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# FEED YOUR BODY RIGHT

## From Birth to Adulthood

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# Contents Introduction

CHAPTER 1

# The Food Industry Fogs Your Understanding of Nutrition

One of the most important duties of physicians and healthcare practitioners is to teach families what they can do to prevent future health-related illness. I fully recognize that it is a tall order and extremely time-consuming for medical practitioners who work for profit-driven medical offices and corporations. But, remember, “Doctor” means teacher, and it’s

# their obligation to teach patients that food is the most potent first medicine.

Most doctors' offices are repair shops, trying to correct the damage caused by poor lifestyles, poor nutrition, and social inequity. It is my hope that more doctors join with others to improve the delivery of medical care in the USA and defog the distortions, half truths, and outright lies promoted by the Food Industry.

In 1967, as medical director and nutritional advisor of the first Head Start Program in Marin County, California, I developed its initial medical and nutrition program. This experience taught me how diet can improve minds as well as bodies. It is unfortunate that the well-intentioned school lunch programs subsidized by the US Department of Agriculture were turned into a dumping ground for fat, high sodium, high-sugar juices, and low-fiber foods. Under the Reagan administration, ketchup was actually legislated to be a vegetable choice.[6] The fresh fruit supplied by schools was so under-ripe and tasteless that sadly most children just ended up tossing it in the garbage. More recently, many improvements have been made after concerned parents organized and pressured their local and congressional representatives.

An entire industry has matured in the past few years, scamming the gullible and naive public by promoting and selling several types of water. I will discuss a few below, but first a brief discussion on water.

# WATER

Keeping well-hydrated is crucial for health and well-being. There is no universally agreed upon quantity of water that must be consumed daily. Most people rely on thirst as a mechanism for how much water to consume, but this is not a reliable method. Older adults gradually lose their sense of thirstiness and can easily become dehydrated without realizing it. Infants and children can quickly become dehydrated with vomiting and diarrhea. Water is essential for the kidneys and other bodily functions.

Severe cases of dehydration can lead to kidney and heart failure.

Water lubricates the joints and forms saliva and mucus as well as regulating body temperature. The digestive system needs water as it makes minerals and nutrients accessible besides boosting performance during exercise.

These are but a few of the needs for water. After all, adults are 60% and our blood is 90% water.

In addition to drinking fluids, about 20–30% comes from the food we eat, such as soups, milk, fruit, and vegetables.

Drinking tested water from the tap is the safest and least expensive source of fluid for the body.

Plastic disposable water bottles are so popular that the empty bottles have become a major cause of river and ocean pollution. Be kind to Mother Earth and use a reusable water bottle.

# RAW WATER

Raw water is unfiltered, unprocessed, or untreated water that is bottled directly from a natural spring. Some companies are selling this water and marketing it as a safer alternative to chemically-treated water. Their position is that this water has natural probiotics

that help promote digestion and good health. Raw water does not offer distinct health benefits over drinking tap water. Supporters of raw water believe that sterilizing and purifying water destroys the natural minerals and probiotics present in water. Before the development of public water systems and water treatment centers, waterborne illnesses, such as typhoid and cholera, were not uncommon. Now how can I keep an “open mind” on this one? *Caveat Emptor.* You be the judge.

# PROTEIN WATER

Protein water, which has an added whey protein isolate, is promoted as a low calorie protein drink and a superior hydration beverage. A supporting study was made and funded by the Protein Water Industry.

# DEEP OCEAN WATER

Deep ocean water is desalinated water from a deep ocean current. The brand “Kona Deep Water” claims that this water has a unique blend of electrolytes and trace minerals that hydrates you twice as fast as bottled spring water. There’s nothing special about Kona Deep, except the price. It is basically just water.

