

HEALTH AND STRESS

The Newsletter of The American Institute of Stress

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WHAT AND HOW MUCH SHOULD YOU EAT OR DRINK - AND WHEN?

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Things can get pretty confusing since there are so many authorities out there with conflicting opinions and advice. Governmental resources, regulatory agencies and various health organizations are not much help since they also often disagree about what constitutes an optimal diet or keep changing. Some feel that these groups may be influenced by powerful vested interests that have their own agenda.

The U.S. Department of Agriculture and the Departments of Health and Human Services are required by law to update the official Dietary Guidelines for Americans every five years. The current guidelines, launched in 2000, call for all of us to "Let the Pyramid guide your food choices." This referred to the USDA's Food Guide Pyramid created to facilitate compliance with 1990

guidelines. **These were based on the belief that dietary fat elevated blood cholesterol, which was what caused heart attacks. Since then, rates of obesity and adult onset diabetes have skyrocketed.**

Many blame this on the current Food Guide Pyramid shown below.

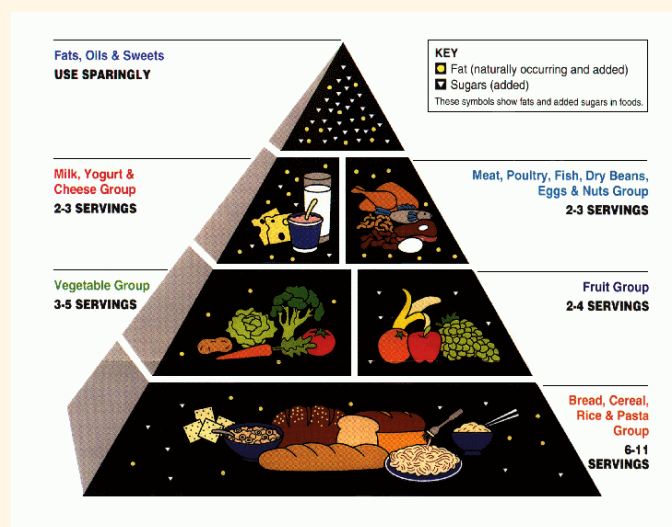


IMAGE: USDA/DHHS

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The base of the pyramid consists of the carbohydrate foods you should eat the most of, with successive tiers reflecting progressively fewer amounts of different food groups. Fats and oils are at the peak

and should be eaten "sparingly", which is one of the reasons this Pyramid is under attack. **It is not in agreement with the 2000 USDA Dietary Guidelines advocating "moderate total fat intake".** The Institute of Medicine stated in its 2002 review "Fat is a major source of fuel energy for the body and aids in the absorption of fat-soluble vitamins and carotenoids." They suggest that 20-35% of caloric intake come from fat and that children require even higher amounts.

Since these recommendations are quite different from present guidelines, many feel strongly that the Food Pyramid should be changed now, rather than waiting until 2005. Others believe that this "one size fits all" is wrong, since different demographic groups have different needs based on age, physical activity and other factors.

The Myriad Pyramid Problem

There is no shortage of suggestions on what a replacement food pyramid should look like. However, they vary considerably not only with respect to how much of each food group should be eaten daily but the addition of items that are now considered pertinent, including water, alcohol and regular exercise. Others are based on ethnic, cultural or geographical considerations that may influence availability and preferences, such as the:

Latin American Diet Pyramid - that emphasizes fruits, vegetable, whole grain groups at every meal, fish, dairy and poultry daily and meat, eggs and sweets weekly.

Asian Diet Pyramid - with rice, pasta, corn and whole grains at the base, fruits, vegetables, seeds and nuts daily, with dairy products, fish and vegetable oils being other options, eggs and poultry weekly and meat and sweets monthly.

Chinese Diet Pyramid - similar to the Asian with respect to grains, vegetables, fruits but 2-3 daily servings of meat (includes eel, squid, bean curd) but soy sauce, sesame oil, salt and black pepper to be used sparingly.

