

THE BLUE FOLDER

The Blue Folder

A Career Collection of Nutritional and Wellness Articles

Joseph R. Montante, M.D.

Career Archive

Table of Contents

The Science and Art of Nutritional Therapy: Vitamin and Glandul... Original Blue Folder pages 1-3	p. 4
Introduction to Metabolic Therapy Original Blue Folder pages 4-5	p. 7
The Difference Between Diet and Nutrition Original Blue Folder pages 6	p. 10
Causes and Consequences of Relative Malabsorption Original Blue Folder pages 7	p. 11
Enzyme Nutrition Original Blue Folder pages 8-9	p. 12
Nutrition for the Elderly Original Blue Folder pages 10-11	p. 14
Holistic Health Original Blue Folder pages 12	p. 16
The Holistic Environment Original Blue Folder pages 13	p. 18
Vitamins Original Blue Folder pages 14-15	p. 20
New Scoop on Vitamins Original Blue Folder pages 16-17	p. 23
Standard Dietary Recommendations Original Blue Folder pages 18-19	p. 25
Sodium Content of Food Original Blue Folder pages 21	p. 27
Anti-Oxidants and Longevity Original Blue Folder pages 22-23	p. 28
Non-Dairy Sources of Calcium, Magnesium and Zinc Original Blue Folder pages 24-25	p. 31
Vitamin, Iron and Potassium Reference Original Blue Folder pages 26	p. 33
Could Allergies Be Related to Diet? Original Blue Folder pages 27-28	p. 34
Working the Body Original Blue Folder pages 29-30	p. 36
Exercise and Your Health Original Blue Folder pages 31-32	p. 38

Table of Contents

Exercise Prescription Original Blue Folder pages 33	p. 42
Chlorine: Enemy in Our Drinking Water Original Blue Folder pages 34-35	p. 44
Fluoride Facts Original Blue Folder pages 36-37	p. 47
The Homocysteine Threat Original Blue Folder pages 38	p. 50
Seven Factors of Longevity Original Blue Folder pages 39	p. 51
Cancer Prevention Original Blue Folder pages 40	p. 52
Osteoporosis Original Blue Folder pages 41-42	p. 53
Controlling Candida Albicans Original Blue Folder pages 43-44	p. 55
Detoxification Original Blue Folder pages 45-47	p. 57

THE SCIENCE AND ART OF NUTRITIONAL THERAPY

VITAMIN AND GLANDULAR SUPPLEMENTS

Joseph R. Montante, M.D.

The integrity and optimum functioning of our glands and organs are influenced by many actors such as environment, diet, genetics, supplementation and our psychology. We each have our own biochemical individuality.

For example, good nutrition can facilitate a person to attain the highest level of functioning of his or her organs and glands. Vitamin C and pantothenic acid (a B vitamin) help support the glands in proper functioning.

Aging is also an important factor in our nutritional needs. The integrity of the organ and glandular function needs to be taken into consideration during the aging process.

The physiologic and psychologic stresses that people may have on a day to day basis have a direct effect on the endocrine and nervous systems. These types of stresses can deplete essential nutrients and may affect certain inherent weak areas of the body. Nutritionally speaking, various supplements can be used to support different physiologic and psychologic imbalances.

Natural vitamins are organic food substances found only in living things, plant or animal. About twenty such substances are known. Vitamins do not serve as sources of energy, but are used to form enzymes which catalyze reactions in the body. As such, they are involved in the utilization of fats and carbohydrates, and assist in the formation of bones and tissues from protein.

Vitamin requirements on an individual level cover an enormous range. Many factors can and do come into play to alter one's vitamin needs. Antibiotics, sulfa drugs, industrial poisons, inhalation of toxic substances such as lead from polluted air and insecticide

residues have all been shown to cause the reduction or destruction of vitamins. For these reasons, vitamin standards, such as the U.S.R.D.A., should be used only as a basis for nutritional planning, and not as the final word on individual needs.

The well known functions of vitamin A are: for the eyes, for the skin, for the health of the mucous membranes and to guard against infection. In addition, vitamin A is necessary for the synthesis of protein. The more protein in your diet, the higher your requirement becomes. Vitamin A can be obtained as preformed vitamin A, found only in animal tissues, or can be converted from carotene, found chiefly in plants and vegetables. Mega doses, however, are uncalled for since toxicity may develop. Because vitamin A is a fat soluble vitamin, as are vitamins D, K and E, it can accumulate in human tissues.

The B complex vitamins and vitamin C, on the other hand, are water soluble, and do not accumulate. Alcohol is particularly destructive of all the B vitamins. Niacin, vitamin B3, is found in two forms, niacinamide or "flushless niacin", and nicotine acid which causes a flushing effect due to the dilation of blood vessels. A severe niacin deficiency causes pellagra but studies now show that sub-clinical pellagra may be mistaken for mental illness, especially schizophrenia.

Amino acids can only be absorbed and utilized by the body if enough pyridoxine, vitamin B6, is present. People at risk of pyridoxine deficiency include pregnant women or those taking oral contraceptives, and anyone being treated with cortisone or other similar steroids. A deficiency of vitamin B12 can produce an alteration of blood cells known as pernicious anemia.

The other B complex vitamins are folic acid, pantothenic acid, biotin, inositol, choline and PABA. Folic acid is essential for the processes of growth and reproduction of all body cells. The poor, the elderly, and women taking oral contraceptives are at risk of deficiency which can cause anemia. Pantothenic acid, the anti-stress vitamin, is found in all living cells and is easily destroyed by insecticides. It, like many of the B vitamins, can be synthesized by the intestinal bacteria to a minor extent. Biotin is necessary for lipid formation in the body. Inositol and choline, on the other hand, act to prevent fat accumulation. They are basic constituents of lecithin, the body's fat emulsifier. PABA has therapeutic value as a sunscreen and will often smooth the pain of sunburn as well.

Vitamin C, ascorbic acid, acts as an antioxidant, preventing oxidation of valuable food substances and their consequent destruction. It is also involved in the formation of red blood cells and connective tissue. It is well known that stress increases vitamin C needs, such as during infections or exposure to cold.

One of the chief arguments for taking large doses of C (2-4 grams daily), is that most animals synthesize their own vitamin C in these same large quantities. No serious harm seems to result from this high an intake, and newer studies have shown almost without exception, that people receiving 1-2 grams of vitamin C per day had significantly less colds and other upper respiratory ailments. People under constant stress – diabetics, arthritics, smokers, chemical workers, cancer patients, etc., could all probably benefit from taking vitamin C supplements. Some researchers have reported benefits from vitamin C therapy in cancer patients.

Vitamin D can be synthesized in the skin by the action of the sun's ultraviolet rays. The many benefits of vitamin D stem from its ability to help supply the body with calcium and phosphorus. Vitamin D is necessary for

blood clotting although supplementation is not advised as it may lead to abnormal clotting.

Vitamin E is a well known antioxidant, protecting the polyunsaturated and vitamin A from unwanted oxidation. Its other uses are somewhat controversial and relate to its reported ability to decrease tissue needs for oxygen. The list of vitamin E benefits include: prevention of coronary thrombosis, relief of intermittent claudication (painful legs while walking), menstrual and menopausal irregularities and infertility. Food processing with heat destroys the vitamin E present. Estrogen is a vitamin E antagonist.

Tissue or cellular therapy is the use of organ tissues and raw concentrates of glands to support and facilitate the functioning of specific organs and/or glands. This particular practice is widely used in Europe. The theory or concept is based on a homeopathic model that like treats like, like cells help like cells. It is thought by many that these tissue substances contain intrinsic factors, other than vitamins, hormones, minerals or enzymes that have not yet been identified.

Dr. A. Kment in German medical publications in 1958 and 1972 demonstrated and documented through radioactive isotope tracing that intrinsic factors from tissue substances were taken by the bloodstream and absorbed by corresponding glands in the recipient. In the not too distant past Americans would regularly eat heart, intestines, and other organ meats as part of an average meal.

Today the quality of organ and glandular tissue in the country is questionable due to the drugs and chemicals that accumulate in them. The alternative is raw glandular and organ substances that have been dehydrated and processed at low temperatures where the unwanted substances are removed.

The usage of tissue concentrates is believed to improve the support of the activity of the particular gland. Below are a few of the tissue concentrates that are used in cellular therapy, along with a brief explanation of the glands they support.

The *hypothalamus* is a small structure located within the brain that has a feeding and thirst center, regulates body temperature and the autonomic nervous system and is an intermediary between the nervous (electrical) and the endocrine (chemical) systems via the pituitary.

The *pituitary gland*, sometimes called the master endocrine gland, regulates various bodily functions. The anterior pituitary is an endocrine gland that is involved in regulating protein synthesis, tissue growth, and stimulation of the immune system and regulation of the thyroid, adrenal cortex and gonads. The posterior pituitary is involved in water balance, kidney function, the action of certain muscles and blood pressure.

The *adrenal glands* respond to physical or psychological stresses. There are two functional parts to the adrenals. The adrenal medulla produces epinephrine and norepinephrine which trigger the sympathetic nervous system. The adrenal cortex produces a variety of steroid hormones. Steroid hormones regulate mineral balance and the metabolism of carbohydrates, fat and proteins.

The principle function of the *thyroid hormone* is to be a catalyst (spark) for oxidative reactions and the regulation of metabolic rates. It also plays a vital role in growth and development, digestive function, fat and carbohydrate metabolism, and the regulation and utilization of nutrients.

The *thymus* is an important gland for immune system function. Recent studies have an indirect effect on the hypothalamus, adrenals, thyroid and reproductive system. The *liver* is a vital organ to proper metabolic function. It produces numerous substances,

regulates various nutrients and is involved in detoxification.

The *pancreas* has an endocrine and exocrine function. The endocrine function is the production and secretion of insulin to regulate blood glucose. Its exocrine function is in the production and secretion of enzymes that facilitate protein, fat, and carbohydrate digestion in the small intestine.

Supplemental therapy is only one nutritional modality. It should not be used as the sole treatment but rather combined with other nutritional approaches. Indiscriminate supplementation can be detrimental. In high doses, supplements can act as medicines. Their metabolism and interaction in the body is quite complicated.

Recommendations for supplementation should be made only by a specialist who understands individual nutrition as well as the spectrum of biochemistry and human disease.

Introduction to Metabolic Therapy

Health is often described as the absence of symptoms. As most people are aware, being disease-less does not always reflect optimal health. The noted biochemist, Roger Williams, defines four (4) basic levels of nutrition. Poor nutrition, with obvious overt deficiency manifestation; fair nutrition, which corresponds to the absence of symptoms and which most medical doctors have been taught to regard as satisfactory; good nutrition, which supplies generous amounts of vitamins, minerals, and necessary food stuffs, and finally, super nutrition or optimal nutrition, which predisposes one to optimal health.

Optimal health, which can be defined as being full of zest and energy, is a far cry from feeling OK or not bad; to obtain such a goal we must turn to the investigation of biochemical individuality. Optimal nutrition is nutrition for the individual. Just as we have different hair colors and fingerprints, so it is with our nutritional needs. In order to develop the science and art of optimal health, we must first develop a way to differentiate a person's individual biochemical needs.

The term metabolic means internal mechanisms of regulation, i.e. which controls heart rate, blood pressure, temperature, digestion functions, etc. The metabolic system operates much like a pendulum in a state of suspended balance. Certain factors can cause the pendulum to swing, or shift from its original position. This is easily visualized like a "balanced scale" which can be weighted down to lean in one direction or the other. Both external and internal factors can come into play to tilt the scale in either direction.

What are the factors that influence metabolic movement? One of the most obvious is stress. For instance, if somebody attacks you, right away your body will shift into high gear, i.e. your heart rate goes up, blood pressure goes up, and your system becomes activated. This type of hyper metabolic activity is clearly not conducive to the proper digestion of food stuffs. Under stress, or high gear activity, the digestive functions are markedly diminished. In fact, the blood is shunted to the outer extremities and away from the digestive organs, and the glandular system is converted to a "fight or flight" mode of operation. Other such metabolic influencing factors include rest and sleep, eating or not eating, and exercise or the lack of it. Since stress is often a self imposed condition, our beliefs and opinions must also be recognized factors as well. If one gulps down his lunch, and then quickly jumps up to run off to work, the digestive process will be interrupted. This is one way in which our patterns of behavior affect the metabolic functions of the body.

There are primarily two systems which serve to regulate metabolic movement. The first of these is the Autonomic Nervous System (ANS) of which there are two branches, Sympathetic and Parasympathetic. The Sympathetic branch functions much like an accelerator speeding up metabolic movement while the Parasympathetic acts like a brake, slowing it down. The ANS is more of a superficial overlying system. It produces a swinging or rocking motion of the metabolic pendulum; its changes take place rapidly and may not last a long time. The second system, the glandular and organ system, on the other hand, provides an underlying maintenance level of control. Its changes are more profound in nature and can be described as a shift in the actual location of the pendulum; to a great extent, the control of acid-base and electrolyte balance depends on the glandular organ system. These two systems work together “hand in hand” to provide balancing and counterbalancing movements of one’s physiologic condition.

An important principle in metabolic therapy is the concept of compensatory adjustment. When the metabolic pendulum swings one way, it’s going to have a compensatory movement in the opposite direction. This is because the body acts like a self correcting machine, always trying to counteract the opposing forces. For example, your body shifts into high gear when you go for a jog, and when the “stress” is over, a swing of the pendulum occurs in the opposite direction, i.e. You feel relaxed and peaceful. Exercising before lunch then, is one way to facilitate the digestive process before heading back to work.

The same is true with the food in our diet. If you eat an acid fruit, it causes your body to produce an alkaline response. If you eat an alkaline food, such as most grains, it has an acid producing effect. This is due to Newton’s first law: For every action, there is an opposite and equal reaction. Other acid producing foods include: nuts, beans, eggs, red meat, dairy products for the most part, especially if pasteurized, as well as sugar and alcohol. The list of alkaline producing foods includes vegetables, fruits, herbal teas, millet, miso, soy sauce, wine, and to a certain extent seeds and sprouts.

The point of this is that what we see in our patients is often the result of something else that’s out of balance, rather than the problem itself. We must recognize and treat the underlying cause of imbalances and not just the compensatory reactions occurring in response. Treatment of a metabolic disorder at the level of causation will produce a more efficient and lasting result than treatment of just the effect of the imbalance. Although it may sometimes be necessary and desirable to treat symptoms, we should also address the source of the problem as well.

THE DIFFERENCE BETWEEN DIET AND NUTRITION

Joseph R. Montante, M.D.

Most of us have heard the saying “you are what you eat”. Without a doubt, the food we consume plays a major role in the eventual outcome of our health condition. But many people are receiving less than the optimal nutritional benefit they deserve from their food. The question is how well are nutrients utilized and absorbed; are the uptake of vitamins and minerals to meet your bodies’ nutritional requirements sufficient?

I suggest that a more complete saying would be “you are what you assimilate of what you eat”. The assimilation factor determines the benefit we derive from food to an even greater extent than the nutritional quality of the food itself. Drawing the distinction between the quality of food and the utilization of food represents the difference between diet and nutrition. Diet is what you eat, including supplements, while nutrition is what happens to the food after you eat it.

It is possible to be eating a well thought out “balanced” diet and not be obtaining adequate nutrition from the food consumed. The problem here is two-fold: on one hand the average American diet, including a wide variety of food choices, is actually deficient in copper and zinc and marginal in magnesium content. These inadequacies, which are based upon USRDA requirement levels, lead to excessive food consumption in an effort to make up for these deficits. The result, for many, is the development of an overweight condition and the vicious cycle of poor health.

On the other hand, many people are also suffering from poor nutrition as a result of “relative malabsorption”. This means that, as compared to how an optimal digestive system should function, there is an overall reduction in efficiency and performance. The reason: the presence of a metabolic (chemical) imbalance, which predisposes one to malabsorption regardless of the quality of the food, consumed. Given conditions of extreme stress, an environment ridden with acid toxins and a resultant chemical imbalance, the human system simply does not digest as well as it should.

How can we expect to properly assimilate food when we live our lives “under the gun”? Complete digestion takes time. It requires the ability of the metabolic forces to ‘relax’ sufficiently to allow for the breakdown of food is often only partially degraded, leading to symptoms of indigestion and the storage of much of it as fat, instead of it being thoroughly oxidized (catabolized) to end stages. Optimal uptake and utilization is unlikely to occur when stress and chemical imbalance predominates.

The usual perspective of “nutritionists” is to measure the vitamin and mineral content of food to determine its nutritional value. The common failure to recognize The Difference between Diet and Nutrition, results in a lack of understanding of how nutritional deficiencies contribute to many of the chronic degenerative diseases of our time.

Recommended Dietary Allowances, Washington, D.C, Food and Nutrition Board, National Resource Council, National Academy of Science, 1980; 6, 151- 154.

Klevay, L.M., *Biologic Trace Element Record*, 1983, 5; 245-255

Kutskey, R.J., *Handbook of Vitamins, Minerals and Hormones*, New York, Van Nostrand Reinhold Co., 1981.

Whitney, E.R. *Understanding Nutrition*, 2nd Ed. West Publishing Co. Chapter 7, p. 246.

CAUSES AND CONSEQUENCES OF RELATIVE MALABSORPTION

Joseph R. Montante, M.D.

The ability to properly absorb food depends upon a number of factors. These include a normal functioning digestive system, the quality of the food itself and the metabolic activity rate. If any of the digestive organs are dysfunctional, as in pancreatic fatigue, for example, impairment in assimilation may occur and result in relative malabsorption. This means that, compared to an optimally functioning system, there is an overall reduction in digestive performance.

Pancreatic fatigue may result from diets high in heat-treated (cooked) foods because heating inactivates many of the natural enzymes present in these foods. Eating excessive amounts of cooked foods requires the pancreas to work 'overtime' to make up for the deficit in enzyme content. Thus diets composed mainly of over cooked and/or heat treated foods places a burden on pancreatic enzyme reserves and can lead to an overall deficiency in the absolute number of enzymes available for digestion.

Exhaustion of the pancreatic enzyme reserve actually develops later on in the process of increased enzyme demand. Initially the pancreas simply hypertrophies to 'gear-up' for the increased requirement. Because of its unusual ability to compensate under stress, the gland is capable of expanding in size to be able to produce more enzymes as needed. This explains why the size of the human pancreas usually measures about twice the size of the pancreas of any other animal when weight correlated studies have been performed.

Perhaps a more extreme, though less insidious factor in the genesis of pancreatic fatigue is that at hypermetabolism. Over stimulation of the metabolic processes (hypermetabolism) results from a number of causes, not the least of which is acid accumulation. A relative change in the pH of the body chemistry towards the acid direction results in a shift of the metabolic condition to that of a higher oxidation or catabolic state. This change occurs because the acidic buildup stimulates the 'high gear' glands, especially the adrenals in an effort to restore normal alkaline levels within the blood circulation.

But how does hypermetabolism relate to the pancreas? Adrenal gland stimulation leads to, not only an increase in total alkalinity via Aldosterone secretion and sodium retention from the kidneys, but also to the secretion of Glucocorticoids (Corticosteroids) which serve to elevate blood glucose levels. This, in turn, results in the secretion of insulin from the pancreas in an effort to normalize blood sugar. The overall consequence of chronic acidosis is to 'preoccupy' the pancreas with carbohydrate regulation, detract from its functioning in the digestive process and eventually further contribute to the development of glandular fatigue.

The effect of hypermetabolism is similar to that of being under stress. Intuitively one knows that digestion is impaired when you're under stress, such as when feeling threatened or rushed. As the metabolic activity rate accelerates due to stress or acidosis, blood is shunted to the outer extremities and away from the digestive organs. Hormone secretions are converted to 'fight or flight' responses rather than for digestive purposes. So the next time you gulp down your lunch and run off to work, think twice, take a little time to allow your body to relax and properly digest your food, otherwise relative malabsorption may be the result.

Malabsorption Disorders, Harrison Principles of Internal Medicine, 8 Edition, pp. 1522-1523

Food Enzymes for Health and Longevity, Ed Howell, Chapter 6, Heat Treated Diet, pp. 27-28

Food Enzymes for Health and Longevity, Ed Howell, Chapter 6, Pancreas Hypertrophy, pp. 29-30

Textbook of Medical Physiology, Guyton, 5

Edition, Chapter 37, Regulation of Acid Base Balance, pp. 498 Disorders of the Pancreas, Harrison, Principles of Internal Medicine, pp. 567-586

ENZYME NUTRITION

Joseph Montante, M.D.

I. Enzyme: Definition and Description

- A. Enzymes are the vital activity factor or biological catalyst involved in cellular and metabolic processes which is necessary to break down essential nutrients for energy exchange to occur, i.e., the life (living) energy factor.
- B. There are three major classifications of enzymes:
 - 1. Metabolic - act to remove disease agents, food dyes and additives, carcinogens, water and air pollutants.
 - 2. Digestive - act to breakdown food so it can be absorbed; are secreted by the pancreas.
 - 3. Food Enzymes - present in raw food only; responsible for starting digestion.

II. Enzyme Behavior and Activity¹

- A. The capacity of a living organism to make enzymes is called the enzyme potential (E.P).
- B. The E.P. is limited and exhaustible, i.e. most people use up enzymes faster than they can replace them due to unhealthy diets and lifestyle/behavior habits.
- C. When the E.P. is exhausted beyond a certain point, death ensues, i.e.; life is an enzyme process.
- D. The more food a person eats, the more the E.P. is reduced. (People who eat less live longer).
- E. The higher the body temperature, the more the E.P. is reduced. (People living in colder climates live longer).
- F. Living life at a fast tempo reduces the E.P. People with a "Type A" personality or a "high gear" physiology have shorter life spans.
- G. E.P. can be extended via supplements or raw foods that have their enzymes intact, i.e., the rate of aging can be slowed and pathological aging can be prevented.

III. Enzyme Conservation Translates Into

¹ Dr. Edward Howell, Enzyme Nutrition: The Food Enzyme Concept, pp. 19-29

Longevity

- A. Cooking destroys all food (natural) enzymes and forces the organism to produce more digestive enzymes.
 - 1. This is associated with the enlargement of the digestive organs, especially the pancreas.
 - 2. Wild animals placed on cooked food diets undergo pancreatic enlargement (hypertrophy), the pancreas swells to about two times its normal size.²
 - 3. The more food enzymes supplied, the more the E.P. is allotted to metabolic purposes such as fighting disease, preventing degenerative changes and removing cancerous cells.
- B. Natural sources of enzymes include dairy products made from raw milk, honey, soy foods, grains, seeds, meat and vegetables.
 - 1. Raw food does not overly stimulate pancreatic secretions and digestive juices are therefore less concentrated.
 - 2. Enzymes are what ripen food and tenderize meat.
 - 3. Predigested foods are eaten all over the world, such as soy products like miso, tempeh, and more exotic foods such as aged elephant meat (African pygmies), and kibbeh, the national dish of Lebanon made of raw lamb and crushed wheat.
 - 4. Eskimo means, "he eats it raw". Raw food has kept the Eskimo healthy until modernization.
- C. Enzymes are conserved by the body and are only secreted as necessary, i.e., according to the quality of the food eaten.
 - 1. This is called adaptive secretion.³
 - 2. Humans eating a diet without enzymes use up a tremendous amount of their E.P. in lavish liver.

² Dr. Edward Howell, Food Enzymes for Health and Longevity, pp. 27-29

³ Dr. Edward Howell, Enzyme Nutrition, pg. 51

IV. Uses of Enzymes

- A. Cancer is a protein and enzymes are necessary to digest it; enzyme levels are elevated at a cancer site.
- B. Food allergies can be due to poorly digested food particles. When absorbed, these particles cause an immune reaction within the bloodstream.
- C. Lipase enzymes digest fat and can help prevent heart disease; lipase is deficient in the average American diet.
 - 1. Sources are raw milk, oils, grains, and olives as well as supplements containing active enzymes.
- D. Weight control (weight management)
 - 1. Raw foods are less fattening than cooked foods. Eat more raw foods by percent of total food intake.
 - 2. Take enzyme supplements; lipase allows for the breakdown and utilization of fat. (The body stores calories that cannot be utilized as fat.)
 - 3. Reduce sugar and alcohol intake.
 - 4. More enzymes are available if solitary meals are eaten vs. multiple small meals. Eat regularly three times a day.
 - 5. Exercise according to your age and needs.
 - 6. Over feeding in infancy causes excessive fat cell stop develop and these remain constant throughout life. What you are born with and how you are raised is who you are, so learn to live with it and not against yourself.

V. Research on Enzymes

- A. Food irradiation to preserve freshness destroys all enzymes and vital properties within the food, i.e.; it becomes "dead food".
 - 1. After irradiation, meat will stay at room temperature because bacteria will have nothing to do with it.
- B. Lipase enzyme is usually found to be deficient in obese humans when abdominal fat is tested.
- C. Diets low in food enzymes (raw food) result in a decrease in brain weight as compared to body weight in studies done on both domesticated and laboratory controlled animal populations.

Ibid., pg. 136

U.A. Leucille, University of Illinois, 1972

American heart Journal, 1971 ' Dr. David Galton, Tufts University, 1966

Dr. David Galton, Tufts University, 1966

Enzyme Nutrition, pp. 76-80; Reference: Marshall, N.E., Andrus, S.B., Mayer, J.

PAGE

PAGE 9

NUTRITION FOR THE ELDERLY

By Joseph R. Montante

Good health habits, including good nutrition throughout life, are the best guarantee of healthy and enjoyable later years. Many of the nutrient needs of an older person are the same as those of a younger person, but some special consideration deserve emphasis.

The ideal dietary regime for most seniors consists of obtaining about 25 percent of the total caloric intake from protein, 10 to 15 percent from fat, and the remainder from complex carbohydrates. Total daily caloric needs vary somewhat with metabolic activity, but in general will be about 1500 calories for women and 2000 calories for men. These figures represent a significant reduction from those recommended in earlier years due to the decreased metabolic and muscular activity of the average senior.

In other words, an older person is expected to eat less food while obtaining the same or greater nutrient value. The benefit of consuming a reduced quantity of food is maintenance of desirable weight, which is a major factor in longevity. The danger, however, is the development of nutritional deficiencies, especially in vitamin and mineral levels.

One way to protect against the development of deficiencies is to consume a wide variety of nutrient-dense foods such as high quality protein, vegetables, fruits and grains. There is little leeway for such empty-calorie foods as sugar, sweets, oils, or alcohol. Older adults most at risk nutritionally are those who overemphasize one food group to the exclusion of another which creates deficiencies in the vitamins and minerals donated by that group.

The best overall dietary guideline is to eat a balanced and varied selection of foods in moderation. Eating a wholesome breakfast and eating regularly are important as well. An easy way to approximate these desirable quantities is

to visualize your plate divided into sections so that the carbohydrate choice (rice, millet, oats, breads, etc.) including some legumes (beans) cover $\frac{1}{2}$ of the plate while the vegetable and protein choices plus fruit occupy $\frac{1}{4}$ each.

These quantities should provide an adequate grain intake (for B vitamins), fruit intake (for vitamin C), and vegetable intake (for vitamin A). Although the necessary essential amino acids are provided by the protein, a good supply of complex carbohydrates will prevent the protein from being used as energy.

Fat consumption, on the other hand, should be limited with decreased consumption of foods high in total fat such as butterfat, cheese, eggs, lamb, and beef. A high fat intake not only interferes with calcium absorption, prompting osteoporosis, but has been shown in several studies to promote the growth of cancers. Thus you should substitute low-fat or non-fat milk and dairy products for the corresponding (whole) high-fat varieties.

Additional recommendations are to decrease consumption of refined foods such as white flour, polished (white) rice, and sugar; eliminate or markedly reduce consumption of salt and foods high in salt content; markedly reduce consumption of processed foods which are rich in additives (coloring, preservatives, flavoring chemicals, etc.) and to increase intake of high bulk foods such as fruits, vegetables and whole cereal grains.

Generally speaking, you should consume no more than two portions of three to four ounces each of high-protein supplements per day. Good protein choices are organic poultry fish, trimmed pork, eggs (limit to three or four per week), cheese (softer cheese are easier to digest), and complete

proteins from vegetable sources. These include either nuts, seeds or grains combined with beans, or seeds and grains together. Other foods rich in vegetable protein are tofu, tempeh (good source of vitamin B12), plankton (spirulina), comfrey and sea vegetables especially nori. If you have trouble chewing nuts or seeds thoroughly, these can be obtained in a “butter” form which can wisely replace high-fat animal butter in many cases.

Many of the problems seen in older people result from decreased vitamin intake. For example, mental confusion, which may improperly be diagnosed as senility, can be caused not by a loss of brain function, but from a vitamin B deficiency resulting from an inadequate intake of grains. The widespread use of convenience foods which are preheated, a process known to destroy much of their vitamin E may be responsible for many of the physical ailments experienced by seniors. Vitamin E prevents the oxidation (destruction) of two other important vitamins A and C. For these and other reasons, it may be advisable for older people to supplement diets with additional vitamins A, B, C and E.

Calcium and iron are the minerals most often deficient in the older adult. A low hemoglobin level in red blood cells often indicates an inadequate iron intake and may result in fatigue and apathy. Calcium absorption is generally very inefficient in this age group and, unless additional amounts are provided, a deficiency can easily develop. Osteoporosis, or the “brittle bones of old age” is usually not seen in a person with consistently high calcium intake.

However, it must be emphasized that, because of the possibility of over dosage, these and other supplement needs are best determined by a nutritional specialist, preferably a physician. The need for adequate bulk in our diets applies to the general population as well as to older people. The bulk provided in high fiber and roughage foods, such as fruits, vegetables, and whole grains is important for the health of the intestinal tract muscles and will make use of laxatives less necessary. Many disorders such as constipation and hemorrhoids can be largely prevented by obtaining adequate bulk from our diet. In addition, most fibers will bind to cholesterol and carry it out of the body. An adequate fluid intake from four to six glasses a day, is also recommended as a way to facilitate elimination.

Suggested reading;

The Fit or Fat System: Target Recipes by Covert Bailey and Lea Bishop, Houghton Mifflin Company, 1985

PAGE

PAGE 44

HOLISTIC HEALTH

Joseph R. Montante, M.D.

A popular term in health care circles today is “holistic”. In the last five or ten years, holistic health has emerged as a strong and viable form of preventive nutritional care. In the orthodox medical literature the phrase “wellness” is often used to connote its meaning.

Holistic health is actually a new term for an old concept. As defined by the American Holistic Medical Association, it is “a state of well-being in which an individual’s body, mind, spirit and emotions are in tune with the natural social and cosmic environment”. This viewpoint emphasized high level wellness, beyond feeling “so-so” or “not bad” to feeling truly alive, full of zest and energy. To achieve this, one must develop not only optimal attunement of the body, mind and spirit, but also a sense of commitment and responsibility for one’s own health.

A basic strength of holistic health is the development of a fully unified biological system, capable under most circumstances of warding off disease or over coming it. There are some “essential ingredients” which help restore the ability of the body to right itself: eating nutritious, balanced meals, getting adequate sleep and exercise; and adopting lifestyle habits conducive to good health. In the final analysis, it is up to each of us to make these choices for ourselves.

An important element of holistic health is integration with our living environment. The natural environment provides an excellent example of a holistic system. It is an open system, made up of cooperative subdivisions in which each branch serves to support another. By observing these close interrelationships, we can learn to appreciate the unity of life, and the oneness of all its creations. To be truly healthy and alive, one must exist in harmony with the environment on all levels. By striving to achieve this “balance” in our lives, we soon discover our ability to take care of ourselves and our relationships. This process of integration involves a very natural and instinctual part of our being. It can be just as simple as “smelling the flowers along the way”.

Being in harmony with the social environment is not quite so easy. Social constructs are often unnatural and confining, making adaptation difficult. As the population of the planet expands, however, so must our ability to live together in a system of cooperative social harmony. One sure way to develop this ability is by living the holistic philosophy and getting ‘in touch’ with the environment.

In oriental philosophy, one’s relationship with the living environment is paramount. One is encouraged to allow the “life- energy” of nature to express itself through the body-mind, and the spirit. By cooperating in our relationships with the living environment, we can truthfully open to love and life, acting as channels of energy or as the Buddhist Lama teaches, “as a hollow reed”.

We can, if we wish, learn to define and satisfy our own health needs, initially as individuals, and ultimately as a people. When we all work to achieve this as a goal in our lives, the whole of society will benefit. Each of us contributes to this whole and affects it in our own way. We are all responsible for our health as individuals, and in a broader perspective, this becomes a part of our nation’s health.

Holistic health is an evolving concept whose time has come. It is really a manifestation of the stark realization that “we are all in this together”. Living contentedly with one another comes from inner satisfactions rather than an outer commitment to coexist peacefully. The real meaning of holistic is found by experiencing it within your self. In time, it begins to take on a personal meaning, which extends far beyond the definitions of health per se. It begins to signify a set of ideas, or goals, for us to strive for in our lives. Ultimately it is simply a process of learning to love your self. That is where it all begins

PAGE

PAGE 12

THE HOLISTIC ENVIRONMENT

Joseph R. Montante, M.D.

An important element of holistic health is integration with our living environment. The natural environment provides an excellent example of a holistic system. It is an open system, made up of cooperative subdivisions in which each branch serves to support another. By observing their close interrelationships, we can learn to appreciate the unity of life, and the oneness of all its creations.

To be truly healthy and alive, one must exist in harmony with the environment on all levels. By striving to achieve this “balance” in our lives, we soon discover our compatibility with the nature that created us, and our ability to take care of ourselves and our relationships. This process of integration involves a very natural and instinctual part of our being. It can be just as simple as “smelling the flowers along the way”.

Being in harmony with the social environment is not quite so easy. Social constructs are often unnatural and confining, making adaptation difficult. As the population of the planet expands, however, so must our ability to live together in a system of cooperative social harmony. One sure way to develop this ability is by living the holistic philosophy and getting in touch with the environment.

In oriental philosophy, one’s relationship with the living environment is paramount. One is encouraged to allow the “life-energy” of nature to express itself through the body mind, and the spirit. By cooperating in our relationship with the living environment, we can truthfully open to love and life, acting as channels of energy or as the Buddhist Lama teaches, “as a hollow reed”.

We can, if we wish, learn to define and satisfy our own health needs, initially as individuals, and ultimately as a people. When we all work to achieve this as a goal in our lives, the whole of society will benefit. Each of us contributes to this whole and affects it in our own way. We are all responsible for our health as individuals, and in a broader perspective, this becomes a part of our nation’s health.

Holistic health is an evolving concept whose time has come. It has likely surfaced in its present form as a response to a basic human need, survival of the species. As such, it is really a manifestation of the stark realization that “we are all in this together”. Living contentedly with one another comes from inner satisfaction rather than an outer commitment to coexist peacefully. Ultimately it is simply a process of learning to love yourself. That is where it all begins.

PAGE

PAGE 13

VITAMINS

Joseph R. Montante, M.D.

Natural vitamins are organic food substances found only in living things, plant or animal. About twenty such substances are known. Vitamins do not serve as a source of energy, but are used to form enzymes, which catalyze reactions in the body. As such, they are involved in the utilization of fats and carbohydrates, and assist in the formation of bones and tissues from protein.

Vitamin requirements on an individual level cover an enormous range. Many factors can and do come into play to alter one's vitamin needs. Antibiotics, sulfa drugs, industrial poisons, inhalation of toxic substances such as lead from polluted air and insecticide residues have all been shown to cause the reduction or destruction of vitamins. For these reasons, vitamin standards, such as the U.S.R.D.A., should be used only as a basis for nutritional planning, and not as the final word on individual needs.

The well known functions of vitamin A are: for the eyes, the skin, the health of the mucus membranes and to guard against infection. In addition, vitamin A is necessary for the synthesis of protein. The more protein in your diet, the higher your requirement becomes. Vitamin A can be obtained as preformed vitamin A, found only in animal tissues, or can be converted from carotene, found chiefly in plants and vegetables. Studies have shown that the conversion of carotene to vitamin A is markedly impaired in diabetics. Getting sufficient vitamin A everyday is probably a very important cancer preventive measure. Mega doses, however, are uncalled for since toxicity may develop. Because vitamin A is a fat soluble vitamin, as are vitamins D, K, and E, it can accumulate in human tissues.

The B complex vitamins and vitamin C, on the other hand, are water soluble, and do not accumulate. A deficiency of thiamine, vitamin

B1, causes beri-beri. As with all the B vitamins, alcohol is particularly destructive of riboflavin, vitamin B2. Niacin, vitamin B3, is found in two forms, niacinamide or "flushless niacin", and nicotinic acid, which causes a flushing effect due to the dilation of blood vessels. A severe niacin deficiency causes pellagra but studies now show that subclinical pellagra may be mistaken for mental illness, especially schizophrenia.

Amino acids can only be absorbed and utilized by the body if enough pyridoxine, vitamin B6, is present. People at risk of pyridoxine deficiency include pregnant women or those taking oral contraceptives, and anyone being treated with cortisone or other similar steroids. Dietary sources of vitamin B12 can produce an alteration of blood cells known as pernicious anemia. Its absorption requires a substance called "intrinsic factor" from the stomach. Pregnant women may need to take a vitamin B12 supplement in addition to prenatal vitamins to insure the health of their offspring.

The remaining B complex vitamins are folic acid, pantothenic acid, biotin, inositol, choline and PABA. Folic acid is essential for the processes of growth and reproduction of all body cells. The poor, the elderly and women taking oral contraceptives are at risk of deficiency, which can cause anemia. Pantothenic acid, the anti-stress vitamin, is found in all living cells and is easily destroyed by insecticides. It, like many of the B vitamins, can be synthesized by intestinal bacteria to a minor extent. Biotin is necessary for lipid formation in the body. Inositol and choline, on the other hand, act to prevent fat accumulation. They are basic constituents of

PAGE

PAGE 14

lecithin, the body's fat emulsifier. PABA has therapeutic value as a sunscreen and will often soothe the pain to sunburn as well. In order to insure adequate intake of these and all water soluble vitamins, be sure to drink your vegetable steaming water, or save it for later use.

Vitamin C, ascorbic acid, acts as an anti-oxidant, preventing oxidation of valuable food substances and their consequent destruction. It is also involved in the formation of red blood cells and connective tissue. A deficiency of Vitamin C causes scurvy. It is well known that stress increases vitamin C needs, such as during infections or exposure to cold.

One of the chief arguments for taking large doses of vitamin C (2-4 grams daily), is that most animals synthesize their own vitamin C in these same large quantities. No serious harm seems to result from this high an intake, and newer studies have shown, almost without exception, that people receiving 1-2 grams of vitamin C per day had significantly less colds and other upper respiratory ailments. People under constant stress, diabetics, arthritics, smokers, chemical workers, cancer patients, etc., could all probably benefit from taking vitamin C supplements. Some researchers have reported benefits from vitamin C therapy in cancer patients, especially bladder cancer.

Vitamin D can be synthesized in the skin by the action of the sun's ultraviolet rays. The many benefits of vitamin D stem from its ability to help supply the body with calcium and phosphorous.

Vitamin K is necessary for blood clotting and is thus useful for heart patients taking anticoagulants. Supplementation is not advised as it may lead to abnormal dotting. Vitamin E is a well known anti-oxidant, protecting the polyunsaturates and vitamin A from unwanted oxidation. Its other uses are

somewhat controversial and relate to its reported ability to decrease tissue needs for oxygen. The list of vitamin E benefits includes prevention of coronary thrombosis, relief of intermittent claudication (painful legs on walking), menstrual and menopausal irregularities and infertility. Food processing with heat destroys the vitamin E present. Estrogen is a vitamin E antagonist.

One relatively easy step to raise the quality of our nutrition is to provide generous amounts of all the vitamins. This is not advisable with amino acids and minerals, which are not well tolerated at high levels. Indiscriminate vitamin supplementation, however, can be detrimental. In high dosages, vitamins actually act as medicines. Their metabolism and interaction in the body is quite complicated. Recommendations for supplementation should be made only by a specialist who understands individual nutrition as well as the spectrum of biochemistry and human disease.

New Scoop On Vitamins

“... there is accumulating evidence that specific vitamins may help prevent cancer, heart disease and the aging process... the fact is that even in this country where food is generally plentiful, we may not be getting enough of these crucial nutrients in our diet.”

This article in **Time** Magazine written for the lay public, presents the current situation with regard to the debate about vitamin and mineral supplementation, with emphasis on the fact that there is accumulating evidence that specific vitamins may help prevent cancer, heart disease and the aging process. Further, the fact is that even in this country where food is generally plentiful, we may not be getting enough of these crucial nutrients in our diet.

“You don’t need to take vitamin C to prevent scurvy in this country today. But you could need it for optimal health and the prevention of some chronic disease”

At times there seems to be contradictory evidence; many medical doctors are doubtful with regard to the benefits of vitamin and mineral supplementation. Yet, at the same time there is more evidence to support their benefit. In fact, more scientists are starting to believe that the traditional medical views of vitamins and minerals have been too limited.

Researchers generally do not endorse the extensive claims of those who are vitamin enthusiasts, but states that evidence suggests that nutrients play a much more complex role in assuring optimal health than previously thought. As

Jeffrey Blumberg, M.D., Associate Director of the Human Nutrition Research Center on Aging at Tufts University has stated, “we are now entering second wave of vitamin research. The first wave was the discovery of vitamins and their role in combating nutritional deficiencies such as rickets and beri beri. That occurred in the first half of the century. Now we are on the second wave. You don’t need to take vitamin C to prevent scurvy in this country today. But you could need it for optimal health and prevention of some chronic disease.”

With a rapidly growing population America has moved its medical focus from treating acute illness to caring for chronic conditions such as heart disease and cancer, which has sent health care costs skyrocketing.

For many years reputable scientists steered clear of vitamin research because it appeared to be too fringe or had the “whiff of quackery”. Vitamin companies have been resistant to invest a great deal of energy and money to study vitamins, since vitamin chemical

formulas are in the public domain and cannot be patented. In the past few decades there has been a shift in thinking. With a rapidly growing aging population, America has moved its medical focus from treating acute illness to caring for chronic conditions such as heart disease and cancer, which has sent health care costs skyrocketing.

“We could save billions of dollars if we could delay the onset of chronic disease by a little as 10 years.”

As Dr. Charles Butterworth, Jr., of the University of Alabama states, “There is a growing appreciation of the need to find the most economical way to treat and prevent chronic disease... foods and vitamins are not expensive.”

Dr. Blumberg from Tufts further states that, “We could save billions of dollars if we could delay the onset of chronic disease by as little as 10 years.”

Since the 1970’s diet and health studies begun to proliferate. A diet rich in fruits and vegetables has been associated with a lower incidence of cancer and heart disease.

Low vitamin C intake appears to be associated with a high risk of cancer; low levels of folic acid increase the risk of birth defects; and high consumption of calcium appears to decrease the danger of osteoporosis. Folic acid may also be important in the prevention of cervical cancer. Vitamin K has been recently appreciated as a means of helping prevent bone loss.

“Higher doses of vitamins C and E have been associated with the prevention of” cataracts and it has been estimated that, if cataracts could be delayed 10 years, about half of the cataract surgery would be eliminated.”

Antioxidant nutrients beta carotene, C and E are generating most of the interest. These vitamins scavenger free radicals which can lead to cellular damage.

Biochemist William Prior, Director of Biodynamics Institute at Louisiana State University feels that one day we may be able to screen patients to assess free radical damage, “...predict who is most susceptible to oxidative stress,” and “you can treat them with antioxidants more effectively.”

Biochemist Bruce Ames at University of California at Berkeley has stated, “We’re going to be able to get people to live a lot longer than anyone thinks. Higher doses of vitamins C and E have been associated with the prevention of cataracts and it has been estimated that, if cataracts could be delayed 10 years, about half cataract surgery would be eliminated.”

Vitamin E is suspected of preventing damage to the heart

when given during or shortly after a heart attack, and also helps recovery of patients from coronary bypass operations. Vitamin E has also been shown to increase immune function in the elderly, as well as preventing the effect of pollution in the lungs, which include cigarette smoke and car exhaust. Vitamin E may help prevent Parkinson’s disease and also prevent the side effects of anti-psychotic drugs.

“... beta carotene was found to reduce the risk of heart attack by 50% in those men who had a history of heart disease and took 50mg. of beta carotene every other day.

”

Beta carotene seems to be the most promising compound. It is an antioxidant which comes essentially from orange-yellow vegetables. In the Physicians Health Study of over 23,000 participants, beta-carotene was sound to reduce the risk of heart attack by 50% in those men who had a history of heart disease and took 50mg. of beta-carotene every other day. The group taking beta-carotene with aspirin had no heart attacks. Take beta-carotene for 3 to 6 months reduced pre-cancerous mouth lesions by 70% in some patients Hoffman-La Roche plants to build a beta carotene plant in Freeport, Texas, which will turn out 350 tones of these nutrients annually, or enough to supply a daily, 6mg. capsule to virtually every American adult. Most experts agree that a multi- vitamin won’t hurt anyone. Taking higher doses to prevent chronic disease or delay again is still a debatable

question.

This article was reprinted by Progressive laboratories, Inc., From: CP (Clinical Pearls) 1Views, Vol. 3, No. 6, June, 1992.

The Time Magazine article cited, “The New Scoop on Vitamins ” by Anastasia Toufixis appears in the April 6, 1992 issue of Time, Pages 54-59.

8. FOODS TO AVOID OR CONSUME SPARINGLY

- A. Meat, dairy products, eggs, and saturated animal fats. Cultured soft dairy cheeses in small quantities are advisable over hard cheeses.
- B. Sugar, saccharine and other artificial sweeteners. Rice honey, barley malt and maple syrup are more easily tolerated as a cold pressed, predigested honey.
- D. Coffee, sodas, artificial drinks, stimulant teas.
- E. Canned and frozen foods, unless home prepared initially.
- F. All artificially colored, sprayed, chemicalized and preserved foods, especially those that have been precooked
- G. Hot spices and artificial seasonings in excessive amounts.
- H. Heavy use of alcoholic beverages.
- I. Heavy consumption of tropical fruits and juices.

The percent volume of these major food groups depends on one's individual physiologic/psychologic health state.

9. GENERAL DIETARY AND HEALTH CARE SUGGESTIONS TO TRY

- A. Natural methods of cooking and food preparation. These include steaming, pressure cooking, boiling, stir fry, waterless cooking, pressing, sautéing, tempura, and baking.
- B. Use naturally processed sea salt
- C. Use vegetable quality cooking oil,

especially cold or expeller pressed oil.

- D. Fermented foods such as miso, tamari, soy sauce and tempeh.
- E. Use natural condiments for flavoring.
- F. Chew your food well or until liquidy. Ideally at least 25-50 times per mouthful.
- G. Do not use aluminum or Teflon pots and pans.
- H. Avoid eating 2-3 hours before bedtime.
- I. Do not drink heavily during meals. Save your liquids for after the meal.

10. SUGGESTED COOKBOOKS

The Pritikin Diet, by Nathan Pritikin
(also The Pritikin Promise)

New York Times Natural Food

Cookbook, by Jean Hewitt

Diet for a Small Planet, by Francis
Moore-Lappe.

Introducing Macrobiotic Cooking, by
Wendy Esko

The Book of Whole Meals, by
Annemarie Colbin

Laurel's Kitchen, by Laurel Robertson,
Carol Finders

The Vegetarian Epicure, by Anna
Thomas

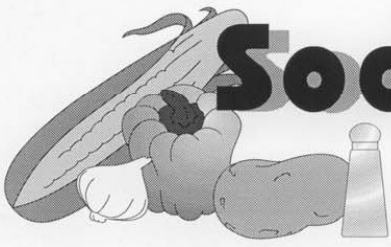
The Moosewood Cookbook, by Mollie
Katzen

How To Cook With Miso, by Aveline
Kushi

The Calendar Cookbook, by Cornelia
Aihara

The Book of Tofu, by William Shurtleff
Jane Brody's Good Food Book, by Jane
Brody

The Rodale Cookbook, by Nancy
Albright



Sodium Content of Foods

The recommended Dietary Allowance for sodium is 1,100 mg to 3,300 mg per day. The body's actual daily requirement for sodium is 220 mg. You can obtain this from natural, whole foods.

Foods High in Sodium (250 mg.+ per serving)

bacon
baked goods (most)
baking powder
baking soda
boullion
buttermilk
catchup
cereals (many breakfast)
cheese (most)
chips (corn, potato)
crackers
corned beef
dill pickles
hot dogs
(all types)
lunch meats
mayonnaise
miso
mustards (many)
olives
peanut butters
(some)
refined or processed foods (most)
salad dressing
salmon, tuna
(canned)
shellfish (some)
lobster, clams scalops
sauerkraut
sea vegetables
(kelp, dulse, kombu)
soy sauce (regular & lite (tamari))
umeboshi plum
vegetables (canned)
soups, juices

Foods Moderate in Sodium

low fat/whole milk
most fish (including shrimp)
pasta/noodles
poultry
pasta/noodles
soda pop
some vegetables - beet greens, celery, chard, chinese cabbage, parsley, watercress
yogurt

Foods Low in Sodium

fresh fruits/dried fruits
whole grains
nuts & seeds (raw or roasted unsalted)
nut butter (no salt added)
legumes (uncooked)
hot cereals (no salt added)
most fresh vegetable juices
most fresh vegetables - artichokes, beets, carrots, kale, mustard greens, spiniach, red & green cabbage, turnips, brocolli, cauliflower, squash
some breakfast cereals (those made by Arrowhead Mills, New Morning, Grainfields, Perky's, etc.)

Suggestions:

- Do not salt foods - use herbs, salt substitutes made by Health Valley, Parsley Patch, Gayelord, Lawry, Schillings, Mrs. Dash, or plain herbs
- Do not add salt to baking recipes
- Check labels for the low sodium varieties
- Use sweet butter



ANTI-OXIDANTS AND LONGEVITY

I. Free Radicals

- A. A free radical is a highly reactive chemical molecule with an unpaired electron, which allow the molecule to interact with any other molecule in the body.
- B. Free radicals are produced as a by-product of normal metabolic processes
- C. Environmental conditions that increase production of free radicals: pollution, extra stress and exercise
- D. Excessive free radicals can be damaging
- E. There is now evidence that free radical activity can play a role in various types of inflammatory responses.