# HYDROGEN WATER

Hydrogen water is water with added molecules of hydrogen. The promotors claim it “Boosts endurance, minimizes lactic acid, and reduces fatigue” and promises to improve athletic performance, reduce inflammation, and deliver powerful antioxidants. There is no

evidence to back up the claims for hydrogen water.[7]

### *"IONIZED" AND "ALKALINE" WATER*

I have strong feelings about this, so I won't go into detail about it. For those interested in this matter, I refer you to the websites: www.chem1.com/CQ/ionbunk.html and www.quackwatch.org.[8]

### *ICE WATER*

One more word about drinking water, that is, ice water with a meal. You may have been advised not to drink ice water with a meal. The explanation is that it damages your body's ability to properly digest food and drink. Food goes down improperly digested and the body is unable to retrieve the nutrients and energy that it needs. They claim that by decreasing the activity of your digestive system, cold beverages rob you of the nutrition of the food and that your body has to use energy in order to warm up that liquid inside your body. These pseudo-nutritionists proclaim further, without a shred of evidence, that the immune system, which works to fight off colds and other illnesses, can also suffer from this incomplete digestion because it does not have the energy it needs to function correctly. It is important to look for science-based evidence for hypotheses like this one. Far too many are fooled by these illogical ideas. This cold water advice was introduced to me in earnest by a Board Certified Plastic Surgeon. Go figure!

Bottom Line: Don't waste your time or money on these water gimmicks.

## SALT: IS IT TRULY THE WHITE DEATH?

Salt, or sodium chloride, is one of our oldest food preservatives,

used in commercially prepared foods as an inexpensive way to inhibit molds, retard spoilage, and provide smooth texture and quick-cooking properties. It's also a necessary mineral in our diet. On food labels, the words sodium, soda, monosodium glutamate, or the chemical symbol for sodium, Na, all signify salt. An infant's preference for salt does not emerge until four months, but how much is innate and how much is learned remains uncertain—quite unlike our taste for sugar, with which we seem to be inborn.[9]

Too much salt in childhood is an extreme dietary hazard, and has been linked to the development of hypertension (high blood pressure) in teenagers and adults. A high-salt diet beginning in infancy is a major cause of high blood pressure in adulthood. In a Dutch study, newborns who were fed, in addition to breast milk, formula and foods providing 22mg of sodium a day had lower blood pressures than those fed diets with 58 mg a day. Fifteen years after the study ended, the difference in blood pressure was still there.[10]

While high blood pressure seems to run in some families genetically, lots of sodium helps encourage this undesirable family trait. Whether or not there is any history of high blood pressure or stroke in your family, I recommend you limit your child's sodium intake—and your own.

The amount of sodium in a diet should approximate a ratio of sodium in milligrams (mg) to the amount of calories in your diet. In other words, a 700-calorie diet should have sodium limited to about 700mg while a 2000-calorie diet should limit sodium intake to 2000mg or two grams. Avoid foods with more than 350 mg of sodium per serving. The right amount of sodium needed by children through adulthood can be found *naturally* in fresh vegetables, grains, meats, poultry, and fish. But in fact, many children consume over 5000 mg of sodium daily. Adults often consume from 10,000 to 12,000 milligrams *daily* between what's natural in the food, what the food industry has added to the food, and what we add ourselves from the

salt shaker in the kitchen and at the table!

Speaking of the Food industry, there have been a few studies, mostly subsidized by the Food Industry, claiming that the effect of sodium as a cause of high blood pressure has been greatly exaggerated. The researchers are from reputable universities, but these seriously flawed studies have been very short term. Totally ignored in these studies are infants, children, and young adults. Newspapers, magazines, and “health journals” have been complicit in publishing outrageous distortions under headlines suggesting salt should be used more liberally and that our prior understanding of salt or sodium is now, can you believe this, “obsolete dogma.” No wonder most people are confused when presented with such misinformation. Chefs from major restaurants are already featuring dishes “enhanced with flavors from exotic healthy salts.”

