

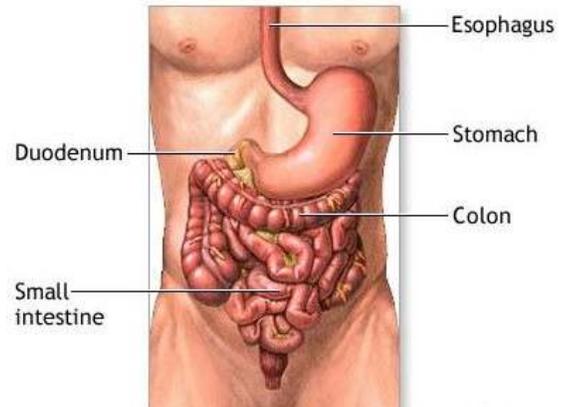
CERTIFIED WOMEN'S HEALTH COUNSELOR ONLINE COURSE: SESSION 16

- Herbal Treatments by System

The Digestive System

The digestive system breaks down the food we eat, extracting nutrients and assimilating them for use throughout the body. Proper digestive-system function is essential to maintaining good health and energy levels. The body requires nutrients from all three food categories (proteins, carbohydrates and fats) to survive.

Digestive concerns are common to Americans. These include indigestion, heartburn, acid reflux, insufficient enzymes, stomach ulcers and stomach cramps.



Examining the Digestive System

After food is chewed and swallowed, it passes through the esophagus and enters the stomach. The stomach secretes hydrochloric acid and certain enzymes to begin the breakdown and sterilization of the food. The stomach is particularly important to the digestion of proteins. Typically, the stomach will hold about a quart of food or liquid, but its muscular walls can expand to hold much more than this.

The stomach is lined with a durable mucous coating that protects it from hydrochloric acid and other gastric juices. Ulcers form when a portion of this mucous lining wears thin, and the digestive juices aggravate the stomach.

The bulk of nutrient assimilation takes place in the small intestine. The circulatory system carries nutrients from the small intestine to the cells of the body. The small intestine is lined with tiny fingerlike projections called villi and tinier cytoplasmic projections called microvilli. These villi increase the surface area of the intestine and allow for more efficient nutrient absorption. The average adult's small intestine is 10-13 feet long, and about one inch in diameter. Because of the villi and microvilli, the total surface area of the small intestine is about 180 square meters – just smaller than a tennis court.

The first 10 inches of the small intestine is known as the duodenum; it is the most important section in digestion. Here, enzyme secretions from the pancreas and bile secretions from the liver mix with the food and break down carbohydrates, proteins and fats into smaller units. The body can assimilate these nutrients in smaller forms and use them for energy. The duodenum also secretes lactase to digest milk products, and sucrase and maltase to break down sugars.

The next sections of the small intestine are the jejunum and the ileum. In this combined 9-12 foot segment, an additional 2-3 liters of intestinal juices are secreted each day. Because food particles have to be a certain size before they can be absorbed into the bloodstream, digestion and assimilation in this section can take several hours. The villi and microvilli absorb tiny nutrients that travel through the lymph vessels or into capillaries for transport to the liver. After the liver filters and processes these nutrients, they are sent throughout the body.

The pancreas is an important part of the digestive process, producing approximately three pints of digestive juices each day. These juices pass through the pancreatic duct into

the small intestine. This organ also controls the amount of sugar in the blood by secreting two hormones, glucagon and insulin. Insulin and glucagon work as a check-and-balance system, regulating the body's blood sugar level.

The liver is also critical to digestion. It is located in the right side of the upper abdomen, under the diaphragm. This is the largest internal organ in the body, weighing about 3-4 pounds. The liver is composed of groups of cells called lobules. Anywhere from 50,000 – 100,000 lobules make up the liver, and each lobule has a central vein that drains blood into the hepatic veins, which eventually carry it to the heart. The liver produces bile, which breaks down, or emulsifies, fats. Bile drains from the liver lobules into the branches of the bile ducts that lead to the gallbladder, where it is stored.

All told, the liver performs more than 500 functions, many of them of a processing or storage nature. The liver processes potential poisons for removal from the body, including alcohol and drugs. It also breaks down old red blood cells and reprocesses body substances, extracting iron from hemoglobin, and reusing amino acids.

The liver stores carbohydrates as glycogen, which can be quickly converted into glucose (for energy) if needed by the brain, muscles or other organs. It also stores certain nutrients like vitamins (A, B-complex, B₁₂, D, E and K), releasing them into the blood when the body needs them. These reserves can last several months. The proteins albumen, globulin and fibrinogen – all components of blood plasma – are also manufactured in the liver.

Hepatitis C – Use Milk Thistle and cleanse the body.

Did You Know?

- 60-70 million Americans suffer from digestive disease (National Digestive Diseases Information Clearinghouse).
- Americans spent \$107 billion on drugs and antacids to fight digestive ailments in 1992.
- 70-year-olds may produce as little as half the enzymes they produced when they were 20.
- By age 50, many people will produce only 15 percent of the hydrochloric acid they produced at age 25. About one-third of all people over the age of 65 secrete almost no hydrochloric acid!
- Silymarin, a mixture of bioflavonoids found in the plant milk thistle, help protect the liver. Clinical studies show that silymarin has antitoxic properties and is effective in preventing liver damage.

Digestive System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the digestive system.

- Lack of energy
- Body odor and/or bad breath
- Difficulty digesting certain foods
- Food allergies
- Poor resistance to disease
- Belching or gas after meals
- Skin/complexion problems
- Lack of a balanced diet
- Less than two bowel movements per day

- Lack of appetite
- Brittle or easily broken fingernails
- Dry, damaged or dull hair
- High-fat diet
- Food/chemical sensitivities
- Recurrent yeast/fungal infections
- Weak bones, teeth or cartilage
- Suffer from anxiety or worry

Digestive System Suggestions

- Avoid caffeine, alcohol and soft drinks.
- Eat raw fruits and vegetables rich in enzymes.
- Avoid overeating.
- Eat no later than 2-3 hours before bedtime.
- Avoid resting after meals.

Digestive System Products for the Stomach

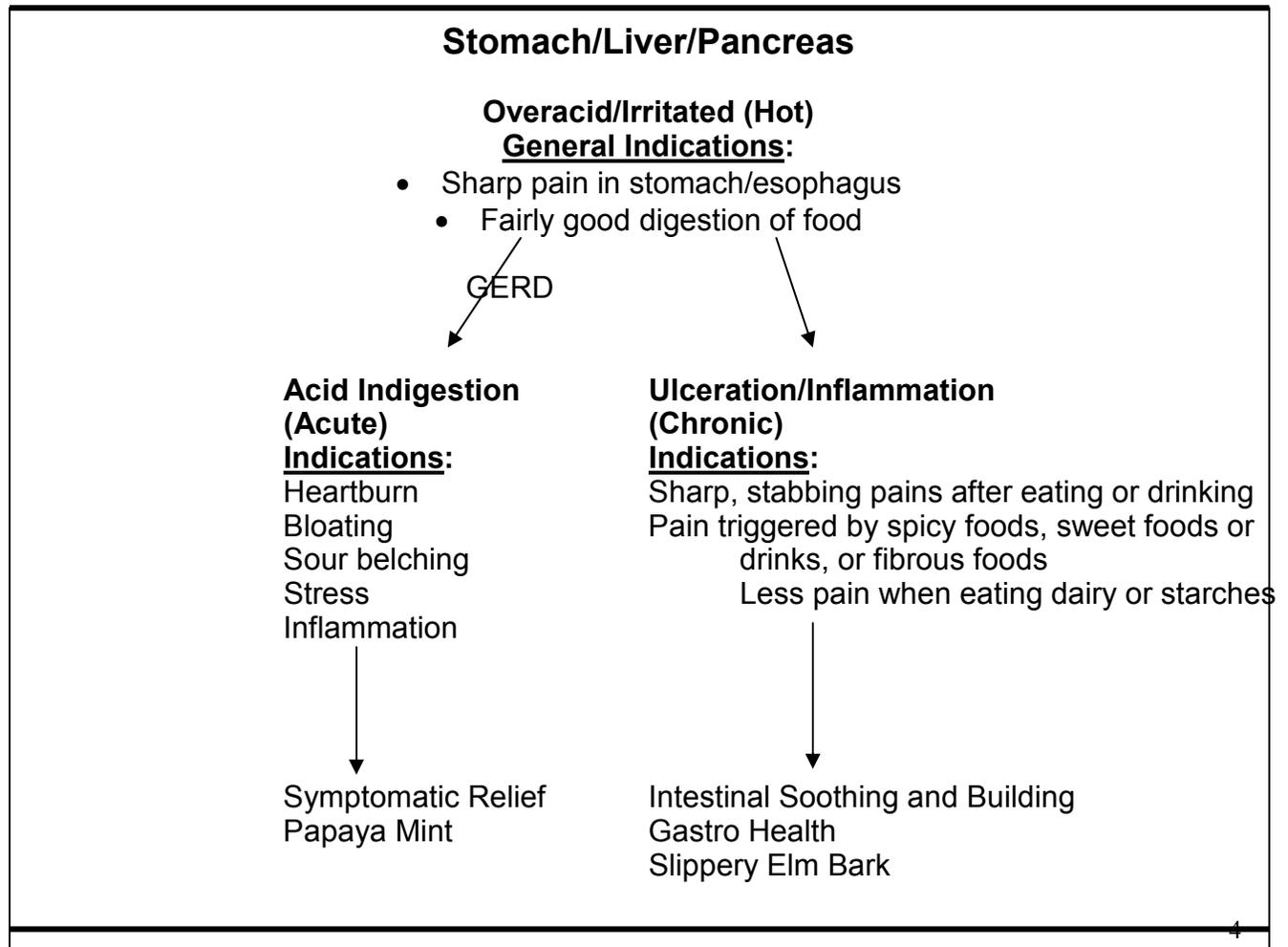
The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish.

- Food Enzymes – Tablets that supply extra amounts of hydrochloric acid, pancreatic enzymes and bile salts to aid in the digestion of fats, proteins and carbohydrates. If food feels heavy entering the stomach or feels like it remains there for a long time (over two hours), Food Enzymes should enhance digestion.
- Symptomatic Relief – A combination of natural ingredients that help neutralize acid, soothe the stomach, improve digestion and control acid reflux. A combination that contains calcium carbonate, alginic acid (from kelp), wintergreen oil, papaya fruit, slippery elm bark, licorice root concentrate and ginger. This is not intended to address underlying causes of digestive disturbances.
- Papaya Mint – The freshness of peppermint is combined with the sweetness of papaya to bring you a combination that provides soothing benefits to the intestinal system. Papaya contains proteolytic enzymes that enhance the digestion of proteins, while peppermint encourages the production of digestive fluids as it sweetens your breath – an ideal combination.
- Intestinal Soothing and Building – A combination of slippery elm, marshmallow, plantain, chamomile, rose hips and bugleweed. This combination was designed to soothe and tone the digestive tract. It helps reduce irritation and relieve inflammation in the stomach, small intestine and colon.
- Gastro Health – Studies have shown that gastric ulcers are caused by *Helicobacter pylori* bacteria. This combination combines capsicum, cloves, *Inula racemosa*, deglycerrhizinated licorice and pau d'arco to promote digestion and inhibit the growth of this bacteria. It does not harm friendly intestinal flora. Capsicum is a known digestant. Cloves may have a positive effect on the healing process of gastric ulcers.

Digestive System Products for the Liver

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish.

- Milk Thistle – This natural support to the liver contains a mixture of bioflavonoids, including silymarin. Milk Thistle strengthens the liver against autointoxication and stimulates protein synthesis in liver cells, which generates DNA and RNA.
- Liver Balance – Helps cool a hot liver and is especially beneficial for people with food allergies or who are easily irritated. It promotes the flow of bile, relieving a congested and “stuffy” feeling in the liver and intestines. Contains a host of Chinese herbs, including bupleurum, peony, pinellia rhizome, cinnamon, dang gui and more.
- Blood Build – Combination of 18 herbs, this combination is designed to nutritionally support the body’s blood and related systems. The liver, glands, nerves and circulatory system will benefit from the many natural roots, fruits and rhizomes.
- Spleen Activator – This combination combines Chinese herbs that “warm the center,” meaning they increase the energy of the stomach and aid the digestive process. This combination is a tonic for those with chronically weak digestion that leaves them thin and pale. It contains Panax ginseng, astragalus, atractylodes rhizome, hoelen discorea, lotus seed and 12 other Chinese herbs.



Stomach/Liver/Pancreas

Underacid/Weakened (Cold)

General Indications:

- Dull pain or burning
- Chronic bloated feeling
- Excessive flatulence
- Heavy feeling in stomach

Acid/Enzyme Deficiency (Acute)

Indications:

Nausea or flu-like symptoms
Knotted feeling in stomach
Aging
Severe gas or bloating
Lack of hydrochloric acid



Food Enzymes

Wasting (Chronic)

Indications:

Paleness
Anemia
Anorexia
Bulimia
Cold extremities
Frequent gas & bloating



Spleen Activator

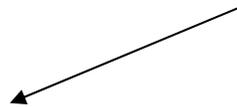
Liver Problems

General Indications:

- Allergies
- Skin Disorders (need to clean liver)
 - Hormone imbalances
- Emotional problems (depression)



Milk Thistle



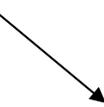
Irritated (Hot)

Indications:

Bloating
Headaches/Migraines
Irritability
Flushing of face
Acne



Liver Balance



Sluggish (Cold)

Indications:

Groggy feeling
Malaise
Discouragement
Chronic depression
Hormone imbalances
Body and foot odor



Blood Build

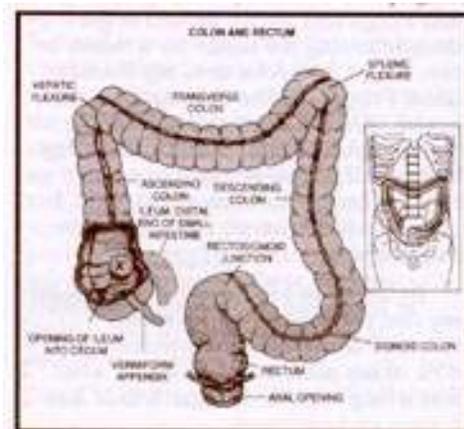
The Intestinal System

The intestinal system eliminates solid waste products from the body and reabsorbs water. It is composed of the colon (also known as the large intestine or lower bowel) and the rectum.

When the colon cannot function properly, an accumulation of toxins can build up in the lymph system, the bloodstream and the intestines. This can lead to a myriad of intestinal concerns, including colitis, constipation, hemorrhoids, diverticulitis, Crohn's disease and irritable bowel syndrome. Other intestinal system concerns include diarrhea and dehydration.

Examining the Intestinal System

The intestinal system focuses almost exclusively on the colon. The high fat, low-fiber diet common to most Americans wreaks havoc on this organ.



The Role of the Colon

The main functions of the colon are the elimination of waste and the reabsorption of water. The colon is the primary organ for eliminating cellular waste and digestive waste byproducts. A healthy, well-functioning colon is essential for good digestion and the proper absorption of nutrients.

The colon extracts water and sends it back into the bloodstream. This is vital because the body needs a great deal of water to be able to create and secrete two gallons of digestive fluids every day.

Sometimes food and waste matter pass through the colon more quickly than normal due to conditions like the presence of excessive bacteria, emotional stress or the use of prescription drugs. This results in diarrhea, which can cause severe dehydration of body cells. Large amount of water should be taken to offset this loss.

Constipation, the halting of the eliminative process, plagues untold millions of Americans. This can be caused by stress, poor dietary habits (including the lack of fiber) and a sedentary lifestyle.

Anatomy of the Colon

The first section of the colon is called the cecum. The junction between the ileum of the small intestine and the cecum of the large intestine is the ileocecal valve. This valve prevents the back-flow of waste into the small intestine.

The colon has three sections divided by pronounced flexures, or bends, where it makes near-right-angle changes of direction. Above the pouch of the cecum, the ascending colon rises vertically for almost 18 inches. At the top, the ascending colon bends, and the transverse colon begins. The transverse colon travels horizontally for about two feet at navel height, then turns down again. This two-foot section is the descending colon. The remaining several inches is the rectum, which carries waste out of the body.

Just below the entrance to the ileum (the end of the small intestine), a sac-like tube dangles from the cecum. This is the appendix. The appendix is only 3-6 inches long and one-third of an inch in diameter, so it can easily become clogged with stray pieces of food or waste and get infected; this condition is known as appendicitis.

Colon Health

Several factors promote good colon health. These include adequate dietary fiber, adequate water intake, regular exercise and a healthy balance of favorable bacteria in the gastrointestinal tract.

Adequate fiber intake provides the colon with bulk to facilitate the process of peristalsis – the involuntary contraction of intestinal muscles to move food through the intestines. Fiber decreases bowel transit time. It also absorbs toxins in the intestinal tract, allowing the bowel to eliminate them from the body.

Water is needed to maintain the healthy mucous lining of the intestines. This lining lubricates the food and waste as they travel through the colon. Water also helps keep the stool soft and pliable for easy elimination. Hard, dry stools cause strain on the colon. If the body does not get adequate water, the colon will absorb more water from the food and waste there, increasing the chance that toxins will also be absorbed, and causing stools that are dry and difficult to pass.

Regular exercise stimulates the action of the colon. Mild aerobic exercise, such as walking, is especially good. Any type of exercise that involves bending of the abdomen may also be helpful in promoting colon health.

A very important component of colon health is the balance of intestinal bacteria or “flora.” More than 400 types of bacteria reside in your gastrointestinal (GI) tract; some are beneficial to your health, or “friendly,” and some are deleterious to your health, or “unfriendly.”

The two main types of friendly bacteria are *Lactobacillus acidophilus* (or simply “acidophilus”) and “bifidus,” a name referring to several strains of bifido-bacteria. These bacteria assist in the final breakdown of food, produce B-vitamins, and keep the populations of unfriendly bacteria in check. A decrease in the population of friendly bacteria may greatly reduce the amount of certain B-vitamins available to the body.

Recent research suggests that insufficient amounts of the B-vitamin folate in the diet may increase the risk for colon cancer. Friendly bacteria can be destroyed easily by antibiotics, stress, alcohol, caffeine, high-meat/high-fat diets and high-sugar/low-fiber diets. Low levels of stomach acid also promote the growth of harmful bacteria. Probiotics, or supplements containing living bacteria, reintroduce beneficial bacteria to the GI tract. Studies show that they may also hamper the intestinal tract’s cholesterol absorption, thereby decreasing cholesterol levels. As a side benefit to women, a 1992 study found in the *Annals of Internal Medicine* suggests that acidophilus may reduce the recurrence of candida infections.

Did You Know?

- The average adult colon is about 6 feet long.
- It takes anywhere from 12-36 hours for food and waste to be processed and eliminated
- Billions of bacteria (more than 400 types) live in the gastrointestinal tract.
- *E. Coli*, the bacteria found occasionally in under-cooked beef and famous for the serious illness it can cause, lives in the colon and helps break down food substances.

Digestive System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the intestinal system.

- Body odor and/or bad breath
- Eat meat more than 3 times a week
- Recent or frequent use of antibiotics
- Skin/complexion problems
- Regular consumption of dairy products
- Feeling low, uninterested or depressed
- Lack of a balanced diet
- Slow recovery from illness
- Less than 2 bowel movements per day
- High-fat diet
- Low-fiber diet
- Food/chemical sensitivities
- Recurrent yeast/fungal infections
- Easily irritated or angered
- Don't get enough exercise
- Respiratory, sinus or allergy problems

Digestive System Suggestions

- Eat high-fiber fruits and vegetables and wholesome grains.
- Drink at least 64 oz. of water daily.
- Avoid excess white flour.
- Eat yogurt and other fermented foods.
- Avoid frequent use of stimulant laxatives.

Intestinal System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish.

- Bowel Detoxifier – Promotes healthy, regular elimination of waste from the colon. Provides betaine HCL, pepsin, pancreatin, and bile salts to aid digestion in the upper GI tract. Also contains psyllium hulls, kelp plant, bentonite clay, charcoal and chlorophyll to provide needed fiber, encourage the proper flow of waste and detoxify the colon.
- Activated Charcoal – Charcoal is highly absorbent. Activated Charcoal can help in cases of poisoning or severe diarrhea as it absorbs irritants and toxins in the digestive tract. It may also help lower cholesterol levels.
- Bifidophilus – Bifidophilus contains over 1 billion Bifidobacterium longum per capsule to rebuild the population and friendly bacteria in the colon. It also contains 2.5 billion acidophilus bacteria.

- Intestinal Soothing and Building – A combination of slippery elm, marshmallow, plantain, chamomile, rose hips and bugleweed. This combination was designed to soothe and tone the digestive tract. It helps reduce irritation and relieve inflammation in the stomach, small intestine and colon.
- Spleen Activator – This combination combines Chinese herbs that “warm the center,” meaning they increase the energy of the stomach and aid the digestive process. This combination is a tonic for those with chronically weak digestion that leaves them thin and pale. It contains Panax ginseng, astragalus, atractylodes rhizome, hoelen discorea, lotus seed and 12 other Chinese herbs.
- Lower Bowel Stimulant – Works as a laxative and can help eliminate parasites from the body. Helps cleanse and tone the colon. Contains cascara sagrada, buckthorn, licorice, capsicum, ginger, barberry, turkey rhubarb, couch grass and red clover.
- Psyllium Hulls – Psyllium hulls have the natural ability to absorb incredible quantities of water. Psyllium forms a mucilaginous gel when mixed with liquids; this gel adds bulk to food and waste traveling through the colon. In a study conducted by James W. Anderson, M.D., volunteers who added one heaping teaspoon of psyllium twice daily to their diets averaged a 4.7 percent drop in cholesterol after 24-26 weeks, while LDL (bad) cholesterol dropped 6.6 percent. Contains psyllium hulls, licorice root and hibiscus.
- Lower Cholesterol w/Stevia – The recommended dietary allowance for fiber is 30 grams per day. Most Americans get far less than this. This combination contains fiber from five different sources: psyllium hulls, apple fiber, acacia gum, guar gum and oat bran. Each serving offers 3.8 grams total dietary fiber (3.2 grams soluble and 0.6 grams insoluble). Fiber adds bulk to the stool and promotes bowel movement and removal of toxins and excess cholesterol from the body. Drink plenty of water.
- Magnesium – This essential mineral can act as a laxative for a spastic colon. Some over-the-counter laxatives contain magnesium.
- Nerve Calming – A combination of herbs and essential B-complex vitamins, which nourishes the nerves to help the body cope with stress. Contains generous amounts of vitamin C, B-complex vitamins, plus schizandra fruit, choline bitartrate, wheat germ, inositol, PABA, bee pollen, citrus bioflavonoids, hops flowers, passion flower and valerian root to help reduce tension, stress and insomnia.
- Parasite Cleaning – Parasite cleansing promotes the elimination of parasites and yeast from the digestive and intestinal tracts. Contains pumpkin, caprylic acid, and elecampane. Drink plenty of water.
- Liquid Black Walnut – Traditionally used as a nutritional aid for the intestinal system, black walnut provides you with the same laxative action as cascara sagrada, but it works more subtly. Due to its astringent qualities, black walnut has the power to help your body protect itself from harmful agents such as parasites.

COLON

Irritated/Inflamed (Hot)

General Indications:

- Loose or watery stool
- Intestinal inflammation

Diarrhea

Red Raspberry Liquid
Activated Charcoal
(Turns stool black – good for
food poisoning)

Inflammatory Bowel

Indications:

Alternating diarrhea/constipation
Diagnosis of Crohn's, Celiac, Colitis
Irritable Bowel Syndrome

Intestinal Soothing and Building
Spleen Activator
Omega 3 EPA

COLON

Constipated (COLD)

General Indications:

- Dry, compacted stool
- Infrequent or difficult elimination
 - Mental sluggishness
- Feelings of bloating and fullness
- Unpleasant-smelling stools
 - Poor diet
 - Environmental toxicity
 - Fatigue and irritability
- Gastrointestinal irregularities
 - Allergic reactions

Atonic Constipation

Indications:

Regular but sluggish
Elimination (every 2-3 days or more)
Thick, gooey consistency

Lower Bowel Stimulant
Psyllium Hulls + Water

Spastic Constipation

Indications:

Cramping, explosive bowel
movements
Irregular bowel movement
Schedule
Stress (muscle spasms all
Over the body)

Lower Cholesterol w/Stevia
Magnesium
Nerve Calming
Irritable Bowel Fiber
Stress Combination
Kava Kava
Valerian Root

COLON

Parasites

Indications:

- Severe diarrhea after foreign travel
- Chronic diarrhea after drinking untreated water
- Chronic, unresolved health problems
 - Constant hunger
 - Unsatisfied appetite
 - Itchy rectum



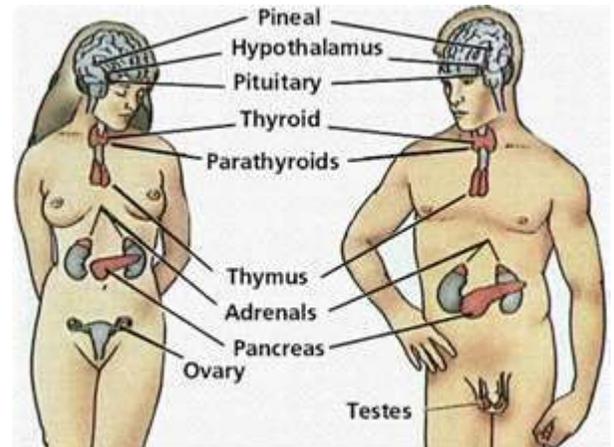
Parasite Cleansing
Bifidophilus – take with cleansing
Liquid Black Walnut (children)
L-Reuteri

The Glandular System

The glandular and nervous systems work intimately together to maintain balance among all of the body systems. Together, these systems regulate voluntary and involuntary actions within the body such as growth, metabolism, digestion, elimination, menstruation and sleep. These systems also serve as the body's means of communication between cells.

The glandular system communicates using chemical messengers called hormones, which stimulate reactions that may last from a few hours to several days.

Glandular system concerns include hormone imbalances, weak adrenal glands, thyroid imbalance, diabetes, hypoglycemia and hyperglycemia.



Examining the Glandular System

While the glandular system communicates using hormones, the nervous system uses electrical impulses and chemicals called neurotransmitters to relay fast, short-lived messages. Some neurotransmitters, e.g., noradrenaline, also act as hormones and may be secreted in more than one place throughout the body. Both neurotransmitters and hormones bind to receptor cells to initiate responses.

The nervous and glandular systems are linked by the hypothalamus – the control center for the body's emotional and physical responses. The hypothalamus, part of the brain stem, has been found to control hunger, thirst, blood pressure, pain, pleasure, water balance, temperature, sexual desire, hostility and many other emotions and responses. However, it is not the only area of the brain associated with emotions. Many structures, including the hypothalamus, make up the limbic system, an area of the brain that processes feelings and emotions.

The relationship between the hypothalamus and the pituitary gland provides the link between the nervous and glandular systems. The pituitary is a small gland located at the base of the brain. Many refer to it as the master gland because it regulates the release of hormones from most other glands, much like the maestro of a symphony directs all the musicians to play together to produce harmonious music. Divided into two lobes, the anterior and posterior, the pituitary is a double gland. Some hormones are produced in the hypothalamus and stored in the posterior lobe of the pituitary. The hypothalamus also manufactures hormones that stimulate the release of other hormones from the anterior pituitary. These are called releasing, or tropic hormones.

Many glands have a “feedback loop” that prevents the over-secretion of certain hormones. For instance, if the anterior pituitary secretes thyroid-stimulating hormone (TSH), the thyroid subsequently releases thyroxine and tri-iodothyronine, two hormones that trigger an increase in metabolism. These hormones inhibit the release of TSH so the thyroid will not be stimulated by the anterior pituitary.

The pituitary also produces hormones that it secretes directly into the bloodstream. One of these, growth hormone, is responsible for growth, development, protein synthesis, the

breakdown of fats, and increases in blood sugar levels. Other hormones produced by the pituitary and secreted directly into the bloodstream include prolactin, which stimulates milk secretion in females; follicle-stimulating hormone (FSH), which stimulates the growth of ovarian follicles in females and seminiferous tubules in males; and luteinizing hormone (LH), which initiates ovulation during the menstrual cycle.

The pineal gland is a small, pea-sized gland located in the center of the brain. It is associated with biological responses to light and regulation of the body's circadian rhythms such as sleep. Exposure to light inhibits the secretion of melatonin, a pineal hormone, and darkness stimulates it. Secretion of this natural antioxidant peaks around midnight and troughs in the morning. Melatonin production decreases with age.

The thymus gland is located behind the upper part of the breastbone and produces the hormone thymosin. Thymosin plays a role in immune response.

Just above the thymus, in the neck, is the thyroid gland. The thyroid secretes two different hormones; thyroxine and tri-iodothyronine (mentioned previously). Together, these two hormones regulate metabolism, growth and development. Calcitonin, another thyroid hormone, regulates blood levels of calcium, preventing excessive amounts from being released into the blood.

The parathyroid gland lies adjacent to the thyroid. Parathyroid hormone (PTH) acts as an antagonist to calcitonin to increase calcium levels in the blood by stimulating its release from the bones. At the same time, PTH causes the kidneys to excrete phosphate, which is also released from the breakdown of bone. The kidneys, intestines and bones all play a role in maintaining proper blood levels of calcium and phosphate.

The adrenal glands are located on top of the kidneys. Each gland is divided into two parts, the cortex and the medulla. The adrenal cortex (outer layer) produces "cortical" steroid hormones from cholesterol. Among the many cortical steroid hormones produced by the adrenal cortex are the sex hormones, DHEA, cortisone and aldosterone. The sex hormones signal development of secondary characteristics such as facial hair and a deeper voice DHEA (dehydroepiandrosterone), an intermediate hormone, aids in the production of sex hormones. Cortisone and its derivatives (called the glucocorticoids) help maintain normal blood sugar levels by stimulating formation of carbohydrates from protein and fat through secretion of enzymes from the liver. These glucocorticoids also decrease inflammation, help repair damaged tissue and act as the body's buffer for stress.

Another cortical steroid hormone is aldosterone, which regulates mineral balance within the body by stimulating the absorption of sodium, chloride and water, and decreasing absorption of potassium by the kidneys. A careful balance of these minerals is vital for proper function of the sodium-potassium pump, which transports molecules into cells, and for conduction of nerve impulses.

Many plants produce hormones similar to the cortical steroid hormones; these are often called phytosteroids, and in the body they act similarly to the way the cortical steroid hormones function.

The medulla (or inner layer) of the adrenal gland produces adrenaline and noradrenaline. These hormones stimulate the sympathetic nervous system in fight-or-flight responses. When the body senses stress – whether it be emotional, physical or environmental – elevated blood pressure, increased blood sugar, accelerated heart rate and constricted blood vessels

can result as the body redistributes its energy in order to deal with the stress. Simultaneously, functions that are less crucial to survival (like digestion and elimination) temporarily stop.

The ovaries are the female sex organs that produce estrogen and progesterone. Estrogen maintains and helps develop other female sex organs, stimulates secondary sexual characteristics and stimulates growth of the uterine lining during the first two weeks of the menstrual cycle. Progesterone has been called the pregnancy hormone because it prepares the uterus for the fertilized egg during the last two weeks of menstruation and helps maintain a healthy fetus during pregnancy.

The male hormone testosterone is produced in the testes, the main male reproductive organs. Testosterone stimulates development of sperm cells in men, maintains and develops male reproductive organs, and is responsible for male secondary sexual characteristics.

The pancreas is a digestive organ that also functions as a gland. It secretes glucagon, which converts glycogen into glucose, and insulin, which acts as an antagonist to glucagon to prevent excessive levels of blood glucose. Both of these conversions involve enzymes produced by the liver.

The digestive tract also contains hormones. Gastrin, secreted in the stomach, triggers secretion of gastric juices and enzymes in the pancreas. Stomach acidity causes the release of secretin in the small intestines, which in turn causes the pancreas to secrete its enzymes, and stops the secretion of acid. Cholecystokinin (CCK) stimulates the gallbladder to secrete bile.

Proper nutrition is crucial to the function of this complex system. Most glands need increased amounts of particular minerals to function as enzymes in their reactions. For example, the pancreas needs chromium, the prostate requires zinc, and the thyroid uses iodine. Many problems with the glandular system are associated with poor nutrition and low levels of these minerals in the diet.

Did You Know?

- The pituitary gland is about the size of a kidney bean.
- Giants and midgets are the result of too much or too little growth hormone.
- Diabetes mellitus, the most common glandular system disorder, affects between 10 and 20 million people in the United States.

Glandular System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the glandular system.

- Lack of energy
- Regular consumption of alcohol
- Frequent mood swings
- Poor concentration or memory
- Stressful lifestyle
- Skin/complexion problems
- Cravings for sweets, salt or junk foods
- Too little sleep or restless sleep

- Hair loss
- Difficulty in maintaining ideal weight
- Lack of a balanced diet
- Slow recovery from illness
- Lack of appetite
- Unsettled, apprehensive, pressured
- More than 2 cups of caffeinated beverages/day
- Easily irritated or angered
- Don't get enough exercise

Glandular System Suggestions

- Eat regular meals at regular intervals.
- Eat vegetables, legumes and whole grains.
- Avoid simple sugars.
- Exercise.
- Avoid stress.

Glandular System Products – Metabolism

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Master Gland Formula** – This general body tonic includes adaptogens like schizandra and Siberian ginseng, along with herbs historically used to strengthen all the glands: alfalfa for the pituitary, kelp for the thyroid, licorice for the adrenals, thyme for the thymus, dong quai and ginseng for the reproductive glands, and dandelion and uva ursi for the pancreas.
- **Hypoglycemia Combination** – A combination of licorice, dandelion, safflowers and horseradish, this formula was designed for hypoglycemics. Herbal properties of this formula include adaptogenic, glandular and stomachic. Licorice helps stabilize the adrenal glands, dandelion supports the liver, and safflowers and horseradish improve digestion.
- **Licorice Root** – Licorice has long been recognized for the natural sweetness of its deep-sinking roots. Next to ginseng, licorice is the most popular herb used in Chinese formulas.
- **Sugar Regulating Formula** – By combining banaba leaf, gymnema, bitter melon, fenugreek, nopal, chromium, and vanadium, this formula assists diabetics. This formula works naturally to keep blood sugar at levels in the healthy range while providing antioxidant and protective substances to guard against the damage that is often caused by diabetes.
- **Pancreas Formula** – This mixture contains 14 herbs that help support the function of the pancreas gland. It helps balance blood sugar levels and improve digestive secretions from the pancreas. This formula also contains golden seal root, juniper berries, uva ursi leaves, cedar berries, mullein leaves, garlic bulb, yarrow flowers, slippery elm bark, capsicum fruit, dandelion root, marshmallow root, nettle herb, white oak bark and licorice root.

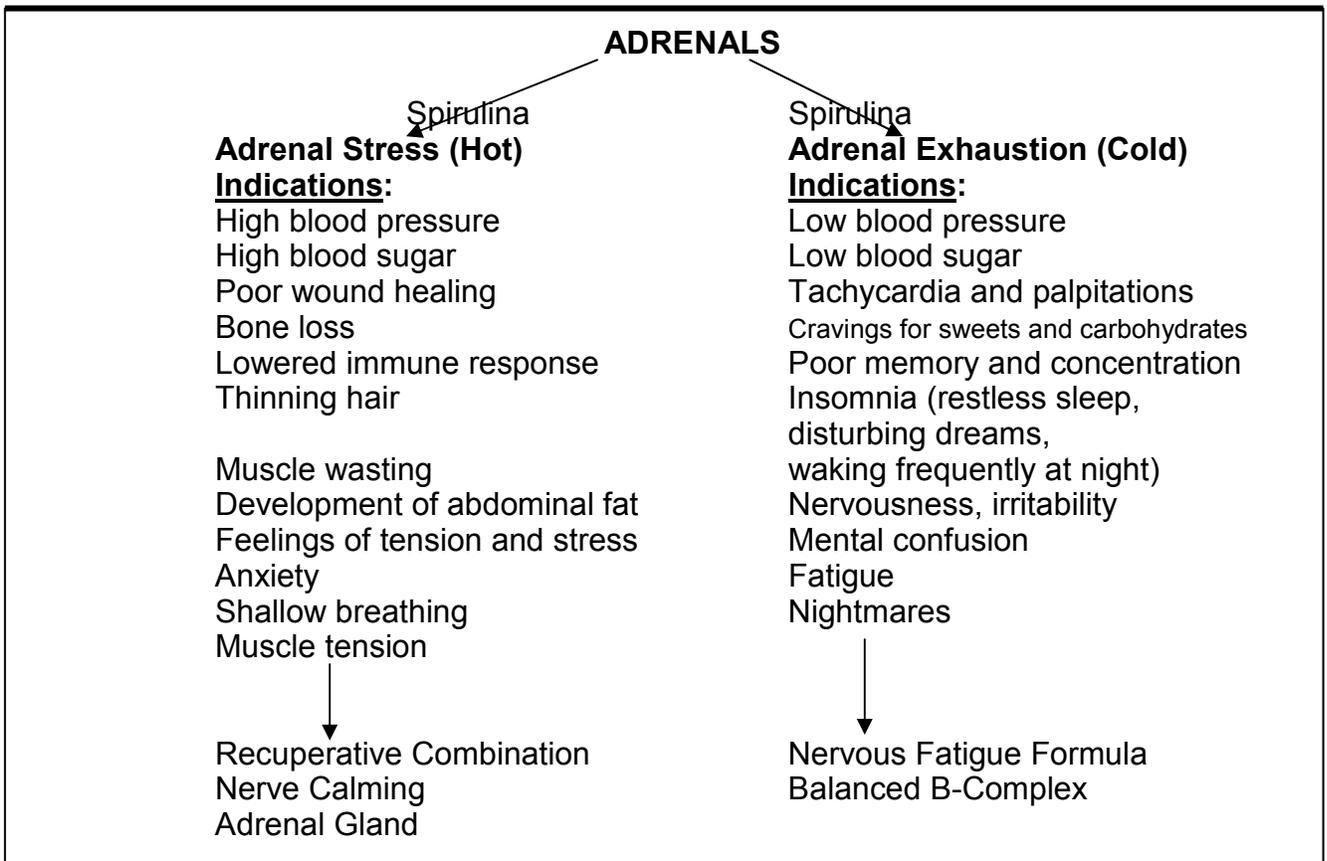
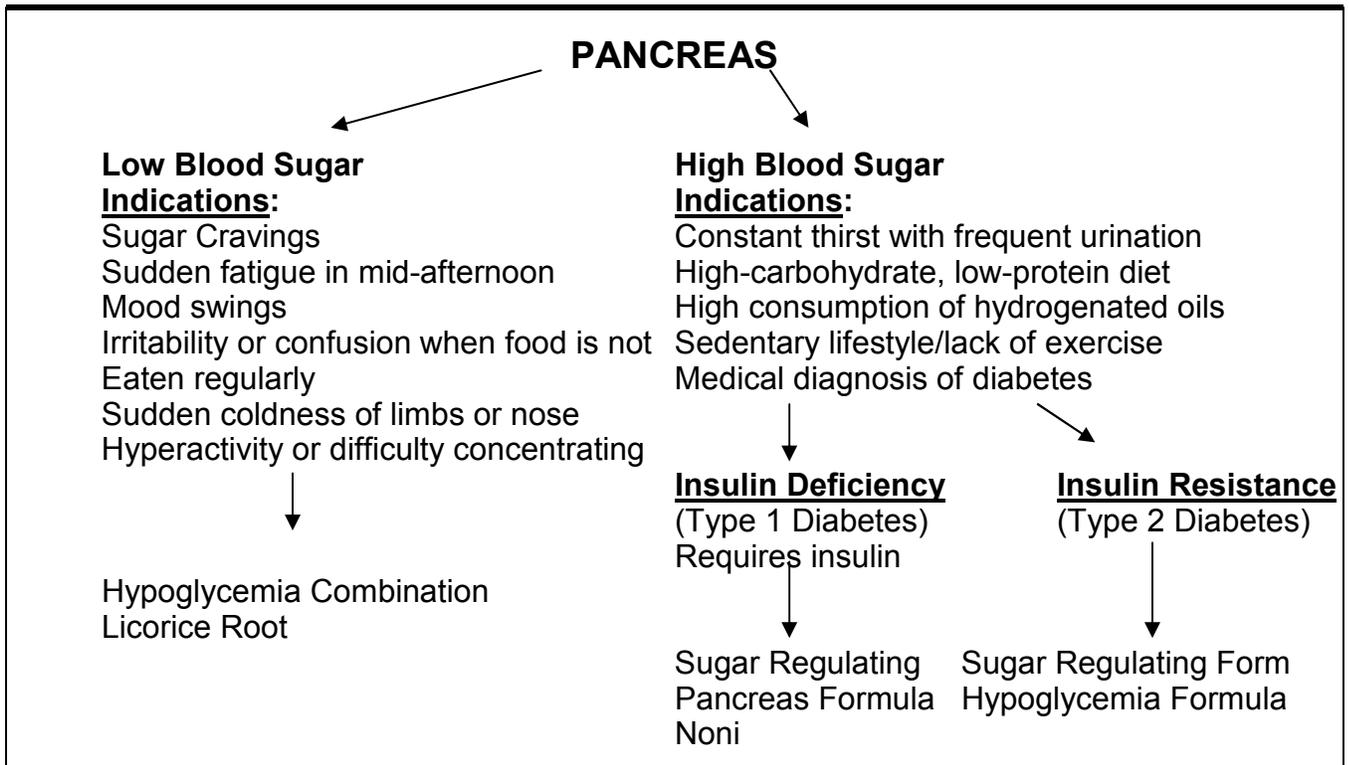
- **Hypoglycemia Formula** – This is a Chinese combination of 16 herbs that nutritionally support the glandular system and associated metabolic processes. The Chinese call this formula bu yin, which means to “supplement yin.” The herbs in this formula work to support the body as it attempts to reduce fire (fever) and strengthen water (support associated organs and normalize metabolic processes).
- **Recuperative Combination** – A blend of five herbs that support glandular health, this combination aids the body’s recuperative functions. Its adaptogenic ingredients – astragalus, ginkgo, gotu kola, Siberian ginseng, and suma – provide energy and emotional support.
- **Nerve Calming** – A combination of herbs and essential B-complex vitamins, which nourishes the nerves to help the body cope with stress. Contains generous amounts of vitamin C, B-complex vitamins, plus schizandra fruit, choline bitartrate, wheat germ, inositol, PABA, bee pollen, citrus bioflavonoids, hops flowers, passion flower and valerian root to help reduce tension, stress and insomnia.
- **Nervous Fatigue Formula** – This formula contains 18 Chinese herbs that offer adaptogenic, balancing and stimulating properties. It is excellent for those feeling “burnout” or stress.
- **Balanced B-Complex** – B-vitamins are particularly important for the nervous system and are also vital for good digestive function and enzyme reactions that control energy, circulation, hormones and overall health. Since the same amount of each B vitamin is not necessarily needed by the body, this formula is balanced to assist B12 absorption.
- **Thyroid Activator** – This combination was created by Dr. Christopher. It contains several sources of iodine and other nutrients that benefit the thyroid. Ingredients include Irish moss, kelp, black walnut hulls, parsley, watercress, sarsaparilla and Icelandic moss. This formula aids thyroid function and may help with fatigue. Do not use with an overactive thyroid.
- **Thyroid Normalizer** – This combination works to normalize an underactive thyroid. By supplying the body with organic sources of iodine, this product activates the thyroid to increase your metabolism to a healthy level of glandular operation.
- **7-KETO** – 7-Keto boosts the production of T3 hormone, which stimulates metabolism and helps lower the body’s pre-programmed weight “set point.” Clinical tests indicate that 100 mg of 7-Keto taken twice a day significantly lowered body fat over an eight-week period.

Glandular System Products – Reproductive

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Master Gland Formula** – This general body tonic includes adaptogens like schizandra and Siberian ginseng, along with herbs historically used to strengthen all the glands: alfalfa for the pituitary, kelp for the thyroid, licorice for the adrenals, thyme for the thymus, dong quai and ginseng for the reproductive glands, and dandelion and uva ursi for the pancreas.

- **Monthly Maintenance** – This formula provides women with nutritional support vital to promoting and maintaining optimum health throughout the month.
- **Yam Cream** – This cream provides the progesterone a woman's body needs in a unique herbal base. Chamomile is included to help soothe the nerves and skin, and the addition of ginkgo strengthens nerves and improves circulation. Horsetail, yucca, Vitamins A and C and aloe vera are added to support the mature woman by promoting healthy hair, skin and nails, while enhancing the adrenal system and protecting body tissues.
- **Hot Flash Combination** – This potent, time-release combination of black cohosh and dong quai provides a natural defense against uncomfortable menopausal changes. Studies show that black cohosh acts like estrogen to help relieve hot flashes and depression.
- **Soy Combination** – Because they contain the isoflavonoid genistein, soybean products are in great demand today for major benefits to the immune, glandular and circulatory systems. This soy combination contains 48 times more isoflavonoids than comparable amounts of tofu, 25 times more than tempeh and 10 times more than roasted soybeans.
- **Prenatal Multivitamin and Mineral** – The perfect supplement for pregnant or lactating women, a prenatal vitamin and mineral that provides a balanced combination of vitamins and minerals, including Vitamins A, C, D, E, B1, B2, B6 and B12, as well as folic acid, biotin, pantothenic acid, iron, iodine, magnesium, zinc and copper to support the nutritional needs of both mother and baby. In addition, this combination provides ginger root to help soothe the stomach. It's free of artificial flavors, preservatives, sweeteners, guar, yeast, gluten, lactose, milk, soy and wheat.
- **Red Raspberry** – This herb is renowned for its nutritional support of the female reproductive system. Raspberry is known to nourish and strengthen the uterus. A common backyard fruit bush, Red Raspberry is an excellent herbal source of iron, manganese and niacin. It also contains quantities of vitamins C, A, D, E and B, as well as phosphorus and calcium.
- **Men's X-rated Formula** – This formula features muira puama stem and yohimbe bark. Muira puama, also called "potency wood," has aphrodisiac properties. Yohimbe bark supports and stimulates the nervous system. Also includes L-arginine, damiana leaves, oat straw leaves, saw palmetto berries and DHEA.
- **Woman's X-rated Formula** – This formula for Women contains seven herbs carefully selected for female reproductive needs: red raspberry leaves, slippery elm bark, Siberian ginseng, ginger root, oat straw concentrate, damiana leaves and kava kava concentrate.
- **Men's Formula** – This combination of saw palmetto, pygeum, lycopene, stinging nettle, gotu kola and zinc provides incredible nutrition and toning for the prostate gland. Lycopene is a powerful antioxidant. A seven-year study showed that the most lycopene-containing foods in your diet, the less risk you have of getting prostate cancer.



THYROID

Hypothyroidism (Cold)

Indications:

- Mental or physical slowing
 - Fatigue/lethargy
- Undue sensitivity to cold weather
 - Low body temperature
 - Hair loss
 - Weight gain
 - Coarse skin
- Low sex drive/infertility
 - Mild depression



Thyroid Activator
Thyroid Normalizer
7-Keto
Thyroid Support
Master Gland
Iodine Patch
Goiter use Liquid Dulse
Myrrh

FEMALE CONCERNS

MENSTRUAL PROBLEMS

Indications:

Irregular menstrual cycle
Lack of menstruation
Bloating, swelling, pain or
Tenderness associated with
Monthly periods
Blood congestion
Cramps
Heavy bleeding
Headaches associated with
PMS



Monthly Maintenance
Yam Cream
Menstrual Regulating Comb
Cramp Relief Combination

MENOPAUSE

Indications:

Hot flashes
Depression & mood
swings
Vaginal dryness
Osteoporosis
Insomnia



Hot Flash Combination
Soy Combination
Breast Combinations

PREGNANCY/ NURSING



Prenatal Vitamins
Red Raspberry
Blessed Thistle
Alfalfa
Fenugreek

DESIRE/INFERTILITY

Indications:

Loss of libido (desire)
Pain or discomfort
associated with intercourse
Infertility



X-rated Combination for
women

MALE CONCERNS

Impotence/Infertility

Indications:

Impotence

Loss of libido (desire)

Infertility



X-rated Formula for Men

Prostate

Indications:

Difficult urination

Medical diagnosis of prostate enlargement



Men's Formula

40+ Men – Saw Palmetto

Insulin Growth Factor 1

45+ Men – Human Growth Hormone

The Nervous System

The nervous system is an internal communication system, relaying signals with short electrical impulses. The central nervous system is composed of the brain and spinal cord. The peripheral nervous system extends to all other parts of the body.

Health problems related to the nervous system include stress, insomnia, depression, nervous disorders, headaches and multiple sclerosis.

Examining the Nervous System

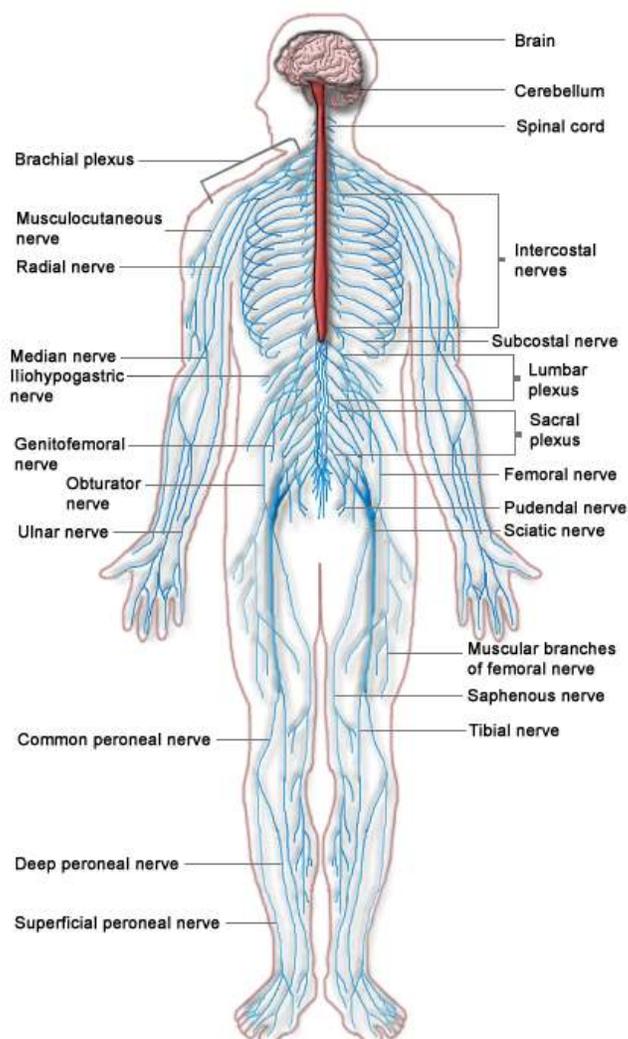
The nervous system is made up of groups of cells called neurons. A neuron is a cell body with a nucleus, a dendrite (which receives input) and an axon (which relays signals to other cells).

Neurons transmit information through the body in a manner similar to the way electricity flows through a wire. A nervous impulse begins with the reversal of the concentrations of sodium and potassium both inside and outside the neuron. Sodium rushes into the cell and potassium rushes out, generating momentum that conducts an impulse down the axon and toward the dendrite of the next neuron. This transmission continues from cell to cell until the message is delivered. All this takes place at incredible speed.

Some of the spaces between nerve cells, called junctions, are so small that the impulse can travel from one nerve to the next very quickly. These are called gap junctions. However, most neurons relay signals across larger spaces called synaptic junctions. These require chemical messengers called neurotransmitters.

Neurotransmitters are released into a synaptic junction by one cell and bond with receptors on the membrane of the neighboring cell. After the electronic signal has been relayed, the neurotransmitters are deactivated and recycled. Some neurotransmitters include serotonin, acetylcholine, dopamine, GABA (gamma amino butyric acid) and norepinephrine (noradrenaline). Abnormal levels of neurotransmitters can cause an assortment of complications. For instance, abnormally low levels of serotonin are associated with obesity, depression. Sleep disorders anxiety and migraine headaches.

Many neurons are surrounded by special cells that form an outer layer called the myelin sheath. The myelin is composed mostly of lipids. It insulates the neurons to speed up the conduction of impulses, as it prevents “short circuits” between adjacent neurons. Deterioration of the myelin sheath is associated with many degenerative disorders of the nervous system.



The nervous system has two major divisions – the central nervous system (CNS) and the peripheral nervous system (PNS). The CNS is composed of the brain and spinal cord and is the body's main signal-processing unit. The nerves of the PNS extend to other parts of the body, including internal organs, skeletal muscles and glands.

The PNS subdivides into the somatic and autonomic pathways. Somatic-pathway responses are voluntary or conscious. For example, use of arm or leg muscles and sensory perceptions are controlled by somatic nerves. Autonomic pathways deal with involuntary actions like digestion, excretion, heartbeat and the contraction of the smooth muscles. These are all things we can't control.

Autonomic pathways divide again into the sympathetic and parasympathetic branches of the nervous system. These branches work independently and opposite of one another. The sympathetic nervous system, which secretes the neurotransmitter noradrenaline, initiates "fight or flight" responses when stimulated by physical, emotional or environmental stress. This is a primitive, instinct-like ability that allows a person to maximize energy in order to most effectively react to stress. It raises blood sugar, heart rate, blood pressure and metabolism, constricts blood vessels and stops less vital functions like digestion. The parasympathetic nervous system normalizes the body by balancing it to the state it was in before the stimulus occurred. The neurotransmitter acetylcholine restores non-vital functions. The reciprocating actions of the sympathetic and parasympathetic nervous systems allow the body to cope with stress without being overwhelmed by its physiological effects.

Stress can have many negative effects on the body. In addition to the uncontrollable, physical reactions described above, stress can also deplete levels of water-soluble vitamins (C and B complex) and vitamins A and E. These vitamins are essential to the proper development and function of nervous-system tissue because they act as co-enzymes in chemical reactions and raw materials for nerve cells. Adequate vitamin and mineral intake can help provide the body with the nutrients it needs to function properly, even under stress.

Did You Know?

- The average adult brain weighs about three pounds.
- Some nerve fibers with myelin sheaths conduct impulses as fast as 600 feet per second.
- An estimated 10,000 neurons die each day from aging, disease, injury or poisons.

Nervous System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the nervous system.

- Lack of energy
- Regular consumption of alcohol
- Frequent mood swings
- Poor concentration or memory
- Stressful lifestyle
- Feeling low, uninterested or depressed
- Too little sleep or restless sleep
- Unsettled, apprehensive, pressured
- More than 2 cups of caffeinated beverages/day
- Feeling out of control

- Suffer from anxiety or worry
- Easily irritated or angered

Nervous System Suggestions

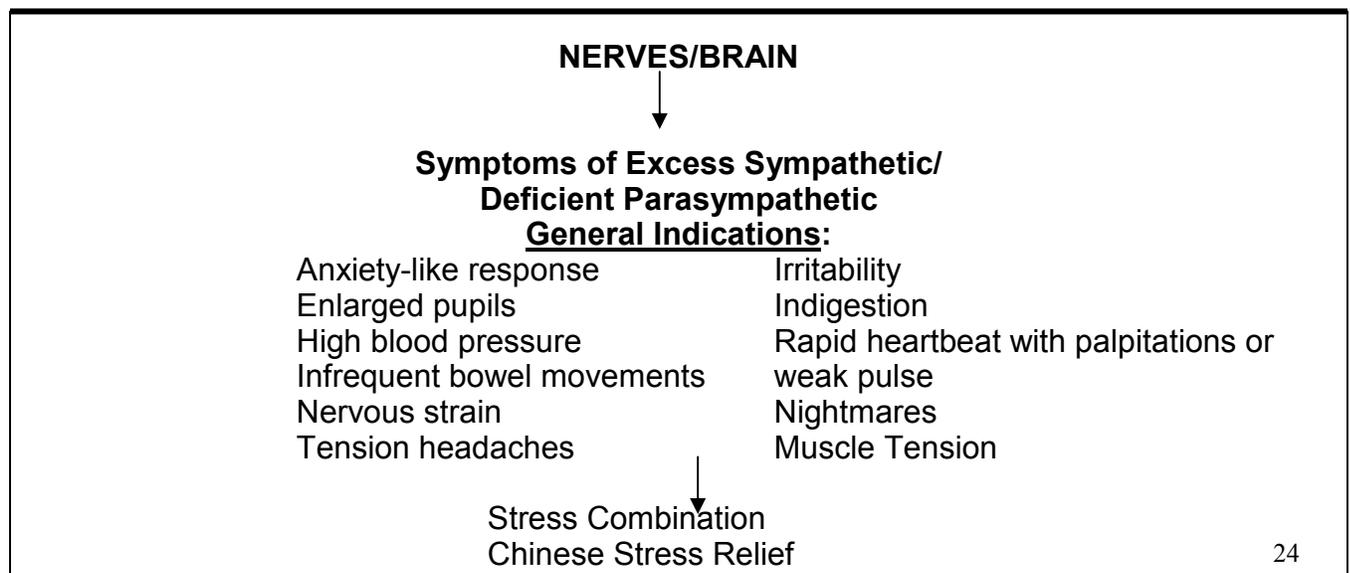
- Eat regular, wholesome meals.
- Avoid smoking, alcohol and stimulants.
- Exercise regularly.
- Manage your stress.
- Eat a lot of green, leafy vegetables, fruits, whole grains and nuts.

Nervous System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Nerve Calming** – A combination of herbs and essential B-complex vitamins, which nourishes the nerves to help the body cope with stress. Contains generous amounts of vitamin C, B-complex vitamins, plus schizandra fruit, choline bitartrate, wheat germ, inositol, PABA, bee pollen, citrus bioflavonoids, hops flowers, passion flower and valerian root to help reduce tension, stress and insomnia.
- **Stress Combination** – This combination contains one of the most favored herbs of Europe for relaxation – chamomile. High in chromium, magnesium and vitamins A and C, the stress combination works well with other supplements like B-complex vitamins, bee pollen and vitamin C.
- **Chinese Stress Relief Combination** – This Chinese stress relief combination combines 16 herbs and natural substances to support emotional balance. Its primary nutrients – polygonum, dragon bone, oyster shell, halitosis shell and fushen – help normalize mental function and strengthen the cardiovascular system. This formula helps nourish the nervous system and improve gastric function, in addition to strengthening the urinary system.
- **Chinese Ephedra Combination** – This powerful weight-loss aid contains Chinese ephedra (ma huang), which possesses constituents that stimulate the central nervous system. It activates the heart, increases blood pressure and speeds up metabolism.
- **Energy Combination** – This energy combination supports the body's own energy-building system. It works with the glandular, nervous and circulatory systems to help relieve stress and promote energy metabolism and glucose utilization. The combination provides a variety of nutrients needed for optimal vitality – some that nourish the glands (kelp and licorice) and some that nourish the brain and nervous system (gotu kola).
- **Ginkgo/Gotu Kola w/Bacopa** – Ginkgo contains flavonoid glycosides like quercetin and other key compounds similar to gotu kola. It boosts circulation to the brain. Gotu kola herb has been called “brain food” by many herbalists. Bacopa is from bacopin, an Ayurvedic compound that stimulates memory. Studies show that people who took bacopin supplements had reduced memorization time, increased memory time and decreased retrieval time. Bacopa may also help boost concentration.

- **Brain Combination w/Huperzine** – This combination aids the brain in two ways. First, it utilizes three powerful antioxidants that cross the blood-brain barrier to protect cells from free radical damage. Second, it feeds this vital organ with the specialized “brain food” nutrients of Ginkgo biloba, phosphatidyl serine and huperzine.
- **Chinese Mood Elevator** – This combination of 18 Chinese herbs has nervine, sedative and stimulant properties. These herbs help build and strengthen the liver, stimulate circulation and improve “sagging” feelings. Chinese Mood Elevator helps with tension, depression and other nervous disorders.
- **5-HTP Combination** – This combination contains hydroxytryptophan, a precursor to serotonin, an important neurotransmitter that helps regulate appetite, mood and sleep. 5-HTP combination is blended with three adaptogenic herbs – Siberian ginseng, ashwaganda and suma – that work synergistically with 5-HTP to help the body adjust to changes, control hunger and achieve restful sleep.
- **St. John’s Wort** – This popular herb has gained national attention for its ability to alleviate mild to moderate depression. It contains an active constituent, hypericin, which appears to prolong the activity of serotonin (a neurotransmitter) in the brain. St. John’s Wort may also lengthen the performance of dopamine and norepinephrine, two brain chemicals that are linked to depression. In Europe, many doctors prescribe this herb instead of prescription antidepressant drugs.
- **Herbal Sleep Combination** – This combination of valerian root, passion flower and hops flowers supports restful sleep and provides soothing and calming properties.
- **GABA Combination** – GABA combination helps “tone down” excessive brain activity and promotes a state of relaxation and peace. This unique formula also contains glutamine for mental energy, taurine to stabilize and protect brain tissue, spirulina for its abundance of brain nutrients, and passion flower, an herb long used to relieve stress.
- **Focus Attention Combination** – This combination provides nutrients essential for normal brain-stimulation levels while supporting blood circulation and neurotransmitters in the brain. This special formulation helps protect the body from undesirable side effects caused by drugs or exposure to toxic chemicals, food additives, pesticides and other harmful influences.



NERVES/BRAIN



**Symptoms of Excess Parasympathetic/
Deficient Sympathetic**

General Indications:

- | | |
|-------------------------------|--------------------------|
| Good digestion | ADHD |
| Good stamina but lethargic | Mental confusion |
| Low blood pressure | Difficulty concentrating |
| Small pupils | Restless sleeping |
| Sweats easily | Urination at night |
| Sensitive to noises and touch | |



Chinese Ephedra Combination
Energy Combination

BRAIN



Memory

General Indications:

- Memory loss
- Difficulty concentrating
- Absent-mindedness



Ginkgo/Gotu Kola w/Bacopa
Brain Combination w/Huperzine

Mood (Serotonin)

General Indications:

- Depression
- Sagging spirits
- Chronic pain
- Excess appetite (especially cravings for Sugar and carbohydrates)
- Insomnia



Chinese Mood Elevator
5-HTP Combination

BRAIN



Sleep

General Indications:

- Insomnia (difficulty falling asleep)



Herbal Sleep Combination
5-HTP Combination

Overactivity

General Indications:

- Excessive mental "chatter"
- Hyperactivity
- Difficulty concentrating
- Tics
- ADD and ADHD
- Seizures



GABA Combination
Focus Attention Combination

The Respiratory System

Respiration provides oxygen to the bloodstream. All body cells need oxygen to live and function properly. Without oxygen, body cells start dying within minutes.

Common respiratory concerns include runny nose, sneezing, allergies, post-nasal drip, coughs, colds, bronchitis, sinusitis, pneumonia and asthma. Associated problems can include earaches, sore throats, swollen lymph nodes and tonsillitis. Signs of chronic respiratory weakness include wheezing, shortness of breath and emphysema.

Examining the Respiratory System

The respiratory system's primary function is to provide oxygen to the bloodstream. Once in the blood, oxygen travels through the circulatory system to all the cells of the body. The body cells need oxygen to create energy.



When air enters the body through the nose or mouth, it travels down the trachea or windpipe and into the bronchi. The bronchi branch into smaller tubes called bronchioles, which lead to alveoli. Alveoli are tiny air sacs clustered around the ends of the smallest bronchioles. These air sacs are surrounded by tiny, thin-walled blood vessels called capillaries. Through these thin walls, carbon dioxide leaves the body and oxygen enters it.

The lungs filter the air we breathe and only allow microscopic particles to actually reach the alveoli. The body also uses a mucous membrane to protect the airways and prevent dust particles and other irritants from being absorbed. Because of the lungs' ability to absorb substances into the bloodstream, some medications are administered this way. For example, many asthma sufferers use an inhaler that allows them to breathe medicine. Essential oils, when inhaled, are also absorbed into the blood via the lungs.

Although we think of the lungs as doing all of the respiratory work, the sinuses and trachea also play critical roles in this system. The sinuses filter and humidify the air we breathe. They also regulate the temperature of incoming air. The trachea, bronchi and bronchioles are lined with cilia – tiny hairlike structures that pulsate continuously, pushing mucus and foreign particles up toward the pharynx so they can be swallowed, broken down and eliminated.

The bronchi and bronchioles are surrounded by smooth muscle. In some people these muscle spasms make breathing very difficult. This condition is known as asthma, and it affects millions of Americans, often limiting their activities. Doctors at Tel Aviv University in Israel found that 45 percent of asthmatics who took a megadose of vitamin C (2,000 mg) before exercising were able to do so without coughing, sneezing and experiencing shortness of breath. Another 10 percent of participants also experienced benefits, though they were less significant.

You can take steps to promote respiratory health. Practice good hygiene (wash your hands frequently), don't smoke and avoid second-hand smoke, get plenty of sleep, exercise regularly, practice deep breathing, eat a balanced diet, be wary of air pollution and reduce the amount of stress in your life.

Many supplements also promote respiratory health. Two key herbs for this system are mullein and lobelia. Mullein, a mucilant, is very soothing to the respiratory tract. It has expectorant properties (promotes the elimination of mucus through the mouth) and helps heal inflammation of breathing passageways. Lobelia acts as an antispasmodic on smooth muscles, helping the bronchi to relax. It also has nervine and expectorant properties.

Did You Know?

- On average, a person exchanges about 6 liters of air every minute.
- When the brain is deprived of oxygen, permanent brain damage can occur in as little as four minutes.
- At least 20 million Americans suffer from hay fever.
- Smoking contributes to the loss of mental capacity, including memory, in elderly people. This decline in memory is related to a decrease in blood flow to the brain. It happens at such a slow rate that the smoker does not feel it.
- The Environmental Protection Agency estimates that second-hand smoke causes approximately 3,000 lung-cancer deaths and 37,000 heart-disease deaths in nonsmokers each year.

Respiratory System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the respiratory system.

- Body odor and/or bad breath
- Eat meat more than 3 times a week
- Food allergies
- Smoking
- Regular consumption of dairy products
- Low endurance/stamina
- Exposure to air pollution daily
- Respiratory, sinus or allergy problems

Respiratory System Suggestions

- Lose weight if overweight.
- Avoid smoking.
- Walk outside daily for fresh air.
- Avoid dairy products when congested.
- Practice deep breathing exercises.
- Sing and laugh.

Respiratory System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Allergy Combination** – This combination combines boneset, fenugreek, horseradish, mullein and fennel to provide an effective formula for the respiratory system. This product works in the lungs and sinuses and is helpful in both acute and chronic conditions. Boneset contains the flavonoid quercetin, which has shown anti-allergy and anti-

inflammatory activity in scientific studies. Mullein is a mucilant that soothes the respiