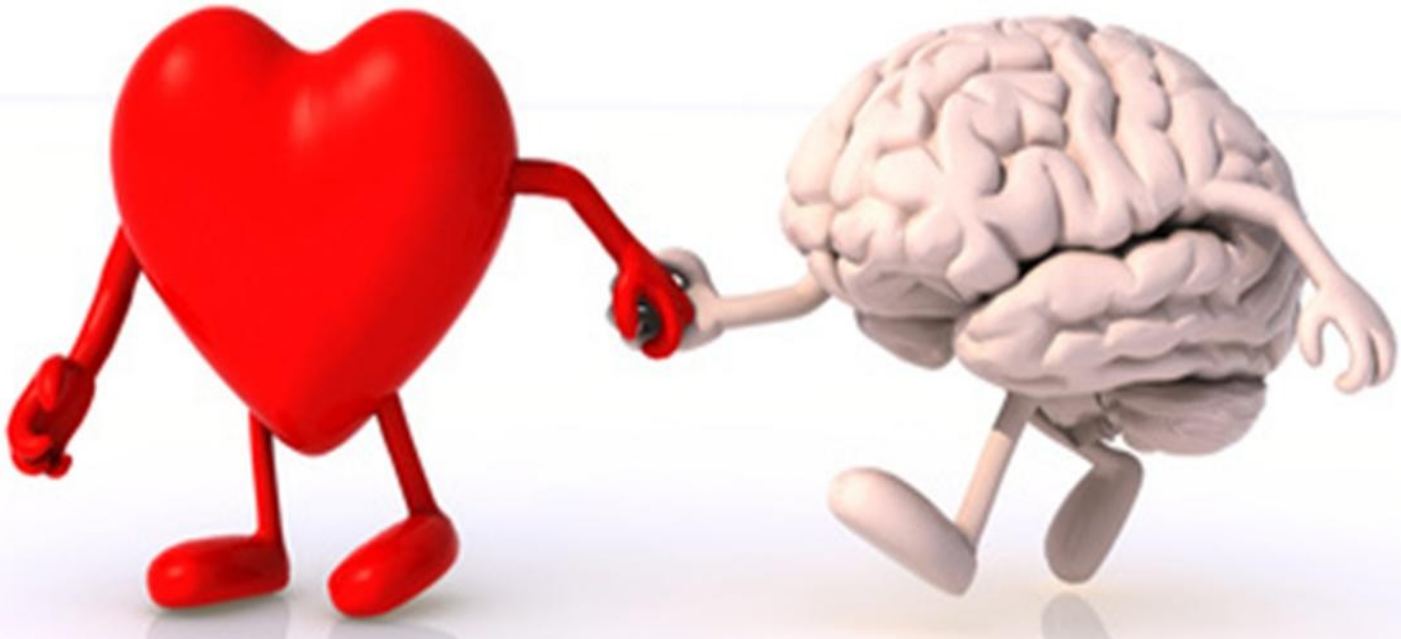
Creative Director: Kellie Marksberry

$20 per issue or $120 annual subscription rate.

Health and Stress is a quarterly magazine published in January, April, July and October, designed exclusively for AIS Members. However, it appeals to all those interested in the myriad and complex interrelationships between health and stress because technical jargon is avoided and it is easy to understand. Health and Stress is archived online at stress.org. Past issues can be purchased in the AIS Marketplace. Information in this publication is carefully compiled to ensure accuracy.

AIS Board of Directors

First we got your brain...

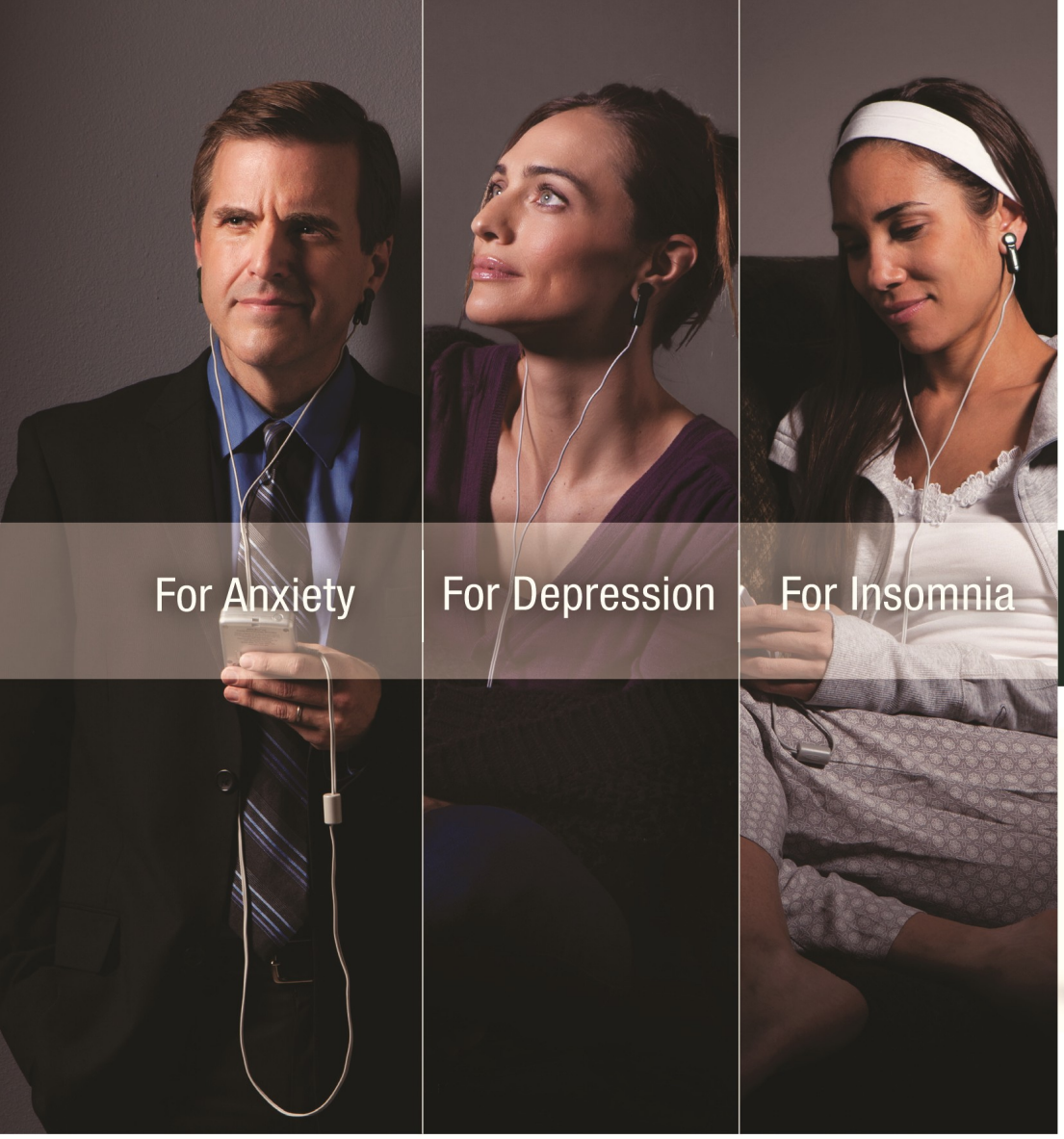


Now we need your heart.