I have actually heard many pediatricians say, “Don’t worry about salt or sodium, it is an important part of the diet.” Then they cite only rare salt-losing diseases such as Addison’s disease, cystic fibrosis, or another rare problem found in some children and teenagers who suffer from fainting due to low blood pressure. This nutritional perversion does not negate the truth of salt producing hypertension. This is what the Food Industry is promoting so effectively.[11]

High blood pressure is a serious matter. What a child eats sets the stage for high blood pressure later in life. It can eventually lead to heart failure, a condition where the heart gets larger and weaker and is less able to pump blood. High blood pressure (hypertension) can also lead to aneurisms. Aneurisms are small blister-like areas in the blood vessels of the brain (leading to a stroke) or the aorta, which can burst (dissecting aortic artery), causing sudden rapid death or permanent disability. Kidney failure is another result of high blood pressure. As blood vessels in the kidney narrow, they are less able

to supply the kidney with blood. This could lead to permanent kidney damage. Hypertension also speeds the hardening of arteries. Healthy arteries are elastic. When the arteries to the brain, heart, and other organs in the body become less elastic or hard, they are less able to carry blood and the result is early aging or premature death of these organs.

A stroke is a “brain attack” and its mechanism is similar to a “heart attack.” Blood to the brain either becomes blocked (the most common type) and is referred to as an “ischemic stroke,” or bursts and is referred to as a “hemorrhagic stroke.” In both cases, damage to the brain is caused by lack of oxygen and blood glucose. Oxygen and glucose (sugar) are essential nutrients carried to the brain by blood vessels. Brain cells quickly begin to die without these nutrients. The results may be impaired speech if the brain cells in the speech center die; paralysis of the arms or legs if the motor brain cells die; blindness if the vision center brain cells die; or coma and death if the stroke is severe enough to cause the death of enough vital brain cells. A diet low in sodium, saturated fat, and added sugar, plus regular exercise greatly reduces the risk of stroke. Although stroke is usually an event that occurs in adulthood, its roots (poor food choices and exercise habits) are developed during childhood.

When selecting a food, note the amount of calories. Then check the label for sodium content. If the sodium content in milligrams is far above the number of calories, search the shelves for a brand that contains less salt. There are many canned soups available now that have a reduced or low salt counterpart. Bread and cheese are very high salt foods. Check the labels—you’ll be surprised. Take time out one day to calculate how much salt you actually consume in a day. The figure may be shocking!

For most Americans, 10% of the sodium in their diet occurs naturally in food, 15% comes from the salt they shake on while cooking or at the table, and 75% is added to food during processing.

A bowl of canned chicken noodle soup can deliver 900 mg of sodium —for a child, that's over a day's worth of sodium and that's why it's so important to check the Nutrition Facts label.

Children in a nationally representative sample consumed an average of 3,387 mgs of sodium per day, more than double the upper limit of 1500 mgs recommended.

The Recommended Dietary Allowance (RDA) of sodium for healthy adults is 2,300 mg daily. That is equivalent to one teaspoon (6375mg) of salt a day. The children's RDA for sodium are the following:

Ages 2–3 are 1000 mgs Ages 4–8 are 1200 mgs Ages 9–18 are 1500 mgs

If you can save your child from the habit of craving a relatively high salt diet, you may save him or her from future heart disease or stroke, or an earlier death. I personally know many middle-aged men and women who ignored this advice and have suffered possibly preventable brain-damaging strokes.

A cup of cottage cheese, a small bag of pretzels, and a salad with Italian dressing contains more than the adult recommended daily limit of sodium—2400 mg! A glass serving of Campbell's 100% tomato juice contains 980 mg of sodium and the parmesan cheese sprinkled on top of the pasta dinner adds about 500 mg.

Improve your odds by modifying your own salt intake. The following is a five-step program for the gradual reduction of salt in your family's diet. It takes most adults about a year to withdraw from the salt craving. Go slowly and you won't feel deprived. It will take the children much less time, but in either case it's a minor and brief deprivation in the big scheme of things, and worth it.

## *FIVE STEPS FOR MODIFYING SALT INTAKE*

1. Empty the salt from the shaker on the table and refill with a non-sodium herbal substitute.

2. Gradually use less salt in cooking—don't use it at all in cooking water. Start with half the salt a recipe calls for. After a few months, omit salt from cooking entirely.