Cuban Chinese Pyramid - similar to the Chinese but advises limiting lard, mango and papaya butter as well as achilte oil.

Arabic Diet Pyramid - 6-11 daily servings of grains (couscous pita, rice, bulgur), 2-4 serving of fruits (figs) and vegetables (okra), 2-3 servings of dairy (yogurt, goat's milk, lebneh) and meats (also includes lentils, garbonzo beans, pistachio) with sparingly amounts of fats, oil and sweets (honey, olives, olive oil, tahini).

Mexican Diet Pyramid - has tortilla in its grain base; cactus, salsa, jicala and chiles in vegetables; guava, mango and cherimoya in fruits; chorizo and menudo in meats; with lard, flan, churros, pandulce and avocados in the eat sparingly group, which seems to make guacamole a no-no.

Italian Diet Pyramid - has pasta, polenta, focaccio and Italian bread in the 6-11 servings of grain at the base but surprisingly, includes butter, olives, olive oil and heavy creams in the "eat sparingly" advice.

Indian Diet Pyramid - similar to many others but includes chutney with fruits and ghee in the "eat sparingly" foods.

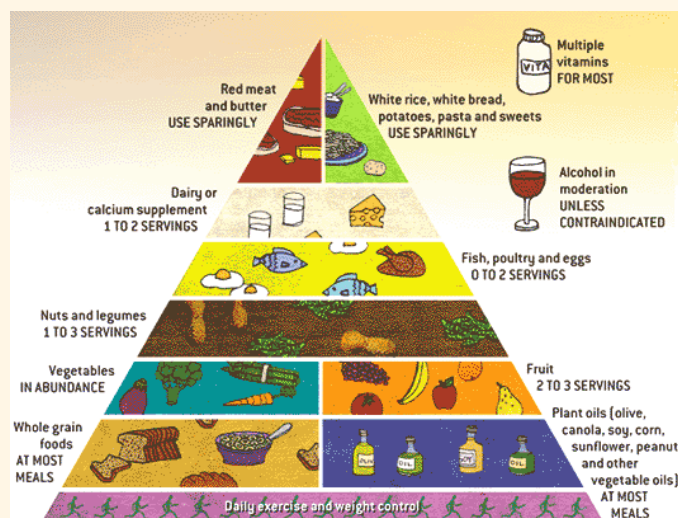
Russian Diet Pyramid - advises consuming sour cream, beer and vodka sparingly, which many do not seem to follow.

Portuguese, Japanese, Spanish, Native American and Vegetarian Diet Pyramids have also been designed to help these specific groups to follow a healthier diet by emphasizing more common or native foods they should eat more of or avoid. **One of the major problems with all of these pyramid approaches is that they usually fail to distinguish between what are now considered to be healthy and unhealthy types of fats and carbohydrates.**

Before the original food pyramid was developed, Americans got 40% of their calories from fat, 15% from protein and 45% from carbohydrates. The "Fat is Bad" dogma warned that no more than 30% of calories should come from fat. Nutritionists didn't want to suggest eating more protein because red meat and other sources are also rich in saturated fat. This led to advising everyone to get at least 50% of their calories from carbohydrates and the corollary that "Carbs are good." The results of these arbitrary conclusions have been disastrous and the need for drastic revisions is supported by recent scientific studies.

What Will The New Pyramid Look Like?

One of the most vocal critics has been Walter Willett, Professor of Medicine and Chairman of the Department of Nutrition at the Harvard School of Public Health. He blames the current guidelines as being largely responsible for soaring rates of obesity and diabetes in his best-seller *Eat, Drink and Be Healthy: The Harvard Medical School Guide to Healthy Eating*. The major faults are advising everyone to eat 6 to 11 servings of carbohydrates and to use fats sparingly and he proposes this replacement:



NEW FOOD PYRAMID

outlined by the authors distinguishes between healthy and unhealthy types of fat and carbohydrates. Fruits and vegetables are still recommended, but the consumption of dairy products should be limited.

