



## Fundamentals of Natural Medicine

FOR MOST PEOPLE, a good natural-medicine program starts with their diet. The relationship between diet and health was recognized more than two thousand years ago by Hippocrates, the "Father of Medicine," who said, "Let your food be your medicine and let your medicine be your food." Additionally, in 1726, Jonathan Swift (*Gulliver's Travels*) wrote, "Kitchen, physic [medicine] is the best physic." More recently, Dr. Gaby's Uncle Ruben, remarked, "Health comes from the farm, not the pharmacy."

Many people come to our clinics looking for the magic vitamin or herb that will solve their problems, and they are not particularly interested in changing their diets. Some people who refuse to work on their diet do, in fact, see marked improvements when they take the right vitamins, minerals, amino acids, hormones, or herbs. However, most such individuals achieve less-than optimal results. Those who are intolerant to refined sugar or have food sensitivities hardly improve at all until they make the necessary dietary changes. We recommend dietary improvement for two principal reasons: 1) a good diet may help prevent killer diseases such as cancer, heart disease, stroke, and diabetes from developing in the future, and 2) making appropriate dietary changes will often relieve today's symptoms and medical problems.

### *An Overview of Dietary Considerations*

THE MOST basic principle of nutrition is to consume a wide variety of health-promoting foods and to avoid (or reduce the intake of) foods that are known or suspected to cause adverse effects. Foods that are "good" for most people include whole grains, fresh fruits and vegetables, nuts and seeds, legumes, and moderate amounts of low-fat animal foods (beef, chicken, fish, and eggs). Potential "problem foods" include refined sugars, white flour, and foods that contain processed or modified fats, caffeine, or excessive amounts of salt. The relative merits and risks of consuming dairy products are still being debated. Consuming alcohol in moderation may be safe for many people, but drinking large amounts can be dangerous. Drinking pure, unpolluted water is also important. These issues are discussed in greater detail below.

### *Beneficial Foods*

A HEALTH-promoting diet should consist of a wide variety of whole, unprocessed foods that are free of chemical additives and, if possible, grown without the use of pesticides. Such a diet generally includes liberal amounts of fresh fruits and vegetables, whole grains, nuts, seeds, and legumes. For most people, animal foods such as eggs, fish, chicken, and beef may be healthy in moderation. Of course, as most vegetarians have shown, good health can be maintained without eating animal foods. In fact, compared with meat-eaters,



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vegetarians may have a lower risk of heart disease, hypertension, gallbladder disease, kidney stones, and other disorders. However, if a vegetarian does not plan his diet carefully, he can develop deficiencies of protein, iron, zinc, vitamin D, vitamin B12, and other nutrients.

A balanced, whole-foods diet provides the key nutrients—proteins, carbohydrates, fats, vitamins, and minerals—that are essential for life and good health. If those nutrients were all that whole foods provided, most of us could thrive on junk food, as long as we took nutritional supplements. That is not, however, the case. While many individuals do benefit, sometimes dramatically, from nutritional supplements, individuals who also work on their diet achieve the best results.

One reason whole foods are so important is that they contain many compounds that are not considered "essential nutrients," but that appear to play an important role in human health. For example, soybeans contain two molecules known as isoflavones—genistein and daidzein—that serve to modulate or balance the effects of estrogen.<sup>1</sup> In postmenopausal women who are deficient in estrogen, eating soy products has been shown to relieve hot flashes (apparently by exerting an estrogenic effect).<sup>2</sup> In women with too much estrogen, on the other hand, soy isoflavones compete with the stronger human estrogens, possibly reducing the risk of breast cancer and other hormone-dependent cancers.<sup>1</sup> Soybeans have also been

shown to prevent atherosclerosis (hardening of the arteries) in experimental animals<sup>4</sup>—an effect that may be due at least in part to the isoflavones.

Many other foods contain "healthful" compounds. For example, broccoli, brussels sprouts, cabbage, and cauliflower contain indole-3carbinol and several other compounds that appear to have anticancer activity.<sup>5</sup> Tomatoes, pink grapefruit, and watermelon contain another cancer-fighting substance called lycopene.<sup>6 7</sup> Spinach, collard greens, and other dark-green leafy vegetables are rich sources of lutein, a carotenoid that may prevent the development of age-related macular degeneration.<sup>9</sup> (See chapter on macular degeneration for more information.) Blueberries and grapes contain flavonoids called anthocyanosides, which may help prevent varicose veins and improve visual function.

