



Carbohydrates

Class 5

Carbohydrates are the staples of life and yet society has classified them as a dangerous food that contributes to all types of unhealthy conditions including weight gain, obesity, hypertension, diabetes, cardiovascular disease, etc. There is some truth to this statement, however, the majority of the carbohydrates being consumed are refined starches and processed sugars. It is not the carbohydrates, per say, that cause the weight gain and other health conditions, but the refining process that strips the nutrients from the carbohydrates. The interesting thing is when manufacturers process grains and cereals, the essences of these foods are lost. By law manufacturers have to replace lost natural nutrients with synthetic nutrients, however, synthetic nutrients are unable to be absorbed in the body. This impairs digestion, absorption, and elimination, thus, resulting in an accumulation of waste in the small intestine. Because of the health issues posed by refined carbohydrates, medical society has issued a low or no carbohydrate campaign that has many people convinced that they should stay away from carbohydrates because of its health risk factors. This is why we are witnessing high protein diets.

Carbohydrates are energy foods that assist in maintaining the body's health and immunity. Carbohydrates are comprised of carbon, hydrogen and oxygen molecules, which are the major elements of the human body; without which the body would disintegrate back into the earth in which it came.

Most carbohydrates are the products of a plant's ability to receive photosynthesis from the sun. The sun packs them full of life given nutrients that humans are unable to directly receive from the sun. Humans receive 85 to 90 percent of their carbohydrates from plant life and the remainder from dairy products (which many people have an intolerance to). We find carbohydrates in the forms of grains, sugars, vegetables, fruits, beans, peas and cereals. Eating carbohydrates in their natural unprocessed state, the body's amylolytic enzymes are able to digest them and use them as fuel. On the other hand, when adulterated (processed) carbohydrates are consumed, they lack the nutritional values and produce empty calories, which store in the body as fat and increase sweet and sugar craving to maintain our energy levels. Many people who are heavy protein eaters also crave sweets because of the lack of energy they receive from the excessive proteins. These sweets can come in the form of fruits or hidden sugars in meats and other products eaten. The calorie-conscious high protein eaters stay within their limits of carbohydrates.

Carbohydrates are "saccharum" the Latin word for sugar. They are classified by size and water solubility, which govern how well they will work in the body. Monosaccharides have the smallest molecule chain and are very soluble in water. They are comprised of glucose, fructose, galactose, xylose, mannose and ribose. There are over 100 different types of monosaccharides in nature. In fact, carbohydrates are the most abundant compound in nature and consumed by every mammal in the universe.

Disaccharides, on the other hand, have two sugar molecules in the form of sucrose (sugar cane, beet, maltose, and lactose) that are extracted from grains and animal milk. In

the case of polysaccharides, which have 12 or more monosaccharides, they are in the form of cellulose, inulin and other non-flexible chains that are not as water-soluble. Polysaccharides comprise of the compound of chondroitin sulfate that is the major constituent of the body's cartilage tissues. Polysaccharides provide energy in the form of starches and glycogen in the mammal's body. Oligosaccharide is comprised of two to ten monosaccharide chains (raffinose and stachyose) that have an effect on the digestive tract in general.

In order for the body to maintain its' DNA and RNA levels it has to have carbohydrates in the form of ribose, which is manufactured in the cells from glucose. Glucosamine chondroitin is the by-product of glycosaminoglycans (GAGs). It is a complex carbohydrate that promotes the fluid motion that reduces and/or eliminates joint pain and inflammation.

The story of carbohydrates dates back to ancient civilization where carbohydrates like oats were not only consumed as food, but also as medicine. Carbohydrates are the major food groups of many cultures of the world. Many rely on carbohydrates in the form of rice, beans and grains to maintain life. The carbohydrates eaten by these cultures are not adulterated. It is interesting that whenever there is a national disaster or when the world feeds refugees or other displaced starving people they are always given carbohydrates in the form of grains.

It is not the carbohydrates that are the major cause of overweight or obesity, it is the process by which they are being manufactured and consumed. The carbohydrates are being refined with all the nutrients and enzymes being stripped away leaving nothing but empty calories that are indigestible. The processing of carbohydrates depletes the B vitamins, enzymes and other essential elements found in grains, beans, vegetables and sugars, which are needed to be digested and absorbed in the body in order to increase and maintain health. The natural fibers of these processed foods are also eliminated and cannot be replaced synthetically like other nutrients, which results in the accumulation of waste-by-products in the small intestine causing constipation, gas, cardiovascular disease, bowel problems and other health conditions.

When the waste-by-products of carbohydrates accumulate in the small intestine, they begin to distend the abdomen. This distention is the small intestine expanding to accommodate the excess amount of waste accumulating within its' walls. This excessive accumulation begins to leak into the blood (leaky gut syndrome) further causing the carbohydrate waste-by-products to also store in the adipose tissues (fat cells) resulting in weight gain. This increase of adipose tissue begins creating obstructions in the blood vessels and throughout the organ network.

Glycoproteins, which are saccharides linked to proteins, are another source of abdominal distention, accumulation of waste, and the leaky gut syndrome. When this

starch and protein combination does not digest in the body, it putrefies and ferments resulting in unhealthy bowel conditions that lead to other health conditions.

There are two types of carbohydrates, complex and simple. Complex carbohydrates include grains, legumes, and vegetables. These foods do not have a sweet taste and are mostly starches. On the other hand, simple carbohydrates are sugars and do have a sweet taste, which include sucrose, sugars and fruits. When sweeteners are added to grains, which are a bad combination, it changes the structure of the carbohydrate from a complex carbohydrate to a simple carbohydrate such as cakes, cookies, pies, etc. Because of their many monosaccharide chains, complex carbohydrates are further divided into high and low fiber categories.

Fiber is one of the principles of complex carbohydrates and it has ability to move the bowels and prevent colon cancer and other types of disease. Dietary fiber also has an impact on diabetes and hypertension. This group of polysaccharides are undigestible and include as variety of foods such as almonds, wheat germ, psyllium seed and husk, beans, rice, barley, apples, green vegetables, etc. It is recommended by the World Health Organization (WHO) that each person consumes 25 to 40 grams of fiber daily. Most Americans only receive 12 to 18 grams a day. Humans need to incorporate plant fiber in their daily regiment because most of us eat undigestible foods that cause health conditions. Dr. Bernard Ginseng once said, “Death begins in the colon”.

One’s eating habit should consist of enough fruits, vegetables and grains that provide the nutrients and fiber needed to maintain good nutrition and positive bowel evacuation in a timely manner. Too much fiber can cause problems of bloating, gas, and cramping of the abdomen. Whenever one consumes substances like bran or psyllium, one should drink 2 to 3 eight-ounce glasses of water. If the fiber is not well lubricated then it can cause a host of bowel problems. Most vegetables, fruits and whole grains have a large amount of fiber that will increase the peristaltic process of the colon.

Fatty Acids

Class 5

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FATTY ACIDS

The body cannot live without fatty acids. It depends on fatty acids to carry out many of the tasks needed on a daily bases. Fatty acids are instrumental in the production of hormones, cholesterol, mobilizing joints, maintaining the pressure in the eye, body tissue respiration, maintaining the balance of the immune system, dilate and distributing the pressure in the blood vessels, neurotransmission of the nervous system, maintenance of proper kidney function, preventing and protecting against cardiovascular disease, diabetes, cancer, autoimmune diseases, skin diseases, and chronic disease.

Fats whether oils, lards or waxes are members of the lipid family. Humans consume lip (grease or fat) from animals, plants or microbial cells that are soluble in either ether or chloroform and not in water. Animal fat is saturated fat, where vegetable oil is a liquid polyunsaturated fat. Both are hydrocarbons comprised of hydrogen, carbon, oxygen, which are related to the petroleum atoms.

The hydrocarbon chain, which makes up the fatty acids, has three compounds known as Glycerol. Glycerol develop into a triglyceride or natural fat, which are broken down during digestion into free-flowing fatty acids and at that point are able to be absorbed by the small intestine into the blood stream. After entering the blood, either these triglycerides work effectively to aid the body in maintaining health as healthy fats or they accumulate in the blood vessels obstructing the walls of the vessels and causing unhealthy conditions.

Fats are consumed as triglycerides, phospholipids, and sterols. Ninety-five percent of all the fat humans consume today are either saturated or unsaturated triglycerides. To determine whether a fatty acid is saturated or polyunsaturated depends on the amount of hydrogen atoms within the fat chain. When all of the atoms in the fat chain link are filled with hydrogen it is a saturated fat, on the other hand, the less hydrogen atoms in a fatty acid chain there are make it a polyunsaturated fatty acid.

Triglycerides are stored in the fatty tissues (adipose) and meet the bodies' needs for energy in between meals. When triglycerides are not immediately used after a meal they are converted to fat and storied in the adipose tissue, at which point they can become excessive and turn into hypertriglyceridemia (insulin residents and high levels of triglycerides in the blood). Triglycerides need the enzyme lipease to properly digest into the system and build the body. If for any

reason the small intestine is unable to digest the triglyceride then it will show up in the blood stream in the form of low-density lipoproteins (bad cholesterol).

Fats that are used or stored can also come from carbohydrates, which are first used for energy and then triglycerides. In many cases, the accumulation of triglycerides in the adipose tissues are the refined carbohydrates and simple sugars consumed. Whenever there is an accumulation of fat in the adipose tissues, it is the onset of several diseases including diabetes mellitus, high cholesterol, coronary artery disease, cardiovascular disease, hypertension and other disease.

Ninety percent of the 60 to 150 grams of lipids (fats) an adult consumes a day are triglycerides and the remainder is comprised of cholesterol, cholesterol esters, phospholipids, and free fatty acids.

Most of the time, when we hear about cholesterol it is negative because of its connection to cardiovascular disease, obesity and other unhealthy conditions. Cholesterol is a natural composition of all our body cell membranes, which means bile and sterol hormone-like. It is steroid lipid internally manufactured by the liver (1,000-MG a day) or from foods consumed and transported throughout the circulating blood of all animals. When fatty acids are ingested, they are converted to diglycerides and then to monoglycerides in order to be absorbed as free fatty acids. When absorbed the free fatty acids connect to and are transported by a special protein that becomes a lipoprotein. We know these lipoproteins as very low-density lipoproteins (VDL), low-density lipoproteins (LDL) or high-density lipoproteins (HDL). They are known for their cholesterol levels. The liver and gallbladder play a significant role in the ability of triglycerides digestion and absorption in the body because of the hormones they manufacture and secrete known as bile salts.

Cholesterol has its place not only in the blood plasma, but also in 10% of the brains lipid is comprised of cholesterol. However, it can cause havoc when out of balance increasing the low-density lipoproteins (LDL) elevating cholesterol (bad) levels and endangering the body. Very low and low-density lipoproteins are what obstruct the arteries with plaque resulting in heart attacks, strokes, hypertension and other degenerative diseases. On the other hand, high-density lipoproteins increase the flow of blood taking cholesterol back to the liver to be synthesized.

Cholesterol is a major part of American eating habits to the point where the average adult male consumes 337 milligrams and adult female consumes 217 milligrams according to the American Heart Association. They also recommend that the daily intake of cholesterol be below 160 milligrams a day. It is suggested that persons who have cardiovascular disease or other vascular health conditions should not

exceed 100 milligrams of cholesterol a day. LDL is mainly the product of saturated fatty acids that are consumed from meats, lards, butters, and margarines. Low-density lipoproteins can also come from eating foods with large amounts of carbohydrates in the form of refined sugars.