II. Anti-Oxidants

- A. Anti-oxidants are molecules that are able to interact with a free radical and neutralize or inactive the free radical
- B. Examples of anti-oxidant: beta-carotene, vitamins A, C and E, zinc, selenium and certain amino acids
- C. An anti-oxidant can interact with the free radical and absorb the unpaired electron without becoming a free radical itself, so the chain reaction is halted.
- D. Anti-oxidants are beneficial and may be necessary to reduce the effects of oxidative stress and the increased production of free radicals

III. Antioxidants and their protective function

- A. Superoxide dismutase (SOD) protects internally against free radicals in the cells
- B. Vitamin E acts directly to prevent oxidative damage to membrane lipids
- C. Selenium acts to remove peroxides which cause damage
- D. Beta carotene (precursor to Vitamin A) is found only in plants and is a known cancer protective agent
- E. Vitamin A is easily anti-oxidized when exposed to air & light
- F. Vitamin C protects enzymes from being destroyed
- G. Vitamin E and selenium are the major anti-oxidants and they protect Vitamin A from anti-oxidation
- H. Diets high in Vitamin E and selenium and these supplements reduce the rate of lipofusion accumulation
- I. Experimental anti-oxidants (glutathione, catalase, uric acid)

IV. A deficiency of anti-oxidants leads to a shorter life span because of their protective effect

- A. They protect from the mutagenic effect of carcinogens and metabolic toxins as well as toxic metals, radiation, ozone, food additives, chemicals, drugs and light (ultraviolet) damage
- B. A deficiency of Vitamin E for example, coupled with a diet high in polyunsaturated fat is a doubly high risk
- C. This is also true for elevated blood fat levels, not to mention the risk of cardiovascular disease.

V. Aging is a process which produces changes underlying most of the diseases from which humans suffer

- A. The aging process will continue but the rate can be slowed (via the action of antioxidants) i.e., “more life in our years” vs “more years of life”

- B. Antioxidants reduce the rate of aging but do not eliminate it – they prevent premature death
- C. Aging is a result of the loss of antioxidant protection against the toxic by-products of oxygen

II. Oxidative Damage

- A. The toxic by-products of oxygen metabolism (oxidation) are free radicals, peroxides (H₂O₂) and aldehydes
- B. Lipofusion is the yellow pigment of aging that accumulates within the cells as a result of oxidative damage
- C. The amount of lipofusion reflects the amount of damage
- D. Lipofusion is composed of acidic waste products
- E. Lipofusion accumulates faster in “high gear” conditions

III. Disease known to be associated with oxidative damage

- A. Rheumatoid arthritis
- B. Senile dementia – Alzheimer’s Disease (brain tissue is highly susceptible – uses about ½ of total body oxygen demand)
 - 1. Brain tissue has relatively low levels of anti-oxidants and high levels of iron (accelerates oxidative damage)
- C. Parkinson’s disease (basal ganglia degeneration)
- D. Retinal degeneration (highest rate of Oxygen consumption in the body: also Vitamin E supplements slow lipofusion accumulation but will not reverse it once deposited)
- E. Pancreatitis
- F. Lung fibrosis (cystic) and damage (cigarettes)
- G. Immune deficiency syndrome (AIDS)
- H. Most cancers, especially chemical carcinogenesis
- I. Inflammatory disorders (colitis, arthritis)
- J. Liver disease due to alcoholism
- K. Liver disease due to alcoholism

VIII. Foods high in Vitamin E.

- A. Alpha-tocopherol is the fraction of Vitamin E which is the most biologically active
- B. The Vitamin E content of frozen, canned or cooked vegetables is decreased an average of 96% by commercial processing
- C. Foods rich in vitamin E: cabbage (outer leaf), spinach, asparagus, broccoli, whole grains (brown rice, whole wheat, whole rye and corn, etc.) and polyunsaturated oils such as: corn germ oil, soy oil, safflower, sunflower and sesame oils

IX. Foods high in Vitamin A and Carotene

- A. Spinach, cabbage, kale, broccoli, carrots, corn, eggs, milk, liver, kidney, apricots, cherries, cantaloupe, peaches, watermelon, sweet potatoes, winter squashes (dark green leafy vegetables and yellow-red colored vegetables)

X. Foods high in Vitamin C (ascorbic acid)

- A. Melons, oranges, lemons, strawberries, blueberries, papaya, kale, brussel sprouts, peppers, broccoli, cauliflower, spinach, lima beans, cabbage, tomatoes

XI. Foods high in Selenium

- A. Eggs, tuna, fish, seafood, brewer’s yeast, liver, kidney

XII. Foods high in Zinc

- A. Meat, milk, oysters, herrings, egg yolks, whole grains

NON-DAIRY SOURCES OF CALCIUM, MAGNESIUM AND ZINC

Joseph R. Montante, M.D.

Due to the health problems many people are having with mild cheese and other dairy products, many people must eliminate these calcium-rich foods from their daily diet. An adequate intake of dietary calcium is essential to maintain optimal health. Below are some excellent sources of calcium that may be substituted for dairy products to receive adequate amounts of calcium.

VEGETABLES

Broccoli
Romaine Lettuce
Cabbage
Turnips Greens
Collard Greens
Kale
Carrots
Parsley
Summer Squash
Onions
Sea Vegetables
Watercress
Chickpeas
Mustard Greens

GRAINS & SEEDS

Brown Rice
Whole Wheat
Buckwheat
Oats
Sesame Seeds
Soy Products

FISH

Salmon
Haddock
Cod
Sardines
Shrimp
Clams
Crabmeat

Because the level of magnesium intake in the average American diet is minimal or often deficient, it is common for blood and tissue magnesium deficiencies to occur. The danger of this lies in a resulting disturbance in calcium metabolism (or assimilation) which can lead to bone loss, osteoporosis, calcinosis, and various forms of heart disease. Below are some excellent sources of magnesium.

DIETARY SOURCES RICH IN MAGNESIUM

Nuts
Soybeans
Whole Grains
Peas
Cocoa
Seafood

DIETARY SOURCES MODERATE IN MAGNESIUM

Dried Fruits
Dark Green Leafy Vegetables
Corn Meal
Brown Rice
Whole Wheat Bread

Zinc is commonly low or deficient in the average American diet due to overuse of chemical fertilizer (nitrogen & phosphate) and soil depletion (most common world wide). Zinc is important in normal healing, acne, growth, and sexual maturity, normal sense of taste, smell and sight. Zinc plays an integral part in the immune system's response to infection and blood toxicity.

GOOD SOURCES OF ZINC

Beef or lamb, lean
Calf, Beef or Chicken Liver
Chicken Heart
Turkey or chicken, light & dark meat
Soybeans
Pumpkin seeds
Sunflower seeds
Brazil Nuts
Wheat Berries
Cashews
Black-eyed peas
Oats, rolled

Walnut
Mozzarella, Park Skim
Wheat Germ, toasted
Lima Beans, dried or cooked
Filberts
Lentils
Chick Peas
Peas, dried or cooked
Swiss, Cheddar, or Muenster cheese
Fish, white varieties
Peanuts, roasted
Tuna fish, drained solids

VITAMIN C



Fruits

Cantaloupe
Currants
Grapefruit
Guava
Orange juice
Papaya
Strawberry

Vegetables

Broccoli
Brussel sprouts
Cabbage
Cauliflower
Greens - collard, spinach, kale, mustard
Green & red peppers
Parsley

IRON

Fruits

Dates
Prune juice
Raisins

Vegetables

Brussel sprouts
Cabbage
Greens - beets, chard, spinach
Peas
Tomato juice
Watercress

Other

*Beans - black, pinto, navy, lima, soy
*Black strap molasses
Eggs
*Fish, poultry, meats, goat's milk
*Lentils - split peas
*Millet
*Seeds - sunflower, sesame
*Tofu
*Wheat bran - germ

POTASSIUM

Fruits

Apples
*Apricots
*Bananas
Cantaloupe
*Dates
Dried fruits
*Figs
*Peaches
Prune juice
*Raisins

Vegetables

*Avocado
*Broccoli
*Greens - spinach, chard
*Mushrooms
*Potato skins
Squash - butternut, acorn

Other

*Almonds
Beans - lima, black, soy, navy, pinto, kidney
Black strap molasses
*Brewer's yeast
Lean meats
*Millet
Salmon
*Seaweeds - kelp, dulse, Irish moss

Could Allergies Be Related To Diet?

Joseph R. Montante, M.D.

Until recently, allergists have been primarily concerned with susceptibility to pollens, molds, insects, dust, tobacco, animal dander and drugs i.e. environmental irritants. Today knowledge of allergic reactions to common foods has broadened the range of possible offending agents.

Did you ever think your favorite foods could be causing allergic responses? Do you wake up in the morning feeling irritable and apathetic with a headache, possibly relieved by eating breakfast? Do you find a midnight or middle of the night snack a necessity? If your answer to any of the above questions is yes, you may be a food allergy victim with the potential for developing food addictions.

Food addiction is very similar to alcohol or drug addiction. When a person is deprived of their favorite food, they have withdrawal symptoms. Like an alcohol or drug withdrawal, the symptoms are only relieved by consuming the desired substance. Eventually this adaptive process may break down and allergic symptoms begin to surface. You then suddenly become aware of a problem that actually may have been going on for years. The foods most frequently connected with allergies are those consumed on a fairly regular basis.

Recent estimates suggest that nearly 10% of Americans exhibit clinical symptoms that can be direction attributed to food sensitivities. Possibly many others have ill-defined medical problems or health complaints which are more difficult to associate with diet.

Most sufferers are acquainted with the typical acute food allergy reactions consisting of watery eyes and hives. The delayed hypersensitivity food allergy may be less obvious. For example, someone who every morning for breakfast drinks a glass of orange juice, eats two eggs, bacon, hash browns, toast and has two cups of coffee, may complain of symptoms much later in the day, or even the next day. This type of food sensitivity is commonly delayed for up to 24-48 hours. One may not even be aware that their symptoms are due to an allergic response to food. Symptoms such as forgetfulness, tiring easily for no apparent reason, bloating at certain meals even though not overeating, headaches and easy irritability are commonly caused by a delayed allergic reaction to foods.

Delayed allergic hypersensitivity can result from a digestive problem or from an immunologic reaction to the food. If a food is poorly digested due to a deficiency of digestive enzymes or stomach acid, it can be absorbed before completely broken down into its smallest components. These partially digested "food chunks" can then incite the immune system to react against the larger protein molecules circulating in the blood stream. Over time this process sensitizes the lymphocytes to react when re-exposed to the food, which accounts for the delay of one to two days usually experienced and reported.

Food allergies tend to involve a specific organ or several at the same time; this can vary considerably from person to person. For example, wheat may cause digestive problems in one person, headaches in

another and emotional disturbances in still another. Specialist in food allergy found that many food allergies are associated with asthma, arthritis, migraine headaches, sinusitis, colitis, and many other conditions.

Some years ago an article was published in a well known medical journal (JAMA) on the effects of diet and migraine headaches. In this study, various foods were eliminated from the patient's diet with an astonishing success rate of 85%! The foods that were eliminated include wheat, oranges, eggs, tea and coffee, chocolate, beef, sugar, corn and yeast.

Changing one's eating habits is easier said than done. Most people are emotionally attached to their favorite foods. For some people, giving up a spouse would be easier than changing either diet! Most Americans consume large amounts of animal products, fat, sugar, dairy products and preservatives, these foods are not only hard to digest, but in the various combinations normally eaten are likely to produce allergic reactions. Indigestion is an all too familiar word in our society. To better digest what you've eaten, it is recommended that you eat main meals only when hungry, chew well and eat slowly, do not drink during meals, do not eat when tired, exhausted, under stress, or late at night, and try to create peaceful surroundings during meal time.

The study and exploration of food allergies has enormous potential for the diagnosis and treatment of many of the ill defined mental, emotional and physical problems that are present in our society today. Testing for food allergies can be done in several ways including scratch testing of skin, RAST testing through blood and Immunoglobulin measurements using serum samples. If you are interested in examining the possibility of a food allergy causing your symptoms, seek

the expertise of a specialist for proper diagnosis and guidance.

WORKING THE BODY

Joseph R. Montante, M.D.

Many people are 'turned off' by the idea of doing regular exercise. For those of you who feel this way, I have some good news and some bad news to tell you. The good news is that the hardest part of a regular exercise program is getting started. Once you get "in shape", the rewards are lasting and relatively easy to maintain. The bad news should be enough to get you started if you're not already exercising.

Because mankind continues to pollute the environment, we are constantly eating, breathing or drinking toxic chemicals. For most of us, there is really no practical way to avoid ingesting these known carcinogens. I recently read in a local newspaper that "an Environmental Protection Agency survey of nearly 1,000 water systems around the country have revealed unexpectedly high levels of contamination of underground water by industrial chemicals."

In addition to industrial toxins, body cells become cluttered with the debris of partially completed protein residues, the waste products of cellular activity. These build up and eventually form a "sludge" within the cells known as lipofusion. The end result of this waste and chemical accumulation is congestion of the cellular machinery and a reduction in cell performance. If this process is allowed to continue unchecked, the cell may eventually develop degenerative changes, which threatens its viability.