Whole grains, fruits, vegetables, and other plant foods are good sources of dietary fiber. Most health-care practitioners accept that fiber promotes normal bowel function, prevents constipation, and helps prevent diverticular disease of the colon. In addition, evidence suggests that eating enough fiber may reduce the risk of heart disease, diabetes, hemorrhoids, and some types of cancer.



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### *Refined Carbohydrates Cause Problems*

IN addition to recommending health-promoting foods, we advise avoidance of those foods that promote illness. At the top of that list is refined sugar. By "refined sugar," we mean not just the table sugar that we put in our coffee and tea or on top of our cereal, but also the large amounts of sucrose, fructose, glucose, dextrose, high-fructose corn syrup, and other forms of sugar that are added by food processors to a wide variety of foods. "Refined sugar" does not include the sugar that occurs naturally in fruit, milk, and other whole foods. In the typical American diet, fully 19% of the calories come from added sugar. That translates to an average of 41 teaspoons of sugar per day. Most people find it difficult to believe they consume that much sugar. However, considering that a 12-ounce soft drink contains more than 8 teaspoons of sugar, and that pies, cookies, candies, doughnuts, pastries, cereals, applesauce, ketchup, and many other foods are heavily sweetened, 41 teaspoons per day becomes more believable.

Sugar is almost completely devoid of vitamins, minerals, and other essential nutrients. Thus, the typical American diet contains 19% fewer nutrients than it would if all of the sugar were eliminated. This across-the-board reduction of nutrient intake may have long-term consequences for our health, as well as affecting how we

feel today. Studies described elsewhere in this book have shown that ingesting large amounts of sugar can cause adverse changes in risk factors for cardiovascular disease, impair the body's ability to fight infection, and possibly increase the risk of developing kidney stones and osteoporosis.

In our experience, sugar is also a major contributing factor to a wide range of symptoms, including fatigue, depression, anxiety, insomnia, premenstrual syndrome, headaches, joint pains, and abdominal complaints. Many of the negative effects of sugar may be due to the fact that it is absorbed very rapidly into the bloodstream, a phenomenon that the human body was apparently not programmed to handle efficiently. When blood-sugar levels rise abruptly, the body often overreacts and releases excessive amounts of insulin. This outpouring of insulin tends to push blood-sugar levels too low (hypoglycemia), resulting in a compensatory release of adrenaline and other blood-sugar-raising hormones. Thus, eating too much sugar can cause both wide swings in blood-sugar concentrations and elevated levels of various regulatory hormones. Some of the symptoms commonly attributed to "hypoglycemia" are indeed due to low blood sugar, but other symptoms appear to be caused by the high levels of adrenaline, insulin,<sup>10</sup> or other hormones that result from eating too much sugar. Whatever the biochemical explanation, we have found that



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for many individuals, removing sugar from the diet is extremely beneficial.

Refined grains, such as white bread and white rice, should also be avoided and replaced with whole-grain breads and brown rice, respectively. When whole grains are refined, the nutrient-rich germ portion and the nutrient- and fiber-rich bran portion are lost. Refined grains, which comprise approximately 30% of the calories in the American diet, contain substantially lower amounts of vitamins, minerals, and fiber than their unrefined counterparts. In addition, the carbohydrates in refined grains are absorbed relatively rapidly and may promote some of the same symptoms as eating sugar (albeit to a lesser degree).

### *Avoid "Bad" Fats*

MOST doctors agree that our diets should be relatively low in fat. However, many people do not appreciate that the type of fats in the diet may be even more important than the amount of fat consumed. One potentially dangerous class of fats is the so-called *trans-fatty* acids that are produced during the processing of vegetable oils. *Trans-fatty* acids rarely (if ever) occur in natural foods. They are present in large amounts in most margarines and they are also found in foods that contain partially hydrogenated vegetable oil. Evidence shows that ingesting *trans-fatty* acids promotes the development of essential fatty-acid

deficiency." Moreover, studies have suggested that consuming *trans-fatty* acids may increase the risk of heart disease.<sup>12,3</sup> We therefore recommend that people avoid margarine and foods that contain partially hydrogenated vegetable oil.