3. Notice sodium content on food labels. Decrease your sodium intake to below 2,300 milligrams if you are an adult, or less if you are younger (refer to the RDA above). Remember: if you consume 2,000 calories a day, your sodium intake should equal 2,000mg or less per day. This is an easy "rule of thumb" to remember. Calories per day=Milligrams of sodium per day. Canned foods are very high in sodium (unless specifically stated as, "reduced sodium, low sodium or no salt added"), followed by frozen foods, but some fresh foods are too—like tomato and celery—therefore don't add salt to such dishes. Stop buying canned soups! These are "hypertension in a can." Eat fresh fruit daily to supply much needed potassium to balance your sodium intake.

4. Don't keep highly salted foods in the house. Avoid the temptation of buying high sodium crackers, chips, salted nuts, bacon, sausages, lunch meats, dehydrated soups, tomato or V-8 juice, most canned soups, pickles, relishes, barbecue sauces, lox, herring, many processed cheeses and especially cheddar cheeses, or Jell-O. Treat yourself to such foods only on special occasions in small amounts, when you're away from home or at a Super Bowl party.

5. In a year's time you won't believe how different foods taste or that you ever purposefully put salt on your corn on the cob! Restaurant food may seem very salty, unless you ask the chef to use very little salt and no MSG.

There are other measures that help control hypertension. Exercise regularly; make this a daily routine and keep it a part of your lifestyle as you do with brushing your teeth. Lose weight and keep it off by eating smaller portions. You may need to take medication for the rest of your life to keep your blood pressure in a safe range. Do not despair! The earlier you begin these lifestyle changes, the better chance those future “Golden Years” will have to become truly Golden.

## THE PROCESSED (SALT) FOOD INDUSTRY SPEAKS UP[12]

By Fiona Godlee Author affiliations Assistant editor, BMJ London WC1H 9JR

(British Medical Journal) Delaying salt reductions has public health and commercial costs

“Like any group with vested interests, the food industry resists regulation. Faced with a growing scientific consensus that salt increases blood pressure and the fact that most dietary salt (65–85%) comes from processed foods, some of the world’s major food manufacturers have adopted desperate measures to try to stop governments from recommending salt reduction. Rather than reformulate their products, manufacturers have lobbied governments, refused to cooperate with expert working parties, encouraged misinformation campaigns, and tried to discredit the evidence. This week’s BMJ finds them defending their interests as vigorously as ever.

“In 1988 the BMJ published data from the Intersalt study suggesting that populations with high average intakes of salt were likely to have higher average systolic blood pressures and that salt intake predicted rise in blood pressure with age. The salt producers’ international trade organization, the Salt Institute, criticized the study,

particularly the methods used to relate blood pressure to age, and asked the investigators to hand over their raw data for reanalysis. The investigators instead performed the reanalyses themselves: these confirmed the previous findings."

## WHAT'S ALL THIS TALK ABOUT SUGAR?

# THE SUGAR HYPOTHESIS

Sugar as a cause of cardiovascular disease, was reported by Dr. Hohn Yudkin in Lancet, a respected British Medical Journal, in 1964. Yudkin studied levels of dietary sucrose (table sugar) in patients with coronary atherosclerotic (hardening of the blood vessels) disease. He claimed that dietary sugar might be involved causally in coronary heart disease and type 2 diabetes. In another study that followed, it was shown that the sugar intake of men with heart attacks or artery disease was twice that of others without cardiovascular disease. Studies he conducted on sugar indicated that they raised blood triglycerides and insulin levels. Dr. Yudkin's claims were pushed aside when subsequent studies did not confirm the original claims that sucrose was a major contributor to coronary heart disease risk.

Investigators and endocrinologists are still claiming simple sugars, especially sucrose, fructose, and high fructose corn syrup (HFCS) to be the culprits involved in our epidemic of obesity, diabetes type 2, and cardiovascular disease (The Metabolic Syndrome). In 1972 Dr. Yudkin's book *Pure, White, and Deadly* was published by Davis-Poynter Ltd. *Sweet and Dangerous* was published in 1972 by Bantam Books. Read what happened and how this study was debunked.

### *HAVE THEY NO SHAME?*

Anahad O'Connor of the New York Times wrote, "The sugar

industry paid scientists in the 1960s to play down the link between sugar and heart disease and promote saturated fat as the culprit instead, newly released historical documents show."[13]

The internal sugar industry documents, recently discovered by a researcher at the University of California, San Francisco, and published in JAMA Internal Medicine, suggest that five decades of research into the role of nutrition and heart disease, including many of today's dietary recommendations, may have been largely shaped by the sugar industry.

"They were able to derail the discussion about sugar for decades," said Stanton Glantz, a professor of medicine at U.C.S.F. and an author of the JAMA Internal Medicine paper.

The documents show that a trade group called the Sugar Research Foundation, known today as the Sugar Association, paid three Harvard scientists the equivalent of about $50,000 in today's dollars to publish a 1967 review of research on sugar, fat, and heart disease. The studies used in the review were handpicked by the sugar group, and the article, which was published in the prestigious New England Journal of Medicine, minimized the link between sugar and heart health and cast aspersions on the role of saturated fat.[14]

## THE "HEALTH FOOD INDUSTRY," THE 21ST CENTURY SNAKE OIL

There are few short cuts to good nutrition**.** Each week a new herbal, vitamin or mineral is featured at the health food store promising the consumer greater longevity and a clearer, more facile mind. This approach is specifically derived from soft evidence suggesting some benefits from an amino acid, vitamin, mineral, or herb and sold as a panacea. These products are very iffy at best. As an example, beta carotene taken as a supplement by smokers

actually increased morbidity and mortality due to lung cancer instead of giving the assumed protection.[15] I am not saying that supplements are not important. They definitely are. Particularly Vitamin D, folic acid, Vitamin B-12 (especially in the elderly and vegan/vegetarians), B-6 in certain select groups, calcium, and selenium. But there is little evidence that these nutrients help very much if the consumer consumes a balanced diet high in fiber, low in sodium and saturated fats.

To get the protective effect of these nutrients, you must eat adequate amounts of fruits and vegetables every day. Foods work together in concert. Isolating any of the many nutritional compounds and putting them in pill form unfortunately causes them to lose most of their effectiveness for reasons that are not totally clear. Save your money and buy the real thing! All those “nutrients” and antioxidants won’t make up for a fatty, salty, sugary diet that is low in fruits and vegetables.

## SUPPLEMENTS AND “MEDICAL FOODS”

The Health Food Industry is always interested in increasing profits. This multibillion-dollar industry’s answer is supplements and more recently, “medical foods.”[16] vitamins and minerals in the form of pills, capsules, and powders are promoted to “make sure” nutrition is complete. The mantra is, “just to be sure” that your poor diet or picky eater’s diet is nutritionally complete. “Health Food” stores promote all types of antioxidants to their clients in beverage or pill form as nutritional supplements, overstating their power to prevent heart attacks, correct erectile dysfunction (ED), support the immune system, fight inflammation, and unlock health secrets of “Traditional Chinese Herbal Medicine.” Many of these clients thus continue their lethal dietary habit of consuming a high saturated fat, high simple sugar, highly refined food, fried food, and high salt diet. Each year

the “Health Food Industry” comes up with a new “Fountain of Youth.”

“Supports” is the magical word that permits those claims to be legal. By using this phrase “helps support,” as long as the claims do not name a disease or promise to treat a condition, they are able to get around regulations, and hype their pills based on pseudoscience. This multi-billion dollar industry is the 21st century Snake Oil.

The Food and Drug Administration (FDA) only allows food companies to say evidence “supports or promotes.”

The FDA’s definition of Medical Food is limited to products that provide crucial therapy for patients with inborn errors of metabolism, such as phenylketonuria (PKU). A Phenylalanine free food is an example of a Medical Food. Manufacturers markets “medical foods” such as low-protein spaghetti for chronic kidney disease (CKD). This 18 billion dollar industry is now very popular in Europe. In the USA, the marketing of gluten-free foods is all the rage! Medical foods are not drugs and they are not supplements. The FDA does not require formal approval of a medical food, but by law the ingredients must be “generally recognized as safe” (GRAS) Be skeptical of supplements that claim to “support” or “boost.”