There are many ways to facilitate the necessary elimination of "strong acid" residues and wastes including fasting, skin brushing, deep breathing and enemas. Probably the single most effective way,

however, is regular and adequate exercise. A word of caution: the addition of many of the above mentioned "detoxification" procedures, especially fasting, exercise and enemas, should begin only after examination and clearance by your physician.

A truly beneficial exercise program must be aerobic (oxygen consuming) and regular (approximately 5 days per week). Aerobic exercises must make the muscles work hard enough to need lots of oxygen but not so hard as to exceed the ability of the heart and blood to deliver it. This is accomplished by elevating the heart pulse to 80% of its maximal rate, and sustaining the elevation continuously for 30 minutes at a time. This level of elevation is called the training heart rate (T.H.R.).

Exercising too hard is counterproductive. The only natural way to remove accumulated fat from the body is to "burn it up" for energy. For the most part this is done within the large trunk and limb muscles. Since a good supply of oxygen is needed for this to occur, over-exercising will result in burning carbohydrates rather than fat as an energy source. A simple formula to calculate your T.H.R. is $(220 - \text{age} \times 80\%) + 10$. For a 35-year-old person the T.H.R. is 148 beats per minute, and the exercise range is between 138 to 158 beats per minute. If the heart rate while exercising exceeds the upper value, the risk of over exercising is high.

An adequate exercise must be continuous, i.e., walking, jogging, bicycling or rope skipping. Stop and go exercise like tennis, racquetball, or downhill skiing do not qualify. If you cannot carry on a

conversation while exercising or if your muscles become painful, slow down you are probably going too fast. Know your own limits and don't push them. It is more important to enjoy whatever exercise(s) you are doing as you develop.

Although proper (low fat) dietary approaches (the Pritikin Diet, for example) will prevent fat deposits from forming,

adequate and regular exercise is necessary to burn off the fat already deposited. Once you're fat burning system gets "in gear", the muscles will burn fat even when resting. All habits are hard to break, and I can assure you, once you develop physical fitness, you won't want to give it up. The addition of a regular and adequate exercise program to your lifestyle is a major factor in health and longevity. As the saying goes, "What you don't use, you lose."

EXERCISE AND YOUR HEALTH

Joseph R. Montante, M.D.

Exercise as a major benefit to health has been recognized for centuries. In fact, in 600 B.C. an Indian physician used exercise to treat diabetes. Today exercise is used to assist in treating or prevent diabetes, heart disease, high blood pressure, arthritis, osteoporosis, depression, respiratory and circulatory disorder, breast cancer and obesity. Recent medical research has proven that the health benefits of exercise are diverse:

- Exercise is a natural tranquilizer.
- Exercise makes the heart a more efficient pump.
- Exercise slows the age-associated loss of lean muscle tissue.
- Exercise induces an increase in the protective HDL cholesterol.
- Exercises against gravity increase calcium in the bones.
- Exercise is vital for weight control.

However, in beginning and maintaining a sound exercise program, it's Important to use a moderate approach. The well-known slogan "no pain, no gain" often heard from marathon runners and triathletes does not apply to the average person. One can easily harm the body if a gradual strengthening and toning of the muscles (including the heart) is not used. When beginning an exercise program, the following should be included in your plan:

If you are over 35 with a chronic ailment or family history of heart disease, have a physical exam and a stress test if recommended by your physician.

Alternate between two or more activities that use different muscle groups, such as running and swimming or cycling and tennis. This helps avoid injuries and imbalances.

Be sure to get adequate rest between workouts to promote healing and tears in muscle tendons and ligaments that any vigorous activity

produces.

Aerobic exercises are those that require repetitive use of the body's large muscles, and can be sustained for long periods of time without causing exhaustion. If done for over 20 minutes at a time, aerobic exercises burn body fat for fuel. Aerobic exercise include: brisk walking, jogging, running in place, rebounding (trampolining), tennis, racquetball, squash, handball, softball, basketball, aerobic dancing, circuit training cross country skiing, hiking, soccer, swimming and stair climbing.

Pain is not necessary to become more physically fit. In fact, pain is a message from the body that it has been over stimulated. When the body sends a warning of pain, you should ease off. There are several choices of exercise that are less traumatic to the body: mild jogging swimming, cycling, and brisk walking, hydraulic circuit training which are the safest.

To improve heart and lung conditions, activities must be done at a pace that's brisk enough to raise heart and breathing rates to a level dependent upon your age: subtract your age from 220, take 75 percent of the result and aim for that pulse rate during exercise.

TARGET HEART RATE ZONES

AGETRAINING ZONE

.....(60%-80% range)

.....(beats per minutes)

20120-160

25117-156

30.....114-152

35.....111-148

40108-144

45 105-140

50 102-136

55 99-132

60 96-128

65 93-124

Source: University of California, Berkeley, The Wellness Encyclopedia

According to two recent studies published by The Physician and Sports Medicine, 76% of aerobic instructors who

responded to a questionnaire and 43% of their students sustained injuries from this activity. Shins seemed to be the most vulnerable, with calf, lower back, foot, ankle and knee problems reported. There are modified and less stressful forms of aerobic called low-impact aerobics, which substitutes side-to-side marching or gliding movements for the jolting up-and-down motion of typical aerobic maneuver. These “soft” workouts are often done to music with a slower tempo.

In low-impact aerobics, at least one foot is usually kept on the floor. The body is also kept closer to the floor, with the exerciser’s arms constantly busy.

The following aerobic exercise program provides a sensible, moderate Increase of aerobic activity over a period of 10 to 12 weeks, using jogging and brisk walking as examples.

JOGGING PROGRAM				
Week	Activity	Distance (Miles)	Time (Minutes)	Frequency/Week
1	walk/jog	1.0	13:00	5
2	walk/jog	1.0	12:00	5
3	walk/jog	1.0	11:30	5
4	walk/jog	1.0	11:00	5
5	walk/jog	1.5	18:00	5
6	walk/jog	1.5	17:00	5
7	walk/jog	1.75	21:00	5
8	walk/jog	1.75	20:00	5
9	jog	2.0	22:00	5
10	jog	2.0	21:00	5
11	jog	2.0	20:30	5
12	jog	2.0	20:00	5

WALKING EXERCISE PROGRAM			
Week	Distance (Miles)	Time (Minutes)	Frequency/Week
1	1.0	18:00	5
2	1.0	16:00	5
3	1.5	24:00	5
4	1.5	23:30	5
5	2.0	32:00	5
6	2.0	31:00	5
7	2.5	38:50	5
8	2.5	38:00	5
9	3.0	46:00	5
10	3.0	45:00	5

EXERCISE PRESCRIPTION

Name: _____

Date: ____/____/____

I. General Exercise Guidelines:

a). If you are over 35 with a chronic ailment or family history of heart disease, have a physical exam and stress test if recommended by your physician.

- b) Warm up: *light activity for 3-5 minutes*
- c) Stretch: *5-10 minutes (as needed)*
- d) Activity
- e) Cool down: *lower pace activity 3-5 minutes*
- f) Stretch: *5-10 minutes (as needed)*

II. Aerobic Exercise Guidelines:

- a) INTENSITY = *b/10 sec*
- b) DURATION = *minutes*
- c) FREQUENCY = *x's /wk*
- d) TYPE OF ACTIVITY:

III. PULSE CONVERSION CHART:

HEART RATE

BEATS/10 SECOND

BEATS/MINUTE

15	90
16	96
17	102
18	108
19	114
20	120
21	126
22	132
23	138
24	144
25	150
26	156
27	162
28	168
29	174
30	180
31	186
32	192
33	198
34	204

IV. Anaerobic Exercise Guidelines:

- a) EXERCISES =
- b) SETS =
- c) REPETITIONS =
- d) FREQUENCY = *x's per week*

CHLORINE: ENEMY IN OUR DRINKING WATER

“Indeed one of the most alarming aspects of the chemical pollution of water is the fact that here -- in river or lake or reservoir, or for that matter in the glass of water served at your dinner table -- are mingled chemicals that no responsible chemist would think of combining in his laboratory.” - Rachel Carson, The Silent Spring

Since 1908, when chlorine was first introduced, American water treatment has not changed much. What has changed is the awareness of the hidden dangers of the chemicals. There are over 12,000 chemicals on the market today, with over 500 new ones being added every year. Municipal water companies have a list of 47 approved chemicals that can be added to our drinking water. It is quite unlikely that all 47 would be found in a single water supply, but you can be reasonably sure that a number of them will be found in most any treated water you might drink. These chemicals that are added to the water mix with chemical pollutants are already there!

Let's take a closer look at chlorine. Chlorine gas was used in World War I to kill people and it is still doing that, but on a much more subtle level. Chlorine is an insidious chemical and according to Dr. Herbert Schwartz, “Tests have shown that chlorine has devastating effects on living organisms... and when it is present in the human body, you may expect a premature end to cell life – and death.” He also says “I feel if chlorine were now proposed for the first time to be used in our drinking water, it would be banned by the FDA.”

It is a known fact that when chlorine is added to water it interacts with natural humus and humic acid (in other words, the products of decaying matter) to form THM's (trihalomethanes), which are carcinogens.

In 1980 the report on “Drinking Water and Cancer”, released by the President's

Council on Environmental Quality, found that death statistics in five states provided fresh evidence to support “an association between rectal, colon and bladder cancer” and chlorinated water.

The study was a follow-up to a 1977 National Academy of Sciences report, which raised the first scientific questions of cancer threats from chlorinated water. The result of the 1977 study showed that women in seven upstate New York counties who drank chlorinated water had a 44% higher rate of death from gastrointestinal and urinary tract cancers than those who did not.

Robert Harris, one of the three members of the Council on environmental

Quality, said the study provides “significant evidence of increased cancer risks from drinking chlorinated water which should be of concern.”

In addition to cancer, chlorinated water has also been linked to high blood pressure and anemia. In the United States, John Eaton, Ph.D., Prof. of Medicine at the University of Minnesota, found that chlorine has a deleterious effect on red blood cells. He made this discovery in 1973 while studying patients who had developed severe anemia during treatment at two artificial kidney dialysis centers in Minneapolis – both these centers used chlorinated water in their machines. In his lab, he found that these patients' red blood cells had been altered by the chlorinated water.

In his book, *Coronaries, Cholesterol, Chlorine*, Dr. Joseph Price describes a test of chlorine upon chickens. Two groups received the same diet. One group had chlorine added to its mash. When that group was later studied, every chicken had some circulatory and heart disease. The non-chlorine chickens were in perfect health. Dr. Price tells us:

“The results were nothing short of spectacular! Within three weeks, there were grossly observable effects on both appearance and behavior. The experimental group became lethargic, huddling in corners, except at feeding time. Their features became frayed and dirty and the cockerels walked around with their wings hunched up and their feathers fluffed like they were always cold... This appearance is most suggestive of symptoms resulting from dogging up of the micro-circulation.”

The control group, on the other hand, “thrived”. After seven months, every chicken fed chlorinated water developed arteriosclerosis, while not a single chicken of the pure water control group did so. In addition, the experimental chickens had an extremely high spontaneous death rate. Later examination revealed “hemorrhage into the lungs and enlarged hearts”. When a check was made by feeding chlorinated water to the control cockerels, they too developed arteriosclerotic lesions.

Three years after Dr. Price’s results came out, Russian scientists found that men drinking water with 1.4 milligrams of chlorine per liter have higher blood pressure than the drinking water with only 0.3 or 0.4 milligrams per liter.

Recent EPA studies indicate that the trihalomethanes (THM’s) formed in the chlorination process are far more dangerous than chlorine itself. They are found in virtually every drinking water supply that is disinfected with chlorine, and not uncommonly at concentrations of several hundred parts per billion. The EPA limit is 100 ppb-- however, many cities exceed this limit and have started to mix ammonia in with the chlorine (as it is a stabilizer). This new compound is called “chloramine”. Fish die when put into water treated with chloramine and diabetics are said to get a violent reaction if they drink it.

The most commonly recognized THM is chloroform. When someone drinks water containing chloroform, the chemical is rapidly absorbed in body fat and tissues. Chloroform was once used in cough syrups and other drugs and cosmetic products. However, it was banned July 29, 1976 for use as an anesthetic but is still used in chemical processing and in research.

A second trihalomethane found in water as a result of the chlorination process is bromoform. It is commercially used as a solvent for wax and oil and as an ingredient in fire-resistant chemicals.

Yet another child of chlorination is chlorobenzene. It showed up in nine out of ten water supplies surveyed by the EPA. While some chemicals can be defused by the body’s metabolism, it appears that chlorobenzene becomes a more potent poison once inside the body, acting as a depressant of the central nervous system.

FLOURIDE FACTS

1. According to Dr. John Yiamouyiannis, Ph.D. (in biochemistry and who is probably the world's leading authority in fluoride) the following scientific studies and data indicate:

- a. Fluoride inhibits the movement of white blood cells—up to 70%. White blood cells are what make up your immune system. Even the opponents in a court case in Scotland two years ago agreed with these facts but their comment was, “so what? We don’t need all of our immune system anyway. Most of the time we don’t need but 50%!”
- b. Fluoride degenerates blood glucose levels which is very severe for diabetics and hypoglycemic, or for those who have a tendency to go that way.
- c. Fluoride breaks down the collagen in our bodies. Collagen is the protein which holds us together. Thus, too much fluoride will cause us to age more quickly.
- d. Fluoride depletes vitamin C in the blood.
- e. Fluoride accumulates in the thyroid.
- f. Fluoride depresses basal metabolism and causes weakness and fatigue.
- g. Excess amounts cause mottling of teeth (they became chalky, brown or black, and can disintegrate.)
- h. Fluoride disrupts the DNA-RNA repair system.
- i. Fluoride exposure disrupts the syntheses of collagen and leads to

breakdown of collagen in bone, tendon, muscle, skin, cartilage, lungs, kidney and trachea.

- j. A geneticist at the University of Missouri has shown that one part per million fluoride in water causes chromosomal damage in mice. Thus, it is mutagenic.
- k. The US. National of Sciences and the World health Organization, as well as others, have published lists of over 100 enzymes that are inhibited by 1ppm. Or less of fluoride.
- l. Researchers from the University of California and University of Colorado have confirmed that fluoride interference with hydrogen bonding causes a disruption of the enzyme activity.
- m. The National Academy of Sciences in 1971 concluded that fluoride had not been shown to be and essential nutrient. However, many people are under the impression that it is.

ARE YOU AWARE THAT...

1. Fluoride is a prescription drug and yet it is put into our tap water.
2. Up until 1977 sodium fluoride was sold as an insecticide in hardware stores and feed stores and that it carried the word POISON on its label. At that time, the FDA deemed it too dangerous and took it off the shelves of stores.
3. Sodium fluoride is actually a waste product from aluminum and

phosphate fertilizer companies.
Sodium fluoride is 15 times deadlier
than arsenic.

4. Calcium fluoride (a natural substance found in the earth's crust can also be toxic and excessive amounts can cause mottling of teeth.
5. Hydrofluosilic acid (and industrial grade sodium fluoride) is being sold to many water treatment plants today.

1. The United States center of Disease Control and the British Ministry of Health admit there has never been a study to show that fluoride reduces tooth decay.
2. Hydrofluosilic acid is so corrosive that many cities, including New York, Chicago, San Francisco, and Boston, neutralize it with sodium hydroxide (lye), depending on the acidity of the water
3. Sodium fluoride will eat through metal so it must be transported in rubberized tank cars.
4. The Swedish government asked the World Health Organization for proof that fluoride was safe and effective – a reply was never received. The Swedish parliament outlawed its use in 1969 after a 10 years experimental program.
5. In the prestigious journals of the day, AMA, ADA, USPHS (1943, 1944, 1939) warned against adding fluoride to water, saying it

would cause fluoride poisoning and bone disease.

In most cities today, when fluoride comes up for a first time vote or re-vote, it is defeated two times out of three times, due to the scientific data and research that has come about in the last ten years. Two court cases have outlawed the use of fluoride in drinking water due to all the evidence presented. However, the decisions have been appealed. These decisions involved the states of Illinois and Pennsylvania.

In the meantime, how can one eliminate fluoride from tap water? Unfortunately, filters DO NOT remove fluoride. Distillers WILL – up to 98% removal consistently. Filters and distillers also remove chlorine, but on a day to day basis distillation is far superior to carbon filters.

Information is from: Fluoride, the again factor, D. John Yiamouyiannis

THE HOMOCYSTEINE THREAT

Homocysteine has been called the mysterious killer. It appears in cases of atherosclerosis, diabetes mellitus or hypertension. In the past 20+ years, research has shown that elevated homocysteine is linked to complicated pregnancies, early pregnancy loss and venous thrombosis. The risk of vascular disease is 30 times greater in people with high homocysteine levels

Homocysteine is an amino acid that can be deadly if it is not properly metabolized.

For some, a high homocysteine level might be a more important risk factor for cardiovascular disease than a high cholesterol level. Not every heart attack or stroke victim has high cholesterol, is a smoker, or has many of the other known high risk factors.

Data shows that high plasma homocysteine levels and low plasma folate and vitamin B12 levels are associated with a higher prevalence of coronary artery disease, especially in older men and women. Numerous publications support the importance of folate in lowering homocysteine levels,

High homocysteine levels can be lowered with folate and other B vitamins, such as B12 and B6. Because these are safer water-soluble vitamins that have been proven to lower dangerous homocysteine levels, wouldn't it be prudent to consume these vitamins either by increasing spinach, beans, lentils, and green leafy vegetables, or by taking supplements?

It may come as a surprise to some that researchers know, at most, only half the unfolding story of how and why people develop heart disease.

Certain heart attacks remain mysteries sudden death that occur in people who are seemingly healthy and lead otherwise healthful lifestyles. These people exercise, eat low-fat diets, don't have elevated cholesterol levels, don't smoke, and yet their arteries are clogged.

Homocysteine can be toxic to blood-vessel walls at excess amounts in the bloodstream. The damage it causes can lead to plaque buildup, resulting in heart attacks and strokes. Studies have successfully linked an increased risk for vascular disease to elevated homocysteine levels and, more important, to low blood levels of B vitamins, folic acid, and vitamin B6.

It appears the B vitamins can protect us from heart disease. Folic acid, vitamin B12 and vitamin B6 are crucial for maintaining the proper balance of homocysteine levels in the body, and inadequate levels of either B vitamin, but especially folic acid, could tilt the balance in favor of homocysteine.

The bottom line is: we all need to get plenty of the three B vitamins through diet and vitamin supplementation. It also means that doctors may have a new and important risk factor to work with. Testing people's homocysteine levels may become as standard in assessing heart disease and heart disease risk as testing for cholesterol levels.

Excerpts from Nutri News February 1998 Vol. 6. No.1

SEVEN FACTORS OF LONGIVITY

DIETARY

1. Eat Breakfast everyday
2. Eat regularly, balanced meals two or three times a day, consisting of 2 parts carbohydrate to 1 part protein, to ½ part fat (by calorie count)
3. Eat moderately – maintain your ideal weight.

Additional Suggestions:

- a. Increase consumption of fruits and vegetables and whole grains
- b. Decrease consumption of refined and other processed sugars.
- c. Decrease consumption of foods high in total fat and replace saturated fats (Obtained from animal sources) with polyunsaturated fats.
- d. Except for young children, substitute low-fat and non-fat milk for whole milk, and low-fat dairy products for high-fat dairy products.
- e. Decrease consumption of butterfat, eggs and other high cholesterol food sources.
- f. Decrease consumption of smoked foods and foods high in salt content.

OTHERS:

4. Exercise 10-30 minutes/session with heart rate elevation to 120-140 beats per minute a minimum of 3 times per week (maximum of 5 times per week)
5. Adequate sleep 6-7 hours per day
6. Moderate or no alcohol intake
7. No smoking

Reference:

JAMA November 1979

CANCER PREVENTION

“With our present knowledge of malignancy, a cancer victim should be thankful for an early diagnosis. If the disorder is caught early enough and handled properly, few people should ever die of cancer.”

W.D. Kelley, D.D.S.

Early Warning Signs of Cancer

1. Gas on the stomach or bowel
2. Sudden weakness of the eyes
3. Tired feeling most of the time
4. Muscle weakness and cramps – first in the back, then in the chest
5. Extreme mental depression
6. Sudden change in hair texture and color
7. Development of various hernias (only in slow growing tumors)
8. Confusion – difficulty in make even simple decisions.

The Seven Danger Signs of Cancer*

1. Any sore that does no heal
2. Lump or thickening in the breast or elsewhere
3. Unusual bleeding or discharge
4. Any change in a wart or mole
5. Indigestion or difficulty in swallowing
6. Persistent hoarseness or cough
7. Any change in normal bowel movement

* American cancer Society

Osteoporosis

Osteoporosis is one of the most common and yet poorly understood debilitating disorders of middle age. An estimated 15 million Americans have some degree of osteoporosis.

Osteoporosis is a condition in which calcium is leached from the bones. "Osteo" refers to bones and "porosis" the state of being porous. Because of this loss of density of the bones, there is a degenerative porenness, leaving the entire skeletal frame weak, brittle and easily shattered. Studies indicate signs of significant bone loss in women as young as 25. Hormonal changes after menopause accelerate this bone loss in women so that by age 60, one woman in four has osteoporosis sufficient enough to cause bone pain, loss of height, spinal deformity, and an estimated 5 million spontaneous fractures in older Americans each year.

The process begins when the diet is low in calcium or when we are unable to absorb the calcium we need in our diet. In either case, calcium levels drop in the blood stream. Since calcium is vital to such body processes as never response, muscle control, blood coagulation and control of heart rhythm and blood pressure, the parathyroid glands immediately trigger release of calcium from bones and teeth.

Normally our bones from stockpile of surplus calcium which can be transferee to the bloodstream whenever required. But when a deficiency of dietary calcium exists, the lost calcium is not restored to the bones.

Women, in particular, require a constant supply of calcium in the diet to replenish the bone loss as they get older.

Surveys have shown far lower than recommended calcium intake. In fact, women over 30 consume only an average of 500 milligrams per day, one-half the U.S.

Recommended Dietary Allowance (U.S. RDA) of 1000 milligrams per day. It has been calculated from these values, that by the age of 50, only about one-third of the skeletal calcium remains.

Here are some important facts to know:

- Women often begin losing calcium from their bones by mid 20's and they are often unaware of this silent, progressive bone loss.
- Osteoporosis significant loss of bone calcium – affects and estimated 15 million persons in the United States.
- Ten percent of women over 50 suffer from bone loss severe enough to cause hip vertebrae, or long – bone fractures. Decreased bone mass contributes to 2000,000 hip fractures annually in women over 65.

Study after study reveals that severe calcium deficiency is widespread among both children and adults in America. According to one well known nutritional reference, 65 percent of children aged 2-3 receive less than the RDA of calcium. Calcium deficiency at this state of rapid bone growth may lead to serious bone inadequacy in adulthood, a condition often characterized in later life by painful chronic backaches.

Inadequate calcium levels may also cause menstrual cramps and cramps and spasms in muscles, which lead to inability to relax, insomnia and depression. Tests have also shown that virtually everyone with any form of arthritis has a blood calcium level that may be as much as 50-75 percent below normal

Even when the diet contains adequate calcium, absorbing it can be a problem. Mild and diary products are rich in calcium but as many as 50 percent of the adult population has some degree of intolerance to lactose or milk sugar. This is because after weaning, at age 7 or so, we begin to lose the lactase

enzyme which aids digestion of lactose in milk. Ability to absorb calcium in any form also decreases with age.

Before it can be utilized by the body, calcium must interact with almost all other vitamins and minerals in proper proportion. Among key nutrients essential for calcium metabolism are vitamins A, C, D and the B-complex and the minerals magnesium, phosphorus and potassium.

It is common knowledge today that hundreds of thousands of women, children and men are succumbing to bone and soft tissue diseases such as osteoporosis, arthritis, periodontal disease, degenerative disc disease, back problems, etc. proper levels of minerals are related to the health of your bones and soft tissues.

The adage “an ounce of prevention is worth a pound of cure” is true and in the concept of bone diseases prevention is of maximum importance to health and longevity.

Test yourself: for your convenience, following are some self help questions that will assist you in preventing the consequences of bone related health problems

- Are you over 35 years of age?
- Have you reached menopause or have you had both ovaries removed?
- Has your grandmother, mother or aunt lost height as they grew old, developed a curved spine, or a broken wrist or hip?
- Are you small boned and / or lanky for your height?
- Are you fair skinned or light complexion?
- Do you have gum disease or excessive tooth decay?
- Do you smoke?
- Do you consume more than 2 alcoholic beverages per day?
- Do you exercise less than 3 times per week?

- Do you drink more than 2 cups of caffeinated coffee a day?
- Do you consume more than 24 oz of carbonated beverages per day?
- Are dairy products and other calcium-rich foods a small part of your daily diet?
- Do you have a history of bone fractures?
- Do you diet frequently?
- Do you consume a high protein diet?
- Do you take antacids?
- So you suffer from leg cramps?
- Are you exposed to excessive stress?

If you have checked 2 or more, you are at greater risk for developing osteoporosis. The good news is that risk does not mean reality, and osteoporosis can be prevented or treated. See your health care practitioner for an assessment of your body's specific vitamin/mineral needs.

“Osteoporosis: Early Warning Detection and Risk Intervention”, Published by Nutri-Dyn Midwest

CONTROLLING CANDIDA ALBICANS

Joseph R. Montante, MD.

Yeast-related health problems can occur in any age group or sex although they are more commonly found in women than men.

Yeasts are single-cell fungi that are part of the vegetable world and live all around us. Candida Albicans is one type of yeast that is a normal inhabitant of our digestive system and is responsible for the majority of disorders associated with yeast infections.

Yeast do not cause infections in a normal, health person unless the person develops a weakened immune system. Depending on how weak one's resistance is, the yeast multiplies and tends to have an affinity for mucous membranes such as those of the digestive, respiratory and genitourinary tracts and the eyes.

The symptoms of yeast infections are highly volatile. They include fatigue, headaches, drowsiness, depression, muscle weakness, poor memory, vaginal yeast infections, postatis, premenstrual syndrome (PMS), skin disorders, chronic digestive problems (constipation, gas, indigestion, heartburn and diarrhea), arthritis, joint swelling and pain, recurrent respiratory tract problems sore throats, sinus congestion and coughing.

If you experience any of these symptoms and find them to be aggravated (particularly after pregnancy) by breads, sugars, sweets, tobacco smoke, perfumes and other chemical odors, your health problems may be yeast-related. A prolonged or repeated course of antibiotics for various infections, a history of birth control pill usage or treatment with cortisone and other steroids may make you more susceptible to yeast infection.

When antibiotics are taken repeatedly, many of the normal germs lining the digestive tract are destroyed, with one of the exceptions being yeasts. Consequently, yeasts multiply and inhabit mucous membranes, releasing toxins in the body as they proliferate.

Growth of yeast is further encouraged by diets that are high in sugars and yeasts, by use of birth control pills, by hormonal changes and by pregnancy. As the yeast overgrowth weakens the body's natural defenses, other factors such as nutritional imbalances, environmental chemicals and toxins, food and allergies contribute to a deficient immune system.

It is difficult to identify a yeast-related problem though standard diagnostic procedures such as smears and cultures. The best method of determination is a careful review of the individual's medical history that is verified by response to treatment. However, diagnostic procedures such as physical exams and lab studies are helpful. They may be done to rule out other causes and to determine physiologic imbalances that may be contributing to the condition.

This diagnostic process should be done by a health professional who, has a nutritional background and is experienced in dealing with yeast-related conditions. Once the yeast problem is identified, the following general recommendations are made:

1. Avoid food that promotes yeast growth. This includes sugar, processed foods, vinegar, leftovers, nuts, edible fungi, yeast-containing foods, coffee, tea, herbs, juices, melons, dairy products, flour

products, yeast, malt and alcoholic beverages.

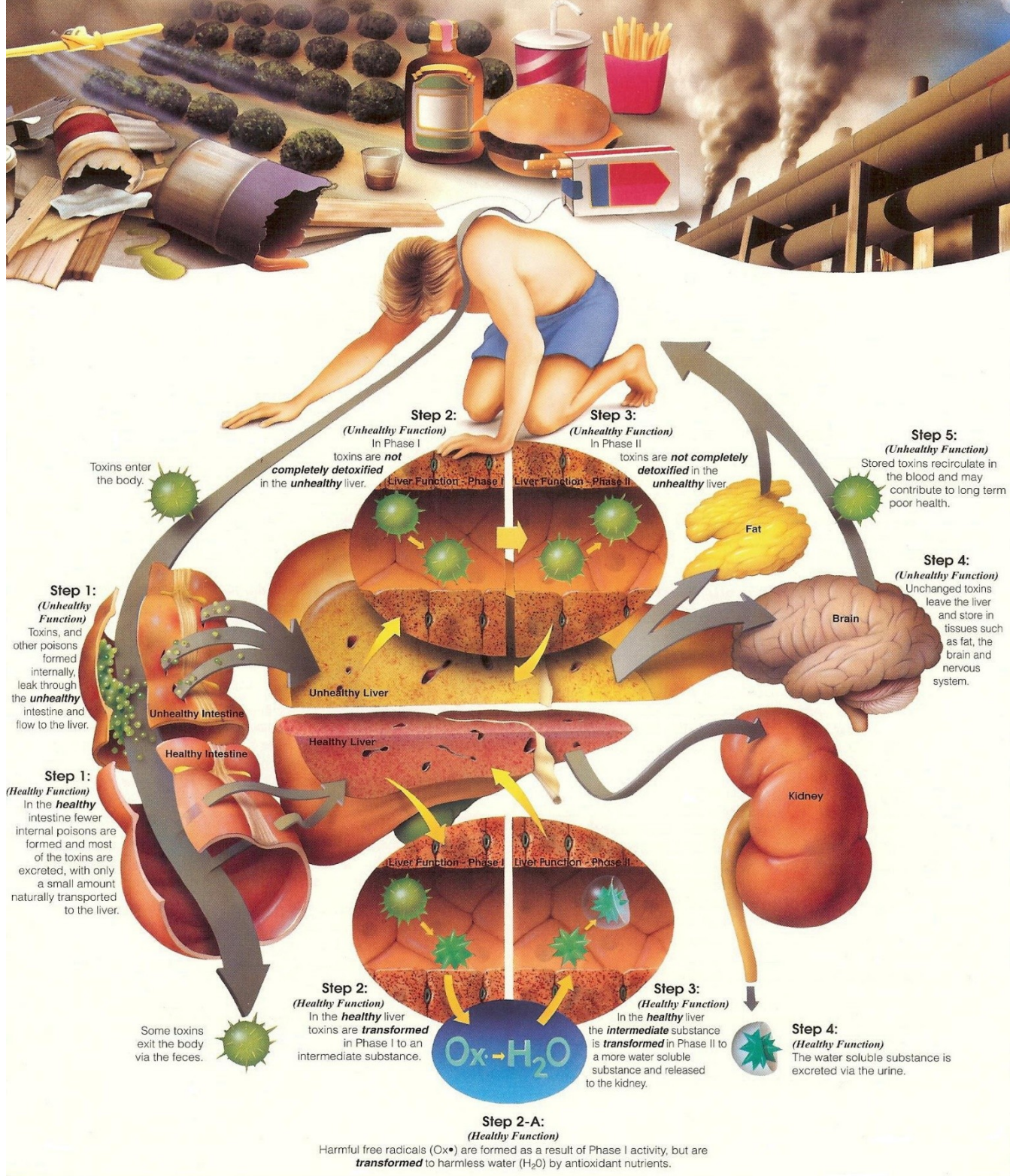
2. Have a health professional determine the proper nutritional supplements for your individual condition, avoiding supplements that contain yeast or sugar.
3. Avoid birth control pills and antibiotics if possible
4. Avoid poisons and pollutants that contaminate our air, food, water and soil
5. Determine if you have any allergies and remove the allergens from your environment as much as possible.
6. Avoid molds at home which come from sources such as bathrooms, closets, hampers, mattresses, carpets, basements, flower pots and humidifiers.
7. Drink one cup of Pau D'Arco herbal tea (make from the bark of South American tree) about 10 to 20 minutes before each meal. It appears to contain anti-fungal substances.
8. Seek treatment by a physician if you have an endocrine or hormonal imbalance.
9. In some conditions, treat with the antifungal medication Nystatin (available by prescription) may be appropriate.
- 10.

I have seen a remarkable improvement in my patients with yeast related problems who have followed these recommendations. Many people improve immediately while others take longer and my experience a few periods of relapse. Based on my patient's experience, I estimate that it takes three to six months and sometimes longer to see results.

Remember the yeast-related health problems often take months or years to develop. As a result, it takes time to regain health and to strengthen the immune system. However,

with your commitment and patience and with treatment by a qualified health professional, candida albicans can be overcome.

DETOXIFICATION



DETOXIFICATION

The Growing Problem of Toxicity

In recent history, mankind has managed to drastically change the chemistry of the environment in which we live. For example, in 1989 alone, more than 1,000,000,000 pounds of chemicals were released into the ground, threatening a portion of the soil we grow our food in and the natural underground water tables that supply some of our drinking water. Over 188,000,000 pounds of chemicals were also discharge into surface waters such as lakes and rivers. More than 2,400,000,000 pounds of chemical emissions were pumped into the air we breathe. A grand total of 5,705,670,380 pounds of chemical pollutants were released into the environment we eat, breathe and live in, all in just one year.

To compound the problem of our toxic environment, we have refined away much of the nutritional value of our food supply and replaced with artificial coloring, preservatives, flavorings, conditioners, etc. This poor quality diet-combined with extensive use of antibiotics in medicine and agriculture-may have predisposed many of us to experience a kind of “internal” pollution. Internal pollution occurs when the healthful bacteria in the intestinal tract are overcome by unhealthful bacteria. These unhealthful bacteria release toxic by-products into our circulation which can negatively impact many aspect of our overall health.

Will Toxicity Have An Effect on You?

What does this problem of toxicity mean for us individually? It may present a threat to the vibrant level of health we would like to enjoy. But whether we succumb to the adverse effects of toxicity depends on our knowledge of the subject

and the choices we make. We need to take personal responsibility to make sure that we

do not fall victim of toxicity. That involves learning what we need to do to help our body protect itself from toxicity.

Basic Ways to Avoid Toxicity

Let’s begin with some of the basic requirements to avoid toxicity. Do all you can to purify your work and home environments. If you know the source of any toxic materials at work, such as stored or leaking chemicals, dyes, paints, solvents, glues, acids, or household offenders such as insecticides or cleaning agents, remove them if possible. If the offending materials cannot be removed, an effective air purification system may be needed. At least, wear protective clothing and/or breathing apparatus when using any toxic materials. Regular replacement of furnace and air conditioning filters may also be helpful.

It is also very important to eat a good diet with plenty of fresh, wholesome foods. Avoid eating excess fat, refined sugar and foods high in additives and preservatives. Eat moderate levels of protein (approximately 15% to 20% of your calories) and fat (approximately 20% of your calories), while increasing levels of complex carbohydrates (approximately 60% of your calories). Substitute organically-raised animals and organically-grown fruits and vegetables whenever possible. Drink plenty of purified water (ideally, eight 8-ounce glasses a day). A home water purification system is highly desirable to provide pure water for drinking and cooking.

Support Your Body’s Efforts to Eliminate Toxicity

One thing is certain in our effort to purify our work and home environments; it is impossible to

avoid toxicity completely! With that realization, the importance of supporting your body's efforts to eliminate accumulated toxins cannot be overstated. The illustration on the reverse side of this sheet outlines the body's natural detoxification mechanism and helps us understand the best way to strengthen and support it.

Water or Juice Fasts Less Complete

Formerly it was believed that a water or juice fast was a preferred detoxification program. These fasts were thought to work under the principle that the body will be able to clear stored toxins and heal itself when the "stress" of digestion and the further accumulation of toxins were eliminated, the modern-day realization that the body's detoxification mechanism is a heavily nutrient-supported process has made it clear that simple juice or water fasting is less complete and no longer the method of choice. Prolonged fasting may weaken muscles and various organs because of protein losses and a gradual slowing of metabolic activity as the body endeavors to conserve its depleted energy resources.

More Complete Support for Detoxification

A more current approach to detoxification is to nourish the body thoroughly, fueling its natural detoxification mechanism with the nutrients needed to achieve optimal detoxification activity. By providing high-quality protein, complex carbohydrates and essential fats, the body gets what it needs to prevent muscle and organ breakdown and depleted energy resources. But that is just the beginning. Nutrients are needed to support the function of the organs directly involved in detoxification: *the liver, the intestinal tract and the kidney*. Intelligent application of nutrition may help in the following ways:

Intestine: The nutrients zinc and pantothenic acid, the amino acid L-glutamine, carbohydrates known as fructooligosaccharides, and

microorganisms known as acidophilus and bifidus, are a few of the substances that provide support for the health and integrity of intestinal function. In a proper state of health, the intestine promotes elimination of toxins through (1) regular bowel movements, (2) eliminating the build-up of unhealthful microorganisms and internal toxins, and (3) providing a strong and intact barrier to prevent the leaking of toxic materials from the intestine into circulation

Liver: The vitamins "A, B3, B6, C, E, beta-carotene, the amino acids L-cysteine and L-glutamine, and components known as glutathione and phospholipids are some of the substances that support liver function. In a proper state of function, the liver filters out and transforms toxic substances that have entered the blood into harmless substances that can be excreted in the urine. Interestingly, it appears that the ratio of dietary protein to carbohydrate may be a very important factor in determining the ability of the liver to detoxify certain substances.

Kidney: The vitamins A, C, B6, and the minerals magnesium and potassium, are just some of the substances that support kidney activity. The kidney provides a major route of toxin excretion via the urine.

Fat: Weight reduction and management is helpful for those who are overweight. Excess fat provides a ready storage site for fat-loving toxins entering the body. Once deposited there, it is very difficult to remove them. Unless the excess fat is removed, they remain there with the possibility of being a continual source of toxicity.

Find the Help You Need

If you have any questions as to what you can do to help eliminate internal pollution, do not hesitate to ask us.

M145.10 8/94

The Blue Folder

Career Articles & Archive

Joseph R. Montante, M.D.