Also potentially dangerous are vegetable oils that have been heated to high temperatures, as one would find in fried foods. The polyunsaturated fatty acids that are present in most vegetable oils are relatively unstable, and when they are heated in the presence of oxygen (from the air), some of these fatty acids are converted to toxic compounds called lipid peroxides. Consuming excessive amounts of lipid peroxides can lead to a chain reaction of chemical events known as free-radical damage. Free-radical damage is believed to accelerate the aging process and possibly contribute to heart disease, cancer, and other problems. Although the polyunsaturated fats found in vegetable oils have a number of positive effects on our health, the risks probably outweigh the benefits when these fats become oxidized.

Because of the chemical changes that occur in oils when they are heated to high temperatures, eating a lot of fried foods is not a good idea. Stir-frying is safer than deep-frying, because only a small amount of oil is heated and for just a short period of time. Also, if food must be fried, olive, coconut, or palm kernel oils are preferable,



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as they are less likely than other oils to form lipid peroxides during heating.

Cholesterol is also an unstable molecule. In the presence of heat and air, it can be converted into highly toxic cholesterol oxides. Animal studies show that eating pure cholesterol is not particularly harmful, but eating even small quantities of oxidized cholesterol causes considerable damage to the arteries.<sup>4</sup> High-temperature cooking with butter or lard is likely to produce significant amounts of oxidized cholesterol. In addition, broiling or baking beef or other cholesterol-containing foods at high temperatures probably produces more toxic byproducts than cooking at lower temperatures for longer periods of time. Poaching eggs or boiling them inside their shells presumably creates little or no oxidized cholesterol, because the cholesterol in the yolk is not exposed to oxygen during cooking. On the other hand, scrambling eggs or baking with eggs probably causes a significant amount of these toxic molecules to be produced. Other sources of cholesterol oxides include dried-egg products, powdered milk, grated cheeses, and processed meats.

The oxidation of unsaturated fats and cholesterol that occurs during cooking also takes place in the open air at room temperature, although at a much slower rate. For this reason, butter, nuts, vegetable oils, and other foods that

contain unstable fats should be protected from exposure to air and kept refrigerated as much as possible.

In contrast to the "bad fats" described above, so-called "essential fatty acids" (EFAs) have a number of beneficial effects. EFAs are usually classified as either omega-6 or omega-3 fatty acids, depending on their chemical structure.

Sunflower oil, safflower oil, and soybean oil are good sources of omega-6 EFAs. The best sources of omega-3 fatty acids are flaxseed oil and fish oil. Increasing one's intake of EFAs can be helpful for a wide range of medical conditions, ranging from prostate enlargement to psoriasis to heart disease.

### *What About Dairy Products?*

Cow's milk is heavily advertised by the dairy industry as a health-promoting food—one that "does a body good." However, while dairy products are a good source of protein, calcium, and some other nutrients, there are a number of important concerns about the safety of this food group. Research suggests that drinking milk may increase the risk of developing type 1 (juvenile onset) diabetes,<sup>15</sup> although not all of the studies agree. The mechanism by which milk might cause diabetes is as follows: First, certain proteins or partially digested fragments of proteins from milk are



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absorbed intact into the bloodstream. Next, the immune system recognizes these proteins as foreign and manufactures antibodies against them. Finally, in individuals who have a specific genetic makeup, these antibodies cross-react with cell-surface molecules in the pancreas, resulting in the destruction of the insulin-producing cells of the pancreas.'

Evidence also indicates that consuming cow's milk may be a cause of heart disease, independent of its saturated fat and cholesterol content. Cow's milk contains an enzyme called xanthine oxidase, which is said to be capable of damaging blood-vessel walls and promoting atherosclerosis (hardening of the arteries)." Normally, this enzyme would not cause any trouble, because it would be destroyed by digestive juices shortly after a person drinks the milk. However, the process of homogenization causes xanthine oxidase to become coated by fat molecules and effectively "walled off" from the digestive juices, possibly allowing it to be absorbed intact into the bloodstream. The absorption of xanthine oxidase from cow's milk has been demonstrated in animals." Additionally, human atherosclerotic plaques have been found to contain xanthine oxidase." Although these studies do not prove that milk causes atherosclerosis, it is noteworthy that the incidence of heart disease around the world correlates with consumption of

homogenized milk, but not with consumption of butter or cheese (which are higher in fat, but which contain little or no absorbable xanthine oxidase).<sup>20</sup> Significant amounts of xanthine oxidase are presumably absorbed from whole milk, 2%-fat milk, and 1%-fat milk, whereas little or none of this enzyme would be absorbed from skim milk, cheese, butter, or yogurt.