There is a difference between Low Density Lipoproteins and High-Density Lipoproteins (HDL). The protein to lipid ratio is higher in High Density Lipoproteins, which is good cholesterol that protects the heart, the arteries, and wards off potential heart attacks. In fact, many doctors think HDL's carry cholesterol away from the heart and back to the liver. Very Low Density and Low-Density Proteins are comprised of more lipids than proteins, increasing their fat content.

Trans fatty acids are hydrogenated which interfere with the metabolic process and also impairs the liver and gallbladders ability to synthesize, secrete bile salts and convert high density lipoproteins into free fatty acid in order to be absorbed by the small intestine.

The National Cholesterol Education Program guidelines for triglycerides are:

Normal	Less than 150 mg/dL
Borderline-high	150 to 199 mg/dL
High	200 to 499 mg/dL
Very high	500 mg/dL or higher

These are based on fasting plasma triglyceride levels.

Phospholipids have a structure similar to triglycerides; however, they are different in their consistency because they are the primary matrix of the cell membrane, balancing the water and lipid interchange within the cell membrane.

Lecithin, which is a phosphatidyl choline, plays a major role in the balancing of phospholipids presents in cells. When a person eats healthy their liver will produce lecithin, which is the building block of cellular membranes. It is the primary substance that maintains the homeostasis of the cells. The brain and the brain stem comprise more lecithin than any other body part. Lecithin is also a fat emulsifier and has the ability to reduce cholesterol levels in the blood and blood vessels. It can also be taken as a supplement and is found in liquid and pill form in all health food stores and some major grocery stores. It is processed from either egg yolks or soybeans.

Proteins the Building Block of Life

Class 5

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PROTEIN

Proteins are comprised of chains of amino acids linked together, which are essential to life. The word Protein is derived from the Greek word “protos” meaning “first”. Proteins, like carbohydrates are composed of carbon, hydrogen, and oxygen. However, nitrogen is added to its composition to assist in the generation and repairing of tissues.

Protein is three-fourths dry weight of most body cells and is second in abundant only to water, making up the basic chemical of blood, collagen, hair, tissue, nails, hormones, enzymes, infection-fighting antibodies, nerve chemicals, muscles, skin. It is the primary building block that promotes and regenerates cells and tissues to sustain life. Children’s growth and development depend on protein more than adults who need it more for regeneration of the cells and tissues. Pregnant and lactating mothers need more protein than men and non-pregnant women.

It is needed to maintain the body's Ph balance and to regulate water balance in the blood serum for cellular stability. Protein chemical reaction is important in the immune system to create antibodies in order to fight bacterial, viral infections and unhealthy fungi. Without protein, the body would have no structure or be able to move, stand, run, jump or think.

The difference between plant and animal protein is in the numbers and arrangements of individual amino acids. The construction of proteins in living creatures such as humans, birds, fungi, yeast, bacteria, lizards, plants, etc. consist of twenty amino acids, however, eight them are essential and cannot be produced by the body. These eight essential amino acids are what make a complete protein, so they have to be introduced to the body through food or supplementation. If there are less than eight essential amino acids, a complete protein cannot be formed. The remaining amino acids are not essential because the body manufactures them through the combinations of foods and other chemicals within the body. Amino acids have to maintain a certain balance with each other in order to construct a protein molecule and affect the DNA/RNA code. The universe is comprised of thousands of amino acids.

Amino acids are the framework of proteins forming long chains consisting of helixes, spheres and branched structures. These amino acids are unique in their ability to make a protein because of their numbers, varieties, chain structures and their DNA

encoding in the nucleus of each cell. Amino acids are bonded by peptides, which comes from the Greek word “peptos” meaning cooked.

When vegetables, fruits, grains or flush foods are eaten, they go through the digestive process and are reduced into different amino acids or free acids. This enables them to be absorbed into the blood stream and circulated throughout the body’s billion of cells.

THE EIGHT ESSENTAL AMINO ACIDS

ARGININE: Comprises eighty percent of male’s semen. Is a filter and detoxifier, A stimulant for the pituitary glands (located in the brain) growth hormone, hormone are utilized to build muscle and burn fat, calcium pantothenate is the part of Arginine that provides healthy hair, skin, and scalp. It regulates the balance and operation of the adrenal glands.

COMPLEMENTRY ELEMENTS:

Vitamin A, Niacin (Vitamin B-3), C, B complex, B-15, E,
Minerals Calcium, Selenium, Magnesium, Sulfur

DEFICIENCIES: Impotence or sterility, premature aging, overweight or obesity, toxic blood or free radicals

FOODS: Alfalfa, almonds (raw / unsalted), avocados, carrots, celery, cucumbers, dandelion, green peppers, lettuce, olives, spinach (uncooked), watercress, apples, apricots, grapes, oranges, strawberries,

CYSTINE: Assists the pancreas in its distribution of insulin in order to assimilate sugars and starches. It is important in the formulation of red blood corpuscles and in the production of healthy hair. Cystine influences healthy tissue resistance to poisons and infections. It is a major factor in destroying heavy metals (mercury, cadmium and others) as well as protects against acetaldehyde poisoning from heavy alcohol drinking and smoking.

DEFICIENCIES: Loss of hair, skin tone with poor quality, waste build up in the body systems, and liver disorders.

FOODS: Alfalfa, beets, cabbage, carrots, cauliflower, chives, Brussel sprouts, garlic, horseradish, kale, radishes, apple, raspberries, brazil nuts, filberts, hazel nuts.

GLUTAMIC ACID: Its major function is to develop a healthy brain, mental capability and control physical equilibrium. Makes up one fifth of the elements comprised in insulin, important in the digestion process, where it causes amyolytic enzymes to change starch into glycogen for storage in the liver. It aids in preventing anemia and increases the function of vitamin c.

DEFICIENCIES: Grumpiness, grouchiness, disagreeable

FOODS: Beets, Brussel sprouts (uncooked), cabbage, carrots, celery, dandelion, lettuce, parsley, spinach (uncooked), papaya

HISTIDINE: Controls mucus pathogens. It is an important element in semen's ability to impregnate the ovum and fertility. It improves and induces good hearing.

COMPLEMENTARY ELEMENTS

Vitamins: b-5 (pantothenic acid), C, B-3 (niacin), Vitamin E

Minerals: Potassium, Bromine, Sodium, Chloride, Chromium, Zinc

DEFICIENCIES: All matters dealing with injuries to the nerves that control hearing as well as unable to distinguish words. Female reproductive imbalances (sterility, abortion, still birth, and premature birth).

FOODS: Alfalfa sprouts, beets, carrots, celery, chicory, cucumbers, dandelion greens, endive, garlic, horseradish, sorrel, spinach (uncooked), turnips (roots and tops), apples, papaya, pineapple, pomegranate,

ISOLEUCINE: Regenerate the hemoglobin (red blood cells). Aids in muscle function, and it effects the eyes, hypothalamus, kidney, lymph glands, thymus, and pineal gland. During childhood through

adolescence, it regulates the thymus. From adolescence to old age it governs the spleen and maintains metabolism.

COMPLEMENTARY ELEMENTS:

Vitamins: A, B-3 (niacin), C, B complex, B- 15, E, B-12
Minerals: Chrome, Zinc, Calcium, Selenium,
Magnesium, Sulfur

DEFICIENCIES: urine disorders, lack of muscle tone, blood disorders,
flu and cold symptoms

FOODS: Beans, coconut, legumes, nut (except the cashews, chestnuts, and
peanut), olives, ripe papaya, sunflower seeds,

LEUCINE: treatments urine disorders (especially maple syrup urine disease -
when the urine has a sweet smell), good to lower blood sugar level,
it aids in skin and bone healing. Leucine polarizes the left
(levorotatory) side of the body. It counterbalances Isoleucine.

COMPLEMENTARY ELEMENTS:

Vitamins: A, B-complex, B-2, B-12, Folic Acid
Mineral: Copper, Manganese, Calcium, Selenium

DEFICIENCIES: The inability to loss or gain weight, spasms in the colon, problems
of the digestive tract, liver congestion, kidney disorders

FOODS: They are the same as Isoleucine

LYSINE: Aids the liver and gallbladder in fat metabolism. Converts calcium
for bone growth as it maintains cartilage and connected tissue. It's
an immune system balancer and prevents degeneration of tissues
and body cells. It is very important in female disorder of the corpus
luteum mammary glands, ovaries, and pineal gland. Vitamin C
regulates lysine converting for body absorption. It corrects the
herpes simplex virus imbalance. L-Lysine inhibits dental decay. It
is the binding element of this Co-enzymes Lipoic Acid, Biotin and
Pyridoxal Phosphate.

COMPLEMENTARY ELEMENTS:

Vitamins: Niacin, PABA, B-complex, A, B-2, B-5, B-6, B-15, E
Minerals: Chromium, Zinc, Rubidium, Iodine, Sodium, Calcium

DEFICIENCIES: Chronic fatigue syndrome and tiredness are linked to a deficiency of L-Lysine, a loss of muscle integrity, hypoglycemia (blood sugar deficiency), antidote to allergy of Brewers Yeast, Methionine is displaced by lysine; it is recommended that they be taken together.

FOODS: The herbal food Comfrey is a rich source of lysine. Alfalfa, beets, carrots, celery, cucumbers, dandelion, parsley, soybeans (tofu), spinach (uncooked), turnips, apples, apricots, grapes, papaya, pears

L-METHIONINE: Has a high concentration of the sulfur. It's part of the lipotropic team, including choline and inositol. Kidney and liver cell depend on this amino acid for regeneration. It also aids in the removal of waste and poisons from the liver. The serum and tissues benefit from these amino acids is important to the blood hemoglobin. L-Methionine maintains balances in the spleen, pancreas, and lymph glands. This amino acid prevents destruction of vital organs, tissues and necrosis. It hinders accumulations of excessive fat in the liver, as its production of lecithin increases, preventing cholesterol build up in the systems. Because of its high sulfur constitution, L-Methionine protects against cancer and slows down the aging process; at the same time, it neutralizes free radicals and dispels toxins from the body. It synthesizes protein and is a fat allergy antidote. Hair growth is also stimulated by this amino acid.

COMPLEMENTARY ELEMENTS:

Vitamins: A, C, B-5, B-12
Minerals: Chromium, Zinc

DEFICIENCIES:

Loss of hair, skin quality poor, sore throat, enlargement of tonsils, cancer, high cholesterol, liver and gallbladder disorders, body toxicity,

FOODS:

Brussels sprouts, cabbage, cauliflower (uncooked), chives, egg yolks, garlic, horseradish, onions, the herbal food sarsaparilla, watercress, apples, pineapple, Brazil nuts, filbert nuts,

L-PHENYLALANINE:

Aids the brain in the manufacturing of Norepinephrine, (neurotransmitter) which is a chemical that transports brain signals along nerve neurons to communicate with the body. The thyroid gland depends on this amino acid to secrete the hormone thyroxin, which is rich in iodine. It eliminates food, tissue, and cell waste from the body. It is valuable in learning and memory function as well as releasing all forms of depression (manic depression, schizophrenia, endogenous, and withdrawal syndrome). Phenylalanine suppresses the appetite as it increases energy levels, through releasing the hormone cholecystokinin from the brain into the body systems. The kidneys and bladder's balance relay on this amino acid.

COMPLEMENTARY ELEMENTS:

Vitamins: A, B-3, C, B-complex, B-15, E

Minerals: Calcium, Selenium, Magnesium, Sulfur

DEFICIENCIES:

Emotional imbalances, eye illness, depression, tumors, weight gain, appetite disorders, Thyroid imbalances, (NOTE: Administering too much Phenylalanine may result in headaches, irritability, and insomnia).

COMPLEMENTARY ELEMENTS:

Minerals: calcium, selenium, magnesium sulfur

Vitamins: A, B complex, B-3, B-15, C, E

GLANDULAR INFLUENCES:

Eyes, hypothalamus, Pineal Gland, Thyroid,

FOODS:

Beet, carrot, cucumbers, parsley, spinach (uncooked), tomatoes, apples, pineapple

L-THREONINE:

This amino acid is a catalyst between other amino acids and the body. Having a lipotropic action threonine prevents the liver from

fat build-ups. The digestive and intestinal tract is aided in operating smoothly with this amino acid. It is one of the major amino acids in elastin, collagen and enamel proteins. It helps the uterus maintain its health and well-being.

Complementary Elements:

Vitamins: Folic Acid, B-Complex, B-12,
Minerals: Copper, Manganese, Calcium, Selenium

DEFICIENCIES:

Gastrointestinal problems, acid imbalance, fat allergies, sore throat, malnourishment and lack of assimilation, female disorders, painful and menstruation cycle difficulties (also known as dysmenorrhea), spotting, cysts on the ovaries, and fluid retention in the ovaries.

ELEMENTS OF BALANCE:

Minerals: calcium, copper, manganese, selenium
Vitamins: A, B complex especially B- 2, 12, and Folic Acid

GLANDULAR INFLUENCES:

Appendix, lymph, skin, stomach, thymus, tonsils

L-TRYPTOPHA

It provides an efficient optic nervous system. This amino acid is useful in promoting good digestion, as well as aiding the body to assimilate the B Vitamin Complex, especially B 6. Tryptophan is found in every cell of the body. When it is converted to serotonin (which reduces the brain's electrical activity), tryptophan acts as a neurotransmitter inhibitory which induces sleep. It also provides emotional stability and is useful for depression and stress related imbalances. Another quality of tryptophan is its ability to elevate the histamine levels in blood, as well as stimulate growth hormones. It lowers cholesterol and fat in the blood system, as it regulates blood pressure through dilating blood vessels. The high level of Nicotinic Acid (Vitamin B-3 Niacin) in this amino acid counterbalances cigarette smoking.

DEFICIENCIES:

Nervous disorders, insomnia, joint dysfunction, poor skin tone, cigarette addiction, indigestion, schizophrenia, brittle fingernails, arthritis.

COMPLEMENTARY ELEMENTS:

Minerals: calcium, magnesium, selenium, sulfur
Vitamins: A, B-3 (Niacin), E

GLANDULAR INFLUENCES:

Liver, lungs, lymph, parathyroid, spleen, thymus

FOODS:

Alfalfa, beets (whole plant), Brussel sprouts (uncooked), carrots, celery, chives, dandelions greens, endive, fennel, spinach (uncooked), string beans (uncooked), turnips (whole plant),

L-VALINE:

Valine is used in conjunction with Leucine, and Isoleucine to treat sugar in urine (Maple syrup urine disease). These three amino acids have to balance each other in the body for optimum utilization. It is needed by the body for good muscle coordination. Valine is essential for female glands (ovaries, corpus luteum, and mammary glands). Aids the nervous system in electrical impulse transmissions and it also helps in maintaining a sharp memory.

DEFICIENCIES:

Nervous disorders, spitting up of blood, skin inflammation, biting fingernails, alcohol abuse, emotional and mental disorders, insomnia, throat and rectum inflammation.

COMPLEMENTARY ELEMENTS:

Minerals: copper, magnesium, manganese, sulfur,
Vitamins: A, B complex, C, E,

FOODS:

Almonds (raw, unbleached, unsalted), apples, beets (whole plant), carrots, celery, dandelion, lettuce, okra, parsley, parsnips, pomegranate, squash (uncooked) tomatoes.