IMAGE: R. Borge/Scientific American /Jan 2003

WILLETT'S NEW FOOD PYRAMID

The base is now regular exercise, since his main tenet is that we must match the energy ingested with energy expended by controlling both food intake and physical activity. Another main message is that we each handle certain foods differently because of genetic and other factors. He explains why diets high in potatoes, olive oil or even sugar are neither beneficial nor harmful for everyone and debunks several widespread beliefs. Eggs are not the villains they are cracked up to be, some margarines are much more dangerous than the butter they are replacing, the oil in a potato chip is healthier than the potato, and the drink milk moustache ads may not be good advice for everyone. He presents his views on good and bad fats and carbs and combinations of fruits and vegetables that are the healthiest.

Current guidelines come from the agency that promotes agriculture, "not from the agencies established to monitor and protect our health", which might explain the emphasis on dairy and grain products like wheat and corn.

Another substitute is based on the dietary traditions of Crete, other parts of Greece, and the south of Italy a half century ago. Epidemiological studies around 1960 showed that despite limited access to medical care, chronic disease rates were among the lowest in the world and life expectancy was among the highest. Since the diet is closely tied to Mediterranean areas of olive oil cultivation, it's not surprising that olive oil should be consumed daily and largely replaces other fats and oils like butter and margarine as noted below:

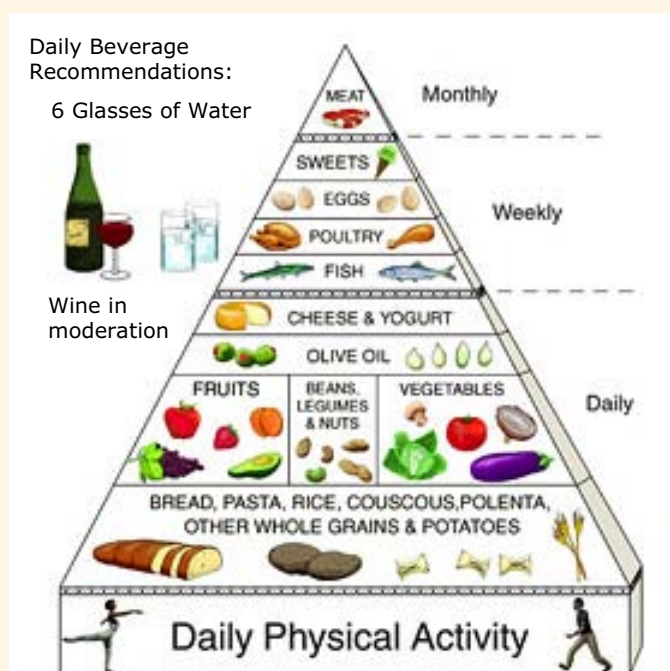


IMAGE: Oldways Preservation & Exchange Trust

MEDITERRANEAN FOOD PYRAMID

This diet also emphasizes an abundance of food from plant sources, including fruits and vegetables, potatoes, breads and grains, beans, and nuts. Seasonally fresh and locally grown food is utilized whenever possible and processed products are kept to a minimum. While total fat can range from under 25 % to over 35% of total caloric intake, saturated fat is usually less than 7% as an energy source.

In addition to a base that emphasizes the importance of daily physical activity, both of these diets now also include wine or alcohol. In addition, the Mediterranean Pyramid recommends 6 glasses of water, which can also assist in weight loss, since there are similarities between the sensations of thirst and hunger. Many people report that when they feel like reaching for a snack, drinking a glass or two of water and waiting for 20 and 30 minutes usually reduces food craving. Water also provides benefits for some who are dehydrated but not thirsty. What kind of water to drink can also be confusing due to deceptive advertising.

Water, Water, Everywhere & Lots To Drink

It's hard to go anywhere without seeing somebody with a bottle of water. Airlines now include bottled water in the pocket in front of every seat along with the paper bag they supply in case you feel sick to your stomach. They are part of the paraphernalia carried by high school and college students and are common on popular TV shows like *West Wing*, where cast members often take an occasional swig when they are not walking and talking. They are also standard equipment on bicycles and seem to have replaced coffee and soft drinks in car cup holders. Although we have plenty of fresh water that is free, Americans seem willing to pay \$2.00 for the same thing as long as it comes in a bottle rather than from a faucet.

Study after study has shown that bottled water is no healthier or tastier than tap water. In fact, some of the fastest growing brands, like Coca Cola's *Dasani* and Pepsi's *Aquafina* are nothing more than municipal water pumped into their regional bottling plants and passed through a microfilter before being put into an appealing plastic container. Both were actually late entries in the field since these soft drink giants were waiting to see if this was a temporary fad. The fact is that sales have shot up by double digits every year since the early 1990's. Although these have now become the two top sellers due to media blitzes, they still gross only 13% of the over \$6 billion spent annually for bottled water.

Although bottled water (with or without gas) has always been a staple in European restaurants and markets, save for Perrier and

Evian from France and Pellegrino from Italy, it was not common in the U.S. Although somewhat expensive, they were popular because they came from natural springs that were considered to provide health benefits. The market really took off when Perrier began selling other spring water with *Poland Spring* and *Ozark Springs* labels.

These names had little to do with where these products came from but had great promotional appeal, which is what brings in the big bucks. The huge demand for bottled water has been driven by aggressive advertising that has also created considerable confusion because of competing and conflicting claims.

We are now able to choose between:

Drinking Water - any water sold in sanitary containers that has no calories, sugar or chemical additives. This can contain less than 1% by weight of flavors or extracts to avoid classification as a soft drink and sodium-free and low sodium versions are particularly popular.

Artesian Well Water - from a well that taps a layer of water above an underground layer of rock or sand aquifer.

Mineral Water - containing constant levels and ratios of minerals and trace elements from the source with nothing added.

Purified Water - produced by distillation, deionization or reverse osmosis. This may be specified, such as **distilled water**.

Sparkling Water - containing the same amount of carbon dioxide existing at the source after treatment and possible replacement of carbon dioxide. (**Soda water**, **seltzer water** and **tonic water** are regulated differently and **are considered soft drinks** since they may contain sugar and calories).

Spring Water - from an underground formation that flows naturally to the earth's surface rather than being pumped.

Well Water - from a hole drilled deep in the ground that taps water from an aquifer.

Fitness Water - packed with vitamins, minerals, herbals, soluble fiber, caffeine and even extra oxygen. A 16-ounce bottle of *Aquesse* provides about five grams of soluble fiber for \$1.85, the same as about two servings of oatmeal for 50 cents.

Enhanced Water - also called **Performance Water** - is the fastest growing segment of the

beverage industry. Last year, *Propel Fitness Water* became the first enhanced water to surpass \$100 million within 12 months of its introduction. It is a lightly flavored water with 10-calories/eight ounce serving and its phenomenal success is due to the fact that it is made by Gatorade, which has the megabucks to spend on advertising and the cachet of "fitness" in sports.

There is no proof that any of the above provide health benefits. Their major difference from tap water is they cost much more.

Should It Be Wine, Beer Or Booze?

What kind of alcohol to drink and how much has become a topic of even greater confusion and controversy. Although three decades of research had shown a statistical association between moderate alcohol consumption and a lower incidence of heart attacks, physicians were reluctant to recommend alcoholic beverages for obvious reasons. That changed dramatically in 1991 after a *60 Minutes* segment on the "French Paradox."

It featured Dr. Serge Renaud, a distinguished physician, who, by coincidence, had studied under Hans Selye. Serge had observed that people living in the Gascon region of Southwest France had extremely low death rates from heart disease despite having the highest rate of saturated fat consumption in the world. As noted in his presentation at our Congress "goose and duck fat are slathered on bread instead of butter, people snack on fried duck skin, eat twice as much *foie gras* as the rest of France and fifty times more than Americans." Many were also heavy smokers.

Several explanations were offered to explain their surprising longevity and freedom from cardiovascular disease, such as more leisurely dining habits with family and friends and less stress in general. However, Serge and many other scientists believed that their daily consumption of red wine played an important role. Red wine contains numerous chemicals, some of which reduce the platelet stickiness that contributes to clot formation as well as several powerful antioxidants and Pasteur had written that **"Wine is the most healthful and hygienic of all beverages."**

Red wine sales skyrocketed and others were quick to get on the bandwagon. Grape

juice manufacturers claimed their products provided the same benefits and were safer, as did others selling capsules containing red wine pressings as nutritional supplements. Vintners and breweries quoted studies showing that white wine and beer provided similar or superior cardioprotective rewards. Distillers promptly pointed out it didn't make any difference what kind of alcohol you drank and that hard liquor is just as healthy. Most scientific studies support this allegation.

The stress reduction and tranquilizing effects of alcohol were emphasized as well as the need to examine why and when you drank and with whom. Most agreed with G.K. Chesterton's advice, **"Drink because you are happy, but never because you are miserable"** and that drinking alone or bingeing was not the same as having a few glasses of wine daily with friends. Wine drinkers were reported to be happier and healthier than other alcohol consumers and even abstainers, but was it because of the wine or the individual?

The battle really heated up when a study reported that "moderate" beer consumption was associated with lower IQ scores and increased "psychopathology for both men and women" and that pure beer drinkers had the highest rate of "risk drinking, smoking, and illicit drug use." People who reported drinking only wine had significantly less psychopathology and the lowest neuroticism scores were seen in women wine drinkers. However, wine drinkers enjoyed a higher socioeconomic status than beer drinkers, which could be a factor.

To add to the confusion, it was not clear how much alcohol constituted "moderate drinking". Some guidelines defined a standard drink as 12 oz. of beer, 5 oz. of table wine, 1.5 oz. of spirits (40% alcohol) or 3 oz. of fortified wine like sherry or port. Did how much you should drink vary with such things as weight, age and gender? Alcohol should obviously be avoided during pregnancy but if you never drank, should you now start? After all, in addition to lowering rates of heart attacks and strokes, moderate alcohol intake has been shown to be associated with increased bone density and decreased risk of Alzheimer's disease, rheumatoid arthritis, kidney stones, infections, and the common cold.

Wine manufacturers are petitioning the FDA to let them advertise that their products promote cardiovascular health as has already been done for some oat and bran companies. At the same time, some teetotalers believe this could lead to more liver disease, breast and colorectal cancer, problem drinkers and drunk drivers and are calling for a return to prohibition. The bottom line is that most people are not likely to change their current habits.

Some Beefs About Modern Meats

Recent studies appear to have given meat and fat a reprieve with respect to contributing to coronary heart disease and obesity. There seems to be little doubt that our ancestors were relatively free of these disorders despite liberal intake of steak and dairy products with high fat content. However, it is important to recognize that **the composition of most beef now being consumed may be quite different.**

Prior to World War II, cattle being raised for beef fed primarily on grass and it could often take up to four years to adequately fatten them. Today, calves start out on a diet of grass and milk but after six months they are moved to a feedlot where their diet is mostly corn and grain. Corn-fed steers get fatter much more rapidly and often weigh enough by the time they are 14 months old to be slaughtered. Being "corn-fed" may seem to sound wholesome and healthy, but that's far from the truth when it comes to cattle.

Cows, like sheep, goats, deer and other cud-chewing animals are ruminants, which means that their stomachs and digestive systems are designed for grass rather than grain. Corn obviously has more calories per gram than grass, so that it promotes more rapid weight gain, which is fine for the farmer but not an animal that is used to grazing. Similarly, geese are often force fed to make their livers larger and contain more fat, which makes them more profitable but is not very healthy for the goose.

Experience has shown that a high corn diet makes cattle sick since it is associated with a high incidence of infection. This may be due to a relative lack of the nutrients and antioxidants found in vegetation that would have constituted their normal diet. Most

animals have to be given antibiotics as well as hormones to keep them well and promote quick growth until they weigh enough to be shipped to the slaughterhouse. While this might seem expensive, farmers actually save money because they do not require as much land to seed for grazing purposes. In addition, they are able to get two or three times more corn-fed cattle to market in a four-year period compared to cows that primarily graze for food.

People generally prefer corn-fed beef because it is more tender and tasty due to its high fat content, which is readily visible by its marbled appearance. A four-ounce portion contains 14 to 16 grams of fat as opposed to 7 to 10 grams from an identical cut taken from a grass-fed cow. In addition, **corn-fed beef has a higher concentration of saturated fat and less of the healthy unsaturated fatty acids compared to meat from grass eaters.** Grass also supplies more beneficial conjugated linolenic acid and vitamin E.

The amounts of antibiotics or hormones remaining in the residue of corn-fed beef are insignificant and do not pose a problem for consumers. However, there are other potential adverse health consequences since antibiotics and hormones excreted from cattle and other livestock can contaminate water supplies and may not be removed by normal filtration procedures designed to keep out bacteria. Corn crops also require large amounts of pesticides and fertilizers and toxic runoff from these feedlots pollute ground water and land.

Antibiotics used in corn-fed animals can lead to resistant strains of bacteria so that if you contract a *Salmonella* infection from meat, many drugs that are commonly used may not be effective. Beef from corn-fed cattle is much more likely to contain *E. Coli* since corn does not go through the ruminant digestive processes that inactivate these bacteria. *E. Coli* levels are also higher because corn-fed animals live in more crowded and filthier conditions than those grazing in large fields. **The European Union has refused to import beef from U.S. cattle treated with hormones and antibiotics.**

To protect Americans, the government recently authorized irradiated meat to be sold. This involves exposing products to doses of ionizing radiation equivalent to millions of chest x-rays in order to destroy deadly bacteria and

extend shelf life. Critics claim it depletes vitamins and nutrients and creates new chemicals that have not been adequately tested for safety. One of these has now been found to promote cancer growth and cause genetic damage in human and rat cells. Irradiated meat is also more expensive, is not selling well and has been dropped by several large food chains.

Natural, Free Range & Grass Fed Scams

Fear of "foot and mouth" and "mad cow" disease and other meat safety concerns have led to growing sales of "natural" meats and animal products. Beef can be labeled as "natural" if it is certified by affidavits stating that no antibiotics or hormones have been administered and it contains no artificial ingredients. **However, these cattle are confined to the same crowded feedlots as other animals and fed on corn and other grain grown with pesticides. U.S. corn may now also be genetically altered, which has caused complaints from Japan and the European Union.**

In addition more than 90% of Americans oppose the suffering of chickens, pigs and other animals raised on food factory farms where they are severely confined. Birds, cattle and sheep can also be labeled as "free range" if they have ample access to the outdoors and are free to roam but there are no USDA criteria for the amount of space required. Officials simply "rely upon producer testimonials to support the accuracy of these claims".

"Free-range" fowl doesn't tell you anything about their quality of life or even assure they actually go outdoors. Most consumers believe that "free-range" eggs come from contented hens that warm themselves in the afternoon sun and lay their eggs in individual straw nests, as suggested by the flier for Happy Hen Organic Fertile Brown Eggs. To producers, it only means they are not caged, but confined indoors in crowded sheds where they don't have enough room to even spread their wings.

Animal rights activists who visited the Happy Hen farm in Pennsylvania reported that "Through the netting at the front of the long barn we saw a sea of chickens' faces looking out, as though they were smashed up against the netting. Inside, the birds were wall to wall.

They were severely debeaked and their feathers were in bad condition – straggly, drab, and worn off." They also found that worthless male chicks were dumped into trashcans to suffocate one on top of another, thrown alive into a grinder or sold for school science or other laboratory projects.

Other "free range" animals raised for food don't fare much better. Ostrich steaks and buffalo burgers have become popular not only because this meat is natural but also because these animals are allegedly raised under more humane conditions. Ostrich feathers are sold to designers or used to make feather dusters, and the skin is used for expensive leather boots and clothing. Farmers jerk feathers from their sockets with pliers or shave them off with electric shears before the ostrich is slaughtered. Killing this largest bird in the world can be difficult and one farmer complained it took "two hours of violent struggle to kill a single ostrich." In slaughterhouses, they are often treated like chickens by receiving a stunning jolt of electricity and then hung upside down to slit their throats, even though they are fully conscious.

Buffaloes (bison) raised for "free range" meat food are treated little better than commercially raised cattle. A typical rancher confines his animals to a corral that is 7 feet high and solid, because "if buffaloes see daylight through the corral, they'll beat a hole into the wood in their attempt to get out, possibly injuring or killing themselves in the process." Most truly "free range" meat comes from kangaroos or deer that roam at will and eat natural vegetation. Because of this diet as well as the increased physical activity required to find food, kangaroo meat and venison contain less than half the fat in lean beef and lean lamb and have more protein than red meat from livestock. Although more expensive, many people are attracted to exotic meats because they are presumed to be healthier. However, most find that they are also not as tasty because of their low fat content since it is fat that gives beef its attractive taste and flavor.

"Grass fed" means nothing and only guarantees that at some time in its existence, the animal was free to graze. **Obesity does not exist in animals raised in a natural environment, including cats and dogs,** probably because their access to food depends

on frequent physical activity. **Corpulence occurs only when animals are domesticated and no longer have to forage for food.**

Organic Overload, Fish Fears, Supplements And The Potential for Nutrigenomics

Growth hormones in cattle, pesticides and preservative in fruits and vegetables and antibiotics in chickens are some of the reasons that sales of organic foods have increased over 20% every year in the past decade. Most people buy organic products because they believe they are healthier and more nutritious, but some organic chips and snack products labeled "made with organic white corn" have more fat and calories than their common counterparts. Organic cola made with organic cane sugar has 20 more calories than the same size can of Coca-Cola. Organic fruits and vegetables are the most popular, followed by organic cereals, bread, pasta and dairy products. Yet, organic foods have never been shown to be healthier, more nutritious or safer than conventional foods.

Fish, often referred to as "brain food", also provide numerous cardiac and other health benefits. Fatty fish like **salmon and tuna are our main source of Omega-3 fatty acids but most Americans have low levels and 20% have no detectable amounts.** Omega-3 deficiency is often associated with depression, learning disorders, memory problems, arthritis, diabetes, certain malignancies and a host of dermatological disorders. Fish in the wild eat smaller fish that feed on algae, which they convert into this essential fatty acid. The problem is that most of the salmon we eat are raised on farms where they spend three years circling around in pens and are fed highly concentrated protein pellets to fatten them up. Fish waste and uneaten

feed smother the sea floor beneath these pens, generating bacteria and parasites like sea lice, so that farmed fish must be treated with antibiotics and pesticides and are exposed to toxic copper sulfate used to get rid of algae. The meat of couch potato salmon contains less omega-3 than wild salmon and since it is pale gray, they are fed synthetic pigments to give it a pinkish hue. The problem with wild fish is that many are contaminated with mercury and PCB's, that pose other health hazards. One study found that 90% of Californians who ate fish daily had elevated mercury levels known to damage the nervous system. The FDA recommends that children and pregnant women limit their fish intake to two 6-ounce cans of tuna each week and to avoid eating swordfish, shark and king mackerel. **Fish are responsible for more food-poisoning outbreaks than any other food group.**

Some food guides suggest daily vitamin and nutritional supplements, but which ones and how much for whom is also controversial. Due to widespread Omega-3 deficiency, the American Heart Association for the first time has endorsed daily fish oil supplements to correct this. There is no single diet that is good for everyone because we not only have different nutritional needs but also can respond to the same food differently due to genetic factors. Pharmacogenetic research has shown that the reason the same drug helps some, has no effect on others or can kill, is due to specific genetic differences. Nutrigenomics, the study of how food reacts with genes, promises to explain **why only 15 % of hypertensives respond to salt restriction and some people can eat all the food and fat they want and never become obese or diabetic.** Much more to come on this - so stay tuned!

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