Another problem with cow's milk is that many people lack the enzyme necessary to digest lactose—a sugar that is present in milk and most other dairy products (except some cheeses). Lactose intolerance is extremely common among persons of Asian or African descent (with an estimated 80 to 90 percent being affected), as well as among the population of southern Europe and India. Individuals with lactose intolerance often experience nausea, diarrhea, intestinal cramps, or bloating when they consume dairy products. Perhaps more important, the proteins in cow's milk are among the most common allergens in the human diet. We have seen hundreds of people whose problems (including nasal congestion, asthma, arthritis, ulcerative colitis, peptic ulcer, recurrent ear infections, manic-depressive psychosis, and various skin conditions) resolved after they removed dairy products from their diet.

For these reasons, we advise many individuals to restrict their intake of dairy products or to avoid them altogether, and to



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obtain their calcium from other sources, such as dark green vegetables (except spinach), whole grains, beans, and calcium supplements.

### *Caffeine*

MOST American adults consume caffeine every day, primarily in coffee, tea, chocolate, or cola drinks. Because caffeine consumption is so widespread, many of us overlook the fact that it is an addictive and potentially toxic chemical that has profound effects on human physiology. While not all research agrees, caffeine consumption has been implicated as a contributing factor to anxiety, insomnia, hypertension, fibrocystic breast disease, impaired fertility, headaches, osteoporosis, heart-rhythm disturbances, and some gastrointestinal complaints. Although withdrawing from caffeine often causes fatigue and fairly severe headaches for a day or two, most people who make it through the withdrawal period feel considerably better than when they were consuming caffeine.

### *Alcohol*

WHEN consumed in excessive amounts, alcohol can damage the liver, heart, brain, and other organs. Moderate alcohol consumption (such as one drink per day) does not appear to cause problems for most people, although some individuals (particularly those who are intolerant to refined carbohydrates), experience

symptoms even from small amounts of alcohol. Drinking alcohol may aggravate hypertension, gout, psoriasis, and rosacea (a skin condition). There is some evidence (by no means conclusive), that drinking moderate amounts of red wine (or possibly other alcoholic beverages) may reduce the risk of developing heart disease. However, considering that heart disease can be prevented in many other ways, we are hesitant to recommend that a potentially toxic and addictive substance be used for that purpose.

### *Food Additives*

MODERN processed foods contain so many chemical additives that it is impossible to determine all the effects they have on our bodies. Studies have implicated artificial colorings as a triggering factor for hyperactivity in children; tartrazine (Yellow Dye #5) and sulfites as factors in asthma; sodium benzoate as a cause of hives; and the artificial sweetener aspartame as a cause of a wide range of symptoms in susceptible individuals.<sup>21,22</sup> Some farm animals are treated with hormones and antibiotics, and the residues of these substances may remain in the meat after the animals are slaughtered. Certain pesticides have estrogenic activity and could, in theory, increase the risk of reproductive problems and certain cancers. Although we still have a great deal to learn about the health effects of food additives,



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common sense suggests that we do our best to keep them out of our diet, by emphasizing fresh, unprocessed foods that are grown without the use of pesticides, antibiotics, and hormones.

### *Importance of Drinking Pure Water*

MOST tap water in the United States contains two potentially toxic additives: chlorine (which is used as a disinfectant), and fluoride (which is put in the water to prevent dental cavities). Chlorine is a powerful oxidizing agent, and it has the potential to accelerate the aging process by inducing free-radical damage to cells. Evidence also suggests that ingesting chlorinated water may increase the risk of heart disease<sup>23</sup> and some types of cancer.<sup>24</sup>

Fluoride is a known poison that inhibits a number of essential biochemical processes. In addition, although fluoride has been reported to increase bone density, the quality of that bone seems to be impaired. This is demonstrated by an increase in the number of hip fractures in communities where fluoridated water is consumed.<sup>25</sup> While good evidence does show that drinking fluoridated water can reduce the incidence of cavities, an argument can be made that the risks of ingesting fluoride outweigh its benefits. Probably the most effective way to prevent

cavities is to eliminate refined sugar from the diet.

Aluminum is another toxic metal that is commonly added to municipal water supplies in order to remove particulate matter. In addition, the drinking water in many cities, including Boston, New York, Philadelphia, Washington, Seattle, San Francisco, and Phoenix, contains excessive amounts of lead. According to one estimate, about 32 million Americans drink water that exceeds the federal safety limit for lead of 15 parts per billion.<sup>26</sup>

Because of these problems with tap water, we advise our patients to use bottled spring water, distilled water, or filtered water for drinking and cooking. Distilling water or filtering it by reverse osmosis or other powerful techniques removes not only toxic contaminants, but also essential minerals. Individuals who consume demineralized water should therefore supplement their diet with a multimineral formula.

### *Living in a Polluted World*

IN ADDITION TO concerns about the foods we eat, the modern world is contaminated with tens of thousands of chemicals, some of which have been shown to be allergens, carcinogens, or promoters of various diseases. The adverse effects of environmental chemicals may actually be greater than the research suggests. That is because most



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chemicals are tested individually for toxicity, but the combined effect of several chemicals is sometimes much greater than that of any single chemical by itself.<sup>27</sup> Although it is not possible to avoid pollution completely, you can take measures to reduce your exposure and possibly improve your health.

### *Lead*

ONE of the most universal toxins is lead, which is widely used as an industrial metal. Low-level lead poisoning can cause muscle aches, fatigue, irritability, lethargy, joint pains, trouble concentrating, headaches, and weight loss. Lead may also contribute to heart disease, stroke, hypertension, and osteoporosis. As mentioned previously, some municipal water supplies contain excessive amounts of lead. In addition, approximately 200,000 tons of industrial lead aerosols are emitted annually into the atmosphere of the northern hemisphere. Some of this lead finds its way into our bodies through the lungs or by falling to the ground and entering the food chain through the soil. Other sources of lead include canned foods and some paints and cosmetics.

It is not known whether the amount of lead the average American is exposed to is a significant cause of symptoms or illness. However, it is noteworthy that the concentration of lead in the skeletons of modern Americans is about 500 times

higher than the concentration in the bones of individuals living 1,800 years ago. People can reduce their exposure to lead by avoiding canned foods and by drinking bottled water or water that is filtered in a way that removes heavy metals. In addition, animal studies and some research in humans suggest that people can reduce lead absorption and/or enhance its excretion by supplementing their diets with various nutrients, including vitamin C, zinc, calcium, and magnesium.

### *Aluminum*

ALUMINUM is another potentially harmful metal that is widespread in the environment. Evidence shows that aluminum exposure may play a role in the development of osteoporosis and Alzheimer's disease.<sup>21</sup> As mentioned previously, aluminum is added to many municipal water supplies. Beverages stored in aluminum cans contain three to six times more aluminum than the same beverages stored in glass. Other sources of aluminum include food wrappings, aluminum cookware, sodium aluminum phosphate (a food additive), baking powder, processed cheese, pickles, and some antacids.

### *Mercury*

MERCURY is perhaps the most toxic metal on the planet. Our two major



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sources of mercury exposure are fish and dental fillings. Fortunately, certain minerals or other molecules present in fish latch onto mercury and form a larger compound that, for some reason, is relatively harmless. However, the same is not true of the mercury in dental amalgams. The act of chewing has been shown to release measurable amounts of mercury vapor from these amalgams into the mouth. In animal studies, placing mercury amalgams in the mouth resulted in abnormalities of immune function, which returned to normal when the mercury was removed from the mouth.

The question of whether mercury fillings represent a health risk to humans has been heatedly debated. Although disagreements persist, we do not believe that the continued use of mercury fillings is justifiable, considering that many other materials are available in modern dentistry. Whether people should have their old mercury amalgams removed is another question. We have seen some patients in whom an autoimmune disease or other serious illness improved dramatically after their mercury fillings were replaced with other materials. However, only about 10% of those who have undergone amalgam removal have seen significant benefit. Changing one's fillings is expensive and traumatic to the teeth. When considering removing mercury fillings, the potential benefits

should be weighed against the cost and the risk of damage to the teeth.

Many other environmental chemicals have been shown to affect human health. While space does not permit a discussion of every known pollutant, we recommend that you remain aware of when you are being exposed to toxic chemicals, and try to avoid unnecessary exposure as much as possible.