Can we count on you for a dollar?

The American Institute of Stress helps people learn to manage their stress every single day. We help veterans returning from war find a sense of normalcy again. We help students who are stressed about exams, busy schedules and bullies reach their fullest potential. And we help people like you deal with whatever life throws at you! With your ongoing support, we will continue to be there providing people with relief for today and hope for tomorrow.

Click to Donate: Easy!



ALPHA-STIM®

LET NOTHING STOP THEM™.

Alpha-Stim®

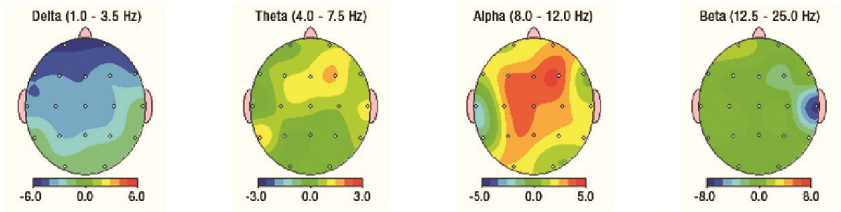
Relieve your patients' symptoms, quickly and safely, with Alpha-Stim®.

The brain functions electrochemically and can be readily modified by electrical intervention. The Alpha-Stim AID delivers Cranial Electrotherapy Stimulation (CES) to improve patients' emotional and psychological states.

- Treatments are cumulative; however, most patients show at least some improvement after the first treatment
- Safe, with no serious adverse events reported in over 30 years of clinical use
- Used as a first-line therapy, or as an adjunct to pharmacotherapy (without polypharmacy effects)

PROVEN RESULTS: Significant Improvement, Quickly, with Lasting Effect

qEEG changes in 30 subjects treated with 20 minutes of Alpha-Stim CES: There is an increase (red) in alpha activity with a simultaneous decrease (blue) in beta and delta.*



HELP FOR YOUR PATIENTS IS HERE.

To get started and to see more clinical data, visit www.Alpha-Stim.com or call 1-800-FOR-PAIN (in USA) or +940-328-0788 (Outside USA).

*Kennerly R. Changes in quantitative EEG and low resolution tomography following cranial electrotherapy stimulation. PhD Dissertation, the University of North Texas. 2006; 529 pp., 81 tables, 233 figures, 171 references.

The Great Cholesterol Myth

Paul J Rosch, MD, FACP

Editor –In –Chief

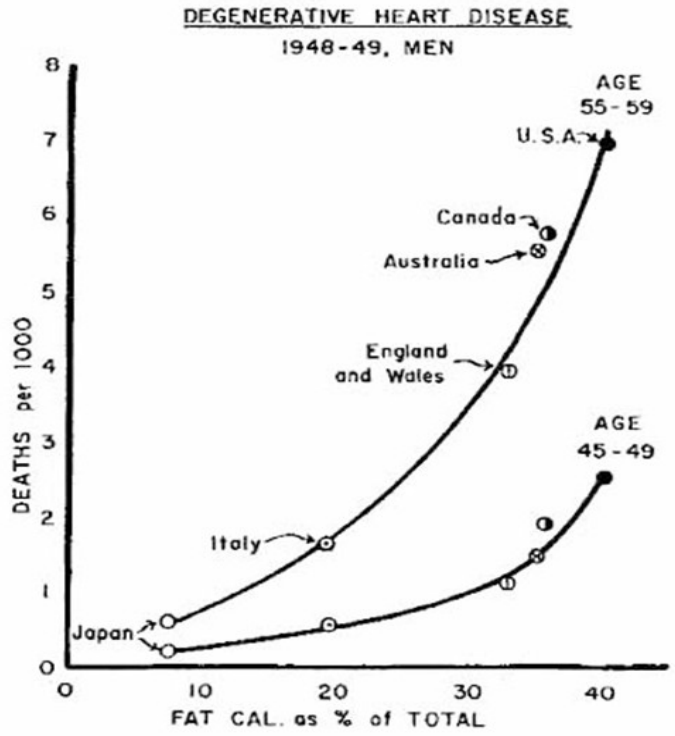
July 2015 AIS Health and Stress
www.stress.org

The widespread belief that dietary cholesterol and saturated fat causes an increase in blood cholesterol that results in coronary atherosclerosis originated over 100 years ago. It was based on experiments showing that when rabbits were force fed purified cholesterol from egg yolks dissolved in sunflower oil for a few months, they developed lipid laden deposits in the inner lining of the aorta. But since rabbits are herbivorous, cholesterol and animals fats are foreign substances that invoke an inflammatory response when eaten. The resultant lipid lesions were also different under the microscope than those seen in human atherosclerosis and none of the rabbits developed heart attacks or coronary atherosclerosis. In addition, these results could not be reproduced in carnivorous animals.

There was not much interest or concern about any of the above since heart attacks were uncommon, and prior to the 1920s, less than 10% of all U.S. deaths were due to heart disease. But by 1950, this had escalated to over 30% as an epidemic of heart attacks was sweeping across the country. Ancel Keys, a nutritionist after whom the "K" rations used by U.S. troops in World War II had been named, was curious about the cause of this outbreak, especially in middle-aged men. In the 1951 UN Food and Agriculture Conference in Rome, he asked the

audience whether this escalation in heart disease might be due to dietary changes and if anything similar had been observed in other countries. A University of Naples professor told him that there was no such increased heart attack problem in his or nearby cities.

Keys visited Naples, where he confirmed that that there was almost no heart disease in anyone under the age of 60. The only exception was a class of wealthy people who ate meat almost daily. The general population ate pasta, vegetables and fruits and meat only once a week. Their cholesterol levels were also lower than the meat eaters. Keys decided to investigate the relationship between fat intake and heart disease deaths by analyzing data from other countries and found a very close correlation in six. The U.S. consumed the most fat and had the highest mortality rates while Japan had the lowest fat intake and death rates as illustrated by the following graph.



This graph is from his 1953 paper "Atherosclerosis: a problem in newer public health" published in the *Journal of Mount Sinai Hospital*. Keys later presented it at a 1955 meeting of the World Health Organization Study Group on Atherosclerosis and Ischemic Heart Disease in Geneva, which included international experts on both of these topics. He proudly and triumphantly, told them, "*No other variable in the role of lifestyle besides fat calories in the diet is known which shows anything like such a consistent relationship to the mortality rate from coronary or degenerative heart disease."*

He was taken aback when several eminent authorities questioned this.

Sir George Pickering, Regius Professor of Medicine at the University of Oxford, asked him, "*If you would be so kind, Professor Keys, what do you consider the single best piece of evidence to support your diet-heart idea?*" Keys responded by discussing how the data in his diagram had been derived, but the experts quickly dismissed these as merely showing some statistical association rather than any cause-effect relationship. An even more devastating blow came in 1957, when Jacob Yerushalmy, a Berkeley statistician and Herman Hilleboe, New York State Commissioner of Health, who had both attended the Geneva meeting, published a paper titled "Fat in the Diet and Mortality from Heart Disease; A Methodologic Note". It criticized the conclusions based solely on six countries while data on 16 others were ignored, as follows, "*Since no information is given by Keys on how or why the six countries were selected, it is necessary to investigate the association between dietary*

FIG. 13 Mortality from Arteriosclerotic and Degenerative Heart Disease and percent of total calories from fat--Males age 55-59, 1950

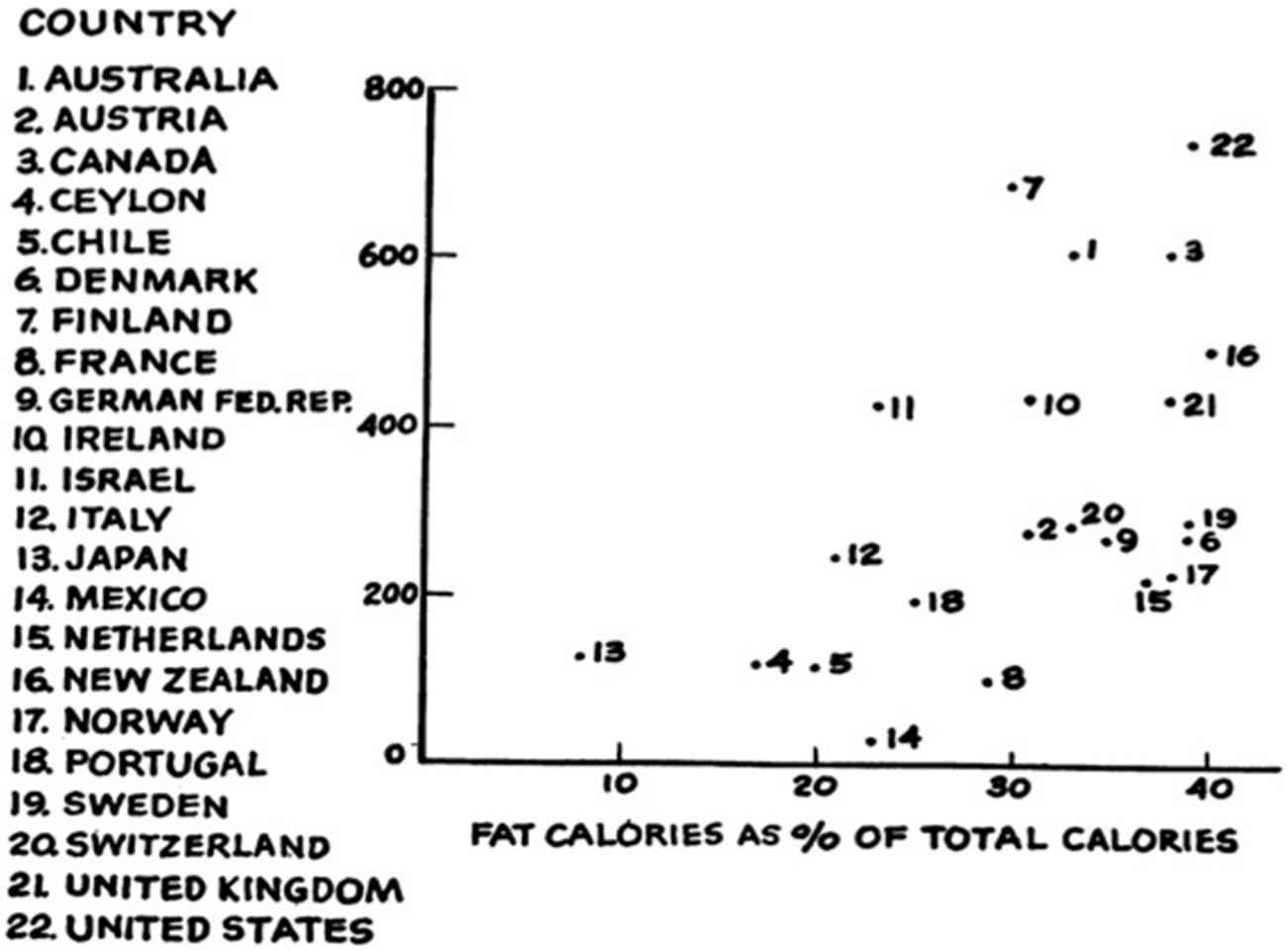


Fig. 13. Yerushalmy, J. and Hilleboe, H. E.[25]

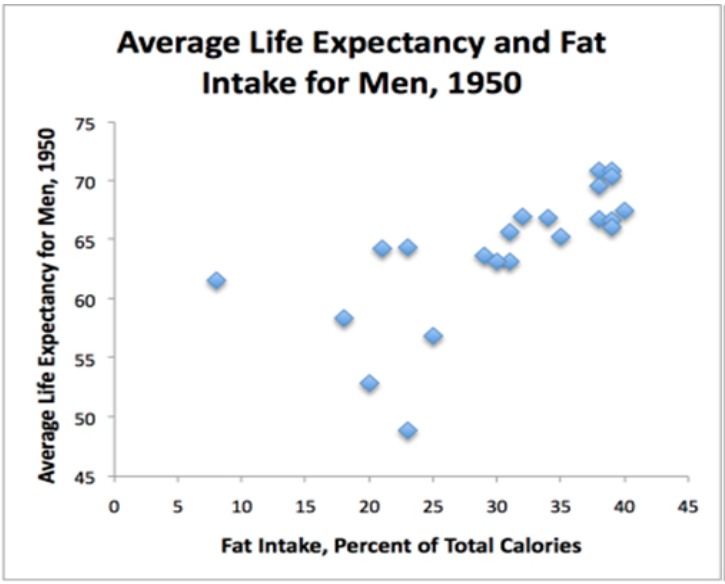
fat and heart disease mortality in all countries for which information is available." After completing this analysis, they reported,

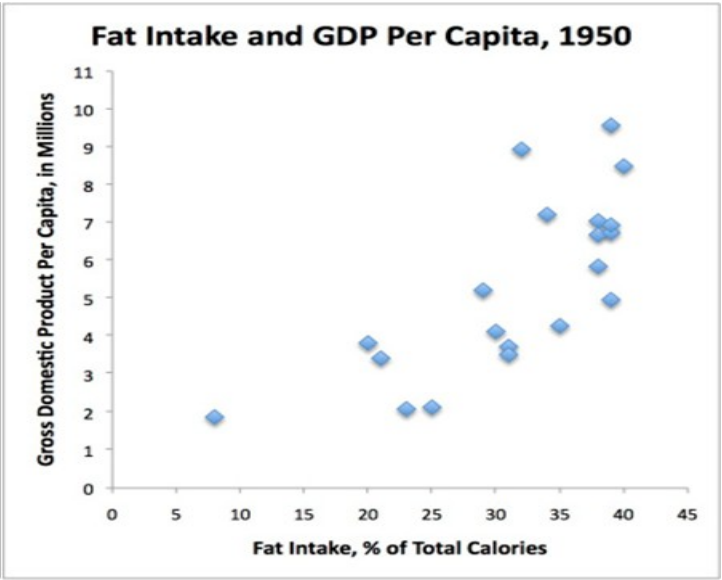
> The evidence from 22 countries for which data are available indicates that the association between the percentage of fat calories available for consumption in the national diets and mortality from arteriosclerotic and degenerative heart disease is not valid; the association is specific neither for dietary fat nor for heart disease mortality. Clearly this tenuous association cannot serve as much support for the hypothesis which impli-

cates fat as an etiologic factor in arteriosclerotic and degenerative heart disease.

How the Low Fat Diet Dogma Originated And Why It Has No Scientific Basis

What they were referring to can be see in their Fig. 13 above showing the correlation between cardiac death rates and fat intake in all 22 countries.





As can be seen above to the right, those countries with the highest fat intake had the widest difference in mortality rates. *The U.S. (#22) consumed the same amount of fat as Norway (#17), but had triple the incidence of deaths from heart disease.* As the subtitle of their paper suggests, Yerushalmy and Hilleboe also criticized the methodology used to estimate fat consumption. All of this information came from UN Food and Agriculture Organization statistics on how much food was available based on production, imports, exports and the proportion of available food used for purposes other than human nutrition. There was no data on how much edible fat was actually consumed because the amount thrown away as scraps or due to spoilage varied. Waste is likely greater in countries like the U.S. that are more affluent. In one survey Americans estimated throwing throw away as much as half of the food produced every year at an average annual cost of $640/household. The government estimate was $900/year. Food wastes cost Americans almost $162 billion, not including the price tag for disposal in landfills that causes a third of all damaging greenhouse gases.

Another criticism was that fat consumption data did not distinguish between saturated, monounsaturated and polyunsaturated fats or artificial partially hydrogenated oils and trans fats that seemed to be associated with different risks for coronary heart disease. When these details were analyzed, it was found that animal protein and saturated fat consumption showed the highest correlation with cardiac deaths, and that fats from plant sources had cardioprotective

or opposite effects. Others pointed out that although Americans ate more fat than the Japanese, they also consumed more sugar and white bread, watched more television and had additional lifestyle habits that could be relevant. *In 1956, the eminent nutritionist John Yudkin emphasized that excess sugar was the major cause of heart attacks.*

As illustrated in the above diagrams from www.rawfoods.com, higher fat consumption was actually associated with longer life expectancy as well as living in a more affluent country. This does not mean that eating a diet high in animal fats is healthier than being a vegetarian. What it does suggest is that people living in wealthier countries or locations with a higher standard of living tend to eat more animal products. But they also consume more industrially processed foods with preservatives and other additives, tend to have better health care, lower rates of infections, less physical exercise and so many other lifestyle influences, that the significance of diet cannot be accurately evaluated.

However, in an attempt to refute these criticisms, Key had already embarked on his Seven Countries Study of close to 13,000 men in the U.S., Europe and Japan. It was designed to demonstrate that higher rates of heart attacks and stroke were related to lifestyle or dietary factors, especially increased fat consumption. After successful pilot studies in Finland, Italy, and Greece in 1956 and 1957, surveys were periodically conducted from 1958 to 1970 in 40 to 59-year-old men in eighteen areas of seven countries (Italy, the Greek Islands of Corfu and Crete, the Netherlands, Yugoslavia, Finland, Japan, and the United States). These sites were selected because of their different dietary patterns and the relative uniformity of physical work activities. Women were not included since coronary disease in middle-aged females was uncommon at the time.

After chemical analysis of foods consumed by randomly selected groups using diet-recall measures, researchers concluded that in societies like Finland and the U.S. where saturated fat was a major component of meals, both blood cholesterol levels and heart-attack rates were much higher. Conversely, the diet in Crete and other Mediterranean cultures, where heart attacks were rare and blood cholesterol was low, tended to be mainly fresh fruit and vegetables, bread, pasta, and large amounts of olive oil. *Crete and Finland were the two countries with the highest fat consumption but Crete had the lowest incidence of heart disease, while Finland had the highest.* Keys concluded that this was because the fat in Finland was largely saturated whereas it was monounsaturated in Crete. The study results published in 1970 were similar to those previously reported, but he now proposed that saturated fat was the culprit and that it caused coronary heart disease because it elevated blood cholesterol.

The problem was that although Keys had data on 22 countries, he again cherry picked those that best supported his theory. He omitted Norway, where fat consumption was high but there was little heart disease, and Chile where the incidence of coronary disease was high despite low fat consumption. *Had he selected Israel, Sweden, Germany and France, he would have concluded that the more saturated fat and cholesterol*

consumed, the lower the incidence of coronary heart disease. Greeks living in Corfu and Crete ate the same amounts of saturated fat but the Cretans had 17 times more deaths from heart attacks. Critics also pointed out that populations with high saturated fat diets often had extremely low rates of heart disease. The Inuit Eskimos lived long healthy lives free of heart disease and cancer despite the fact that 75% of caloric intake was saturated fat from whale meat and blubber. Saturated fat was 66% of total calories for the Maasai in Kenya due to the consumption of large amounts of meat, milk and blood. Yet, heart disease was rare and cholesterol levels were about half those of the average American. Human mother's milk is 54% saturated fat but is considered healthy rather than dangerous.

Keys was severely criticized by authorities such as Russell Smith, a psychologist with a strong background in mathematics and physiology. He meticulously reviewed over 2,000 studies on the links between dietary fat, cholesterol and heart disease and came to this conclusion.

> The word "landmark" has often been used to describe Ancel Keys Seven Countries Study, commonly cited as proof that the American diet is atherogenic. The dietary assessment methodology was highly inconsistent across cohorts and thoroughly suspect. In addition, careful examination of the death rates and associations between diet and death rates reveal a massive set of inconsistencies and contradictions. . . . It is almost inconceivable that the Seven Countries study was performed with such scientific abandon. It is also dumbfounding how the NHLBI/AHA alliance ignored such sloppiness in their many "rave reviews" of the study. . . . . In summary, the diet-CHD relationship reported for the Seven Countries study cannot be taken seriously by the objective and critical scientist.

Why Fat Restriction Became Official U.S. Policy Despite Lack Of Any Benefits

So when and why did reducing cholesterol by restricting fat intake and/or administering cholesterol lowering drugs become official U.S. government policy? The U.S. Senate Select Committee on Nutrition and Human Needs chaired by Senator George McGovern was established in 1968 to study the problem of malnutrition. In 1974, McGovern expanded the Committee's scope to include national nutrition policy and the focus shifted from malnutrition to overeating, especially fats. Their 1977 report, *Dietary Goals for the United States*, was based on the belief that eliminating fat would lower cholesterol and reverse the rising incidence of heart disease. It was strongly influenced by the food industry, and was written by Nick Mottern, a former labor reporter for *The Providence Journal* with *no scientific background and no experience writing about science, nutrition, or health.* He relied heavily on Mark Hegsted, Professor of Nutrition at Harvard Medical School, who maintained

that saturated fats elevated harmful cholesterol levels, and should be replaced by monounsaturated and polyunsaturated fats that could have beneficial effects.

Mottern, a strict vegan who believed saturated fat was as dangerous as cigarettes, urged everyone to cut total fat intake to less than 30% of total calories, limit saturated fat to 10%, and increase carbohydrates to 55-60%. No studies were cited to support this recommendation. A similar diet was proposed in the UK in 1983 based solely on Keys' flawed Seven Countries Study, which merely indicated that coronary heart disease "*tended to be related*" to serum cholesterol values and that, these in turn "*tended to be related*" to the proportion of calories provided by saturated fats in the diet. A very recent thorough investigation of all the pertinent clinical trials and studies that were available prior to 1983 concluded that a low fat or low saturated fat diet "should not have been introduced" in the U.S. or the U.K.

The only way to prove Keys' theory would have been via prospective studies comparing a high saturated fat diet with one that restricted fats, and observing their effects on serum cholesterol levels and subsequent coronary events or deaths. Numerous attempts were made to reduce heart attacks by following Keys' recommendations, such as the Prudent Diet instituted by the Anti-Coronary Club in Manhattan in 1957. Controls consisted of a group of healthy middle-aged men who followed their usual diet rich in eggs, butter, cheese and red meat. The Prudent Diet cohort strictly avoided these, had one ounce of polyunsaturated fats daily, and substituted a special margarine for butter. Although serum cholesterol was slightly reduced in those following the fat restricted diet, *26 had died compared to only 11 controls. Eight of the deaths in the diet group were due to a myocardial infarction, whereas the fat eaters had no heart attack deaths.* Keys had previously attempted to lower cholesterol by restricting fats without success in 1956, and four decades later was forced to admit, "*There's no connection whatsoever between cholesterol in food and cholesterol in blood. And we've known that all along. Cholesterol in the diet doesn't matter at all unless you happen to be a chicken or a rabbit*."

The Framingham study, which established cholesterol as the most important risk factor for coronary heart disease, was never able to prove this, or to show that saturated fat increased serum cholesterol or coronary disease. During the early 1950s, detailed information on dietary habits had been obtained in a thousand participants. A follow-up analysis two decades later found no connection between diet and serum cholesterol and the study director concluded, "*These findings suggest a cautionary note with respect to hypotheses relating diet to serum cholesterol levels. There is a considerable range of serum cholesterol levels within the Framingham Study Group. Something explains this inter-individual variation, but it is not diet.*" This report was never published, but over two decades later, his successor wrote, "*In Framingham, Massachusetts, the more saturated fat one ate, the more cholesterol one ate, the more calories one ate, the lower people'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 and were the most physically active." And a 30-year follow-up revealed, "*For each 1 mg/dl drop of cholesterol there was an 11 % increase in coronary and total mortality*."

The Tecumseh Community Health Study, which utilized data on the composition of over 2,700 foods, found that cholesterol levels were unrelated to quality, quantity, or proportions of fat, carbohydrate, or protein consumed. Participants who ate the least cholesterol also had the highest blood cholesterol levels. The World Health Organization's MONICA epidemiologic project was undoubtedly the largest study ever designed to explore the relationship between risk factors and cardiovascular disease. It began in 1971 as a collaborative effort involving 32 centers in 21 countries that monitored approximately 10 million men and women aged 25-64 for ten years. It thoroughly discredited the saturated fat–heart disease hypothesis. *All the countries in the top eight for saturated fat consumption had lower death rates for heart disease than all of the eight countries that consumed the least fat.* The French consumed three times as much saturated fat as the Azerbaijani but had one-eighth the rate of heart disease deaths. Heart disease mortality in Finland was four times greater than in Switzerland, even though saturated fat consumption was similar.

Since association never proves causation, such epidemiologic studies cannot prove or disprove causal relationships. However, no large-scale interventional trial has ever demonstrated that restricting saturated fat or lowering cholesterol helps to prevent coronary disease. This was true even when combined with reducing other risk factors like hypertension and cigarettes as evidenced by the $115 million Multiple Risk Factor Intervention Trial (MRFIT). This involved 28 medical centers and 250 researchers who screened 361,662 men and selected those who were at the highest risk. After eight years, compared to matched controls, cholesterol intake had been cut by 42%, saturated fat consumption by 28%, total calories by 21%, and there was a significant reduction in hypertension and cigarette smoking. Although there was a modest fall in serum cholesterol, there was no effect on coronary heart disease and the disappointing conclusion was "*The overall results do not show a beneficial effect on Coronary Heart Disease or total mortality from this multifactor intervention."*

Why We Continue To Believe That Fat And Cholesterol Cause Heart Attacks

As William James, the father of modern psychology noted, "*There's nothing so absurd that if you repeat it often enough, people will believe it."* Most people still believe that avoiding saturated fat and lowering cholesterol will prevent heart disease because these messages are constantly repeated in TV and print media food advertisements. The 1977 McGovern report was not well received. Objections came from leading authorities like Rockefeller University's Edward "Pete" Ahrens, and NHLBI Director Robert Levy, both of whom argued that nobody knew if eating less fat or lowering blood cholesterol levels would prevent heart attacks. The American Medical Association warned that the proposed diet raised the "potential for harmful effects" and others described it as a "dangerous public health experiment". Dairy, egg, and cattle indus-

try representatives from farming states, including McGovern's own South Dakota, vigorously opposed the guidelines since it threatened their livelihood. They also complained that the report was biased and not based on any solid evidence of efficacy or safety. When he was advised that more research on the problem was needed before making any announcements to the American public, McGovern's response was, "*I would only argue that Senators don't have the luxury that the research scientist does, of waiting until every last shred of evidence is in*." There can be little doubt about which side McGovern favored, as he had spent a month at a Pritikin Longevity Center, with its draconian diet of less than 10% of total calories from fat and 2% from saturated fat. He told a reporter that he adhered to the diet as much as possible and regarded Pritikin as "*one of the really great men I've known in my life*."

As their work was finished, the McGovern Committee was due to expire at the end of 1997, and their recommendations would likely have faded away. However, the Department of Agriculture was anxious to promote them because a low fat-high carbohydrate diet would increase the sale of grains and food companies saw a lucrative market in low fat products. In July 1977, Carol Foreman, a powerful consumer activist, was appointed Assistant Secretary of Agriculture. Her assignment was to make the McGovern recommendations official US policy and to increase the USDA's influence and participation in making all future dietary decisions. Because of all the negative publicity, she recognized this would require backing from respected scientists and organizations. The best and most appropriate resource would have been the National Academy of Sciences, which determines the Recommended Dietary Allowances of calories and nutrients. However, the President, Philip Handler, an expert on metabolism, told Foreman that Mottern's report was "*nonsense*". Frustrated, she consulted McGovern's staff and they suggested hiring Harvard's Hegsted, who was appointed in 1978 as USDA Administrator of Human Nutrition.

Although there was no scientific support for Hegsted to find, The American Society for Clinical Nutrition had recently assembled a panel of nine experts to study the relationship between dietary practices and health outcomes. They had six recommendations that included avoiding excessive sugar, salt, alcohol and total calories, as well as cholesterol and fat, but did not provide any percentages for the latter. These recommendations were included in the 1979 "Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention", which specified that the evidence for fat and saturated fat came from animal studies, but did not list any references. In 1980, the USDA and the Department of Health and Human Services (HHS) issued their first joint "Dietary Guidelines for Americans" which recommended reducing saturated fat to less than 10% of total calories. In commenting on this, Hegsted emphasized the difficulties in getting reliable information on dietary intake in humans as well as extrapolating results on middle-aged men to women, children and the elderly. These Guidelines are revised every five years, but despite Hegsted's warning and

mounting evidence of the dangers of restricting fat, few changes have been made in this recommendation other than to make it more stringent.

In 1981, Hegsted returned to Harvard to do research sponsored by Frito-Lay on the benefits of substituting Olestra cooking oil for fat. Carol Foreman had also left the FDA to become president and co-founder of a powerful PR and lobbying company whose clients included Philip Morris, Monsanto (maker of genetically engineered corn and bovine growth hormone), Procter & Gamble (maker of the imitation ersatz fat Olestra) and other huge food and drug companies. Frito-Lay was subsequently sued for labeling its GMO content as "natural", and to avoid an additional lawsuit, agreed to emphasize on all labeling and advertisements that their low calorie chips contained Olestra. *Olestra is banned in Europe, Canada and Australia because it blocks the absorption of fat-soluble vitamins and can cause severe abdominal cramps.*

This revolving door between industry executives or lobbyists and Federal regulatory agencies is not unusual, particularly with respect to the FDA and drug companies. It helps to explain why official recommendations are often designed to increase profits rather than improve health or prevent disease. This is aided and abetted by support from respected organizations and authorities that receive lavish funding from vested interests. As Dr. Marcia Angell wrote in her 2004 book *The Truth About the Drug Companies: How They Deceive Us and What to Do About It*,

> This industry uses its wealth and power to co-opt every institution that might stand in its way, including the U.S. Congress, the Food and Drug Administration, academic medical centers and the medical profession itself. . . . It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of *The New England Journal of Medicine*.

Things have gotten worse rather than better since then, but drug companies are not the only offenders. Because of the low fat craze, food manufacturers eliminated or reduced fat in their products, but this detracted from their taste, so large amounts of fructose were added to make them appealing, especially for soft drinks. *Fructose was later found to have serious adverse effects, including the development of metabolic syndrome (hypertension, increased abdominal fat, Type 2 diabetes, elevated triglycerides, low HDL) and increased risk of coronary disease.* Nevertheless, low fat foods are still advertised as being "heart healthy."

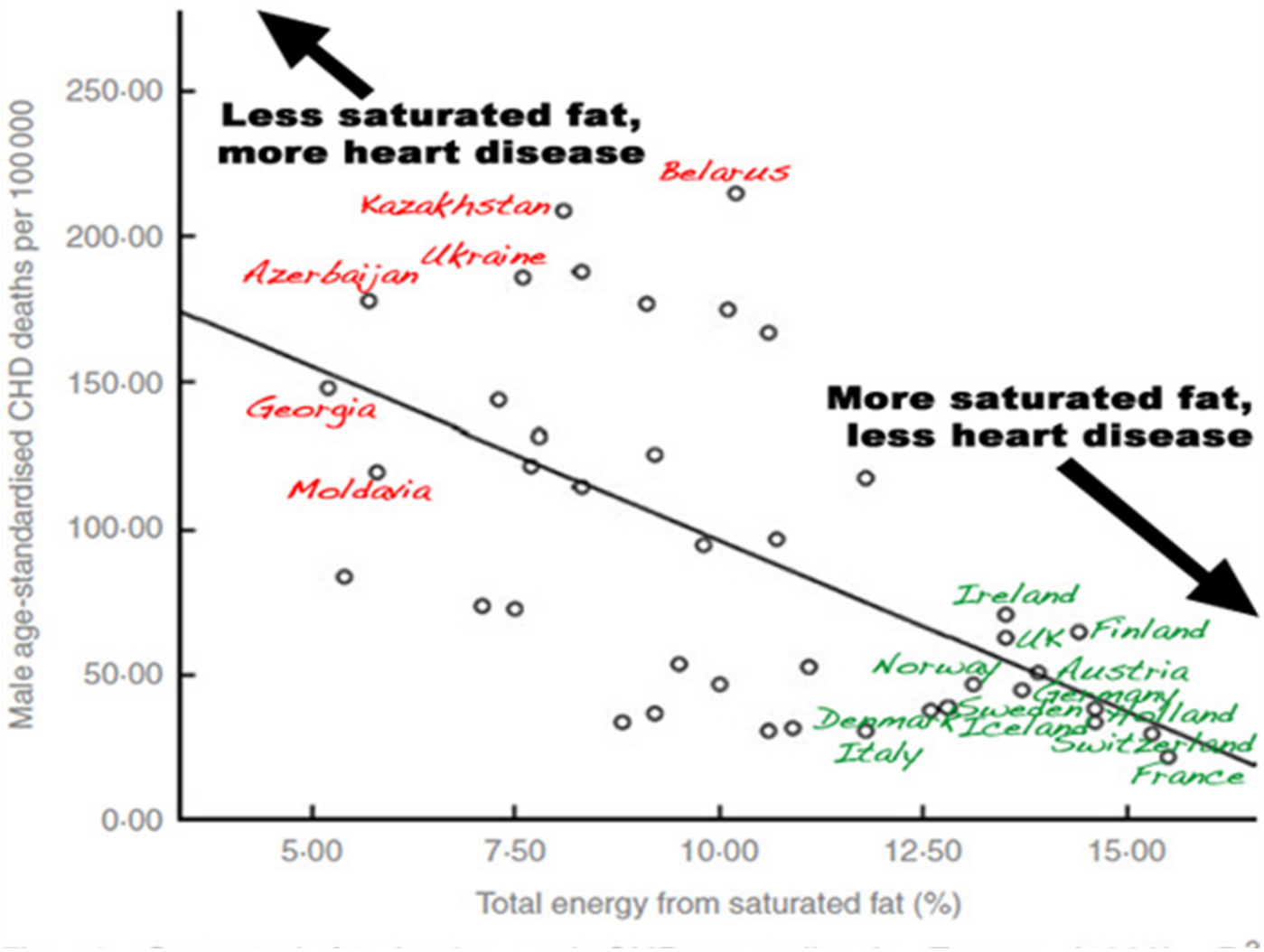
The non-profit American Heart Association also found a way to profit from the low fat bonanza. *A good portion of its income, which is now close to $800 million/year, comes from its Heart-Check Certification Program* that began in 1995. This allowed companies to advertise their products as “heart healthy” by displaying the AHA red heart with a white check mark logo. The first-year fee was $7,500

per product and $4,500 for annual renewals. Certification now costing up to $700,000 has been extended to menus and restaurants, and the 700 or so certified products are in six categories that include different types of "Extra Lean" meat and seafood, certain nuts and grains, fish with a required level of omega-3 fatty acids, etc. Unfortunately, among those still endorsed are chocolate milk, high sugar breakfast cereals, processed meats full of chemicals and preservatives, as well as other products that are anything but healthy.

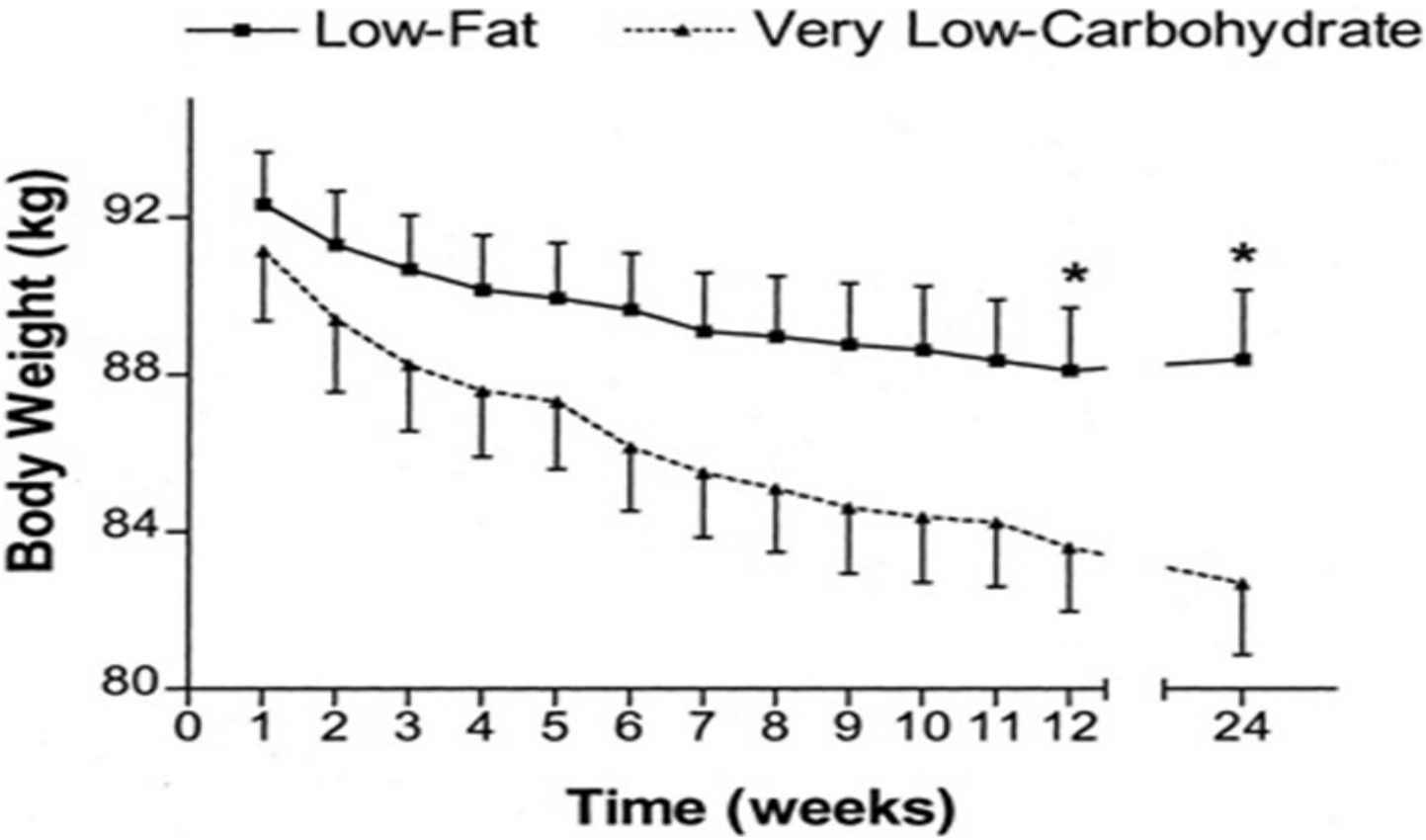
Advertising is crafted to be misleading. Welch's "Healthy Heart" 100 % Grape Juice is a proud recipient of certification but is sweetened with fructose. An 8-ounce serving contains 36 grams of sugar and 140 calories, about one-third more than the same amount of Coca-Cola. Their Concord Grape Juice Cocktail is only 25% juice and also contains high fructose corn syrup. The Academy of Nutrition and Dietetics, the "world's largest organization of food and nutrition professionals", (formerly the American Dietetic Association or ADA), educates and licenses registered dieticians. Its largest sponsors include over a dozen junk food companies like Coca-Cola, Pepsico and Mars that provide educational courses claiming that sugar is healthy for children. Coca-Cola spent $3.3 billion on global advertising in 2013 to make people think that all calories are equal, sugared drinks are good for anyone who exercises, celebrity athletes drink them, so you should also. Many ads are targeted to children, who are particularly vulnerable to TV advertising and more apt to crave anything sweet. *Coca-Cola advertising will increase to an astounding $4.3 billion in 2015 in an attempt to counter growing recognition of its dangerous heath effects.*

Why Dietary Guidelines Caused The Current Epidemic Of Obesity

The first edition of Dietary Guidelines for Americans in 1980 followed the McGovern Committee recommendations to reduce fat consumption and to substitute polyunsaturated fatty acids for saturated fat whenever possible. The rationale for this was to lower the intake of saturated fat and cholesterol, which were thought to cause coronary heart disease by elevating LDL blood levels. And since fat contains almost twice as many calories per gram as carbohydrate or protein, it was assumed that a low-fat diet would result in weight loss and prevent obesity. There was no scientific basis for any of these suppositions and recommendations and evidence to the contrary was ignored. As indicated previously, the Anti-Coronary Club study, in which saturated fat was replaced with polyunsaturated fat, reported an increase in total mortality (26 vs. 6) as well as more deaths from coronary disease (8 vs. 0) in the intervention group after ten years. In 1968, two years later, the National Diet Heart Trial, a randomized, double blind study, also found more coronary events on a diet high in polyunsaturated fat than one with high saturated fat. In addition, the more recent Sydney Diet Heart Study showed that replacing saturated animal fats with omega-6 polyunsaturated vegetable fats like linoleic acid increased risk of death in patients with heart disease. As indicated in the graph below, a 1998 study of European countries where adequate data was available, also confirmed that *increased saturated fat intake was associated with a decreased risk of coronary events and deaths.*



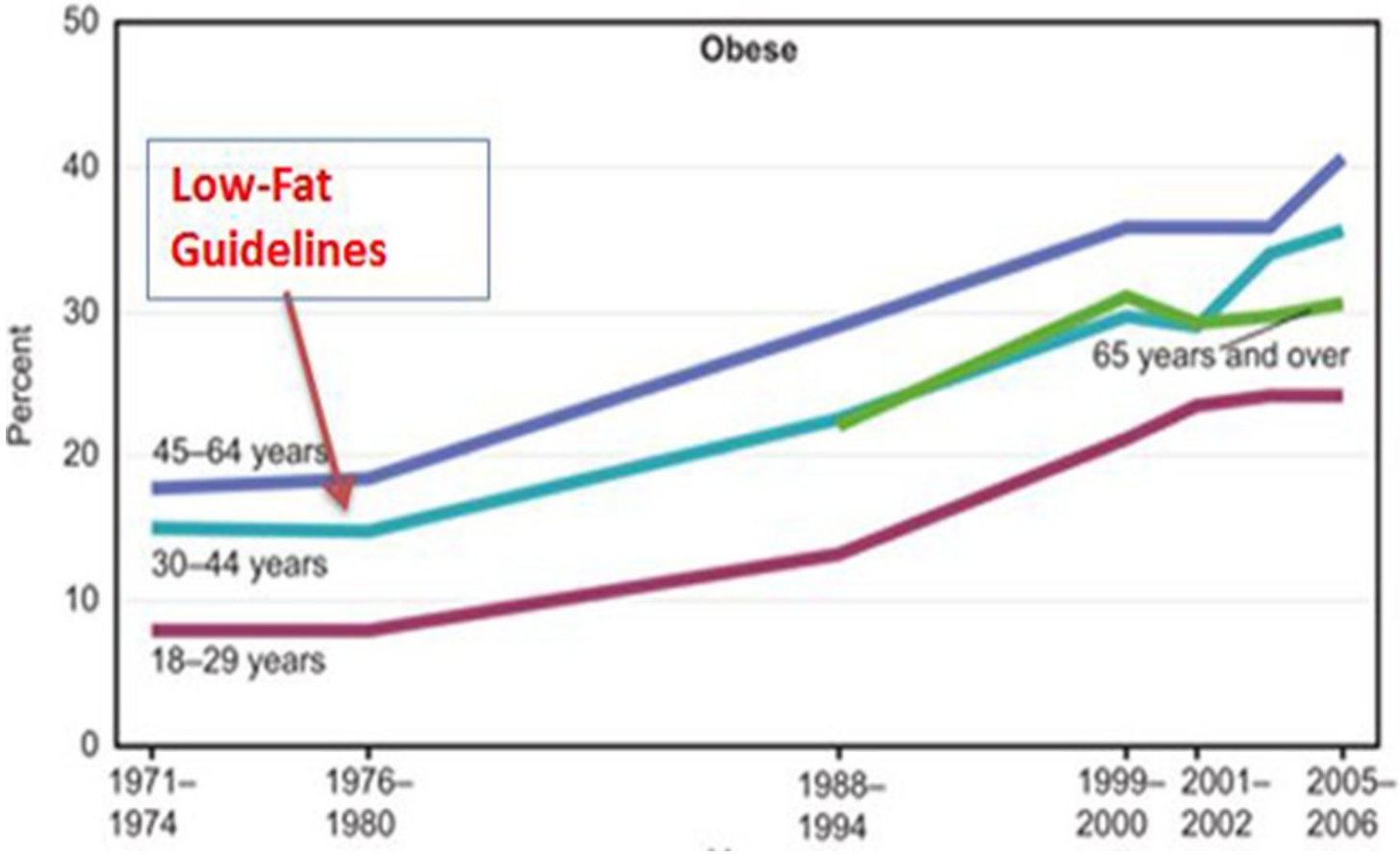
Another popular myth or shibboleth is that high fat diets will cause weight gain and obesity because you are consuming more calories/gram of food. The fact is that carbohydrates are more apt to cause weight gain because they increase insulin levels. This is particularly true for those with a high glycemic index or load, such as sweetened soft drinks, fruit juices, pastries, breakfast cereals and snacks. Insulin is an important regulator of energy and causes liver and other cells to synthesize fat from glucose and store it as visceral fat. Insulin resistance is a disorder in which cells do not respond to insulin, which leads to dyslipidemia, hypertension, Type 2 diabetes, increased risk of coronary disease and other manifestations of metabolic syndrome in obese individuals. The best way to prevent this and to lose weight is not to restrict fat, but rather carbohydrates. There are several studies that demonstrate this, as illustrated on the next page.



Diets That Are High In Fat But Low In Carbohydrates Cause More Weight Loss Than Diets That Are Low In Fat

In the above randomized trial, women eating a low-carbohydrate, high-fat diet until they felt satiated lost more than twice as much weight as controls eating a *calorie restricted* low-fat diet. Another major contributor to obesity and metabolic syndrome is high fructose corn syrup (HFCS) in sodas and sweetened fruit drinks. HFCS has become the leading source of calories in the U.S. because it is hidden in so many products such as low fat diet foods and "enhanced' water drinks. Even most infant formulas contain the sugar equivalent of one 12 oz. can of Coca-Cola. Add to that, breads and baked goods, breakfast cereals, salad dressings, chocolate and nutrition bars and even seemingly healthy foods like Dannon and Yoplait fruit yogurts. The reason for its popularity is HFCS prolongs shelf life by preserving flavor longer and because it is so cheap. *The government pays farmers more than $77 billion a year to produce corn as a raw material that can be processed into "food."* Most of the GMO corn grown in the U.S. cannot be eaten until it is processed into something that tastes better. More Americans over the age of 25 are now obese (67.6 million) than overweight (65.2 million) according to the latest analysis of data from the National Health and Nutrition Examination Survey.

It is also not surprising that the current obesity epidemic started with the introduction of Dietary Guidelines in 1980, as shown below. This also mirrors the increased use of HFCS and the rise in Type 2 diabetes.



The Rise In Obesity Began With The Introduction Of Dietary Guidelines For Americans In 1980

It might seem strange that Dietary Guidelines that rarely make headlines should have such an important influence. However, they are the basis for determining the foods that will be used in the military, government cafeterias, schools, food assistance programs, industry food formulations, and restaurant recipes, as well as recommendations made by nutritionists and dieticians and to determine changes in agriculture production and subsidies. Although an Advisory Committee updates these Guidelines every five years and new information has accumulated over the past three decades indicating the need for revisions, little has changed. The reasons for this and why a major transformation is likely to be seen this year will be explained in the next Newsletter. There will also be updated information on statin safety, why statins don't work by effects on cholesterol, LDL or HDL, and why new CETP and PCSK9 inhibitors that do are dangerous -so stay tuned!

Paul J. Rosch, MD, FACP

Editor-in-Chief

The American Institute of Stress

Join Us!

GET INSIDE OUR HEAD

**It's Not Our Credentials
That Make AIS So Impressive,
It's the Fellows That Go with Them.**

Credentials:

FAIS
DAIS
Member
Student Member

Services:

Archives
Book Reviews
Speakers Bureau
Stress Research

www.stress.org

Want more AIS magazines delivered to your inbox?

Click Here

The American Institute of Stress
6387B Camp Bowie Blvd #334
Fort Worth, TX 76116
www.stress.org

info@stress.org
Main: (682)239-6823
Fax: 817-394-0593

The American Institute of Stress is a qualified 501(c)(3) tax-exempt organization.

ISSN # 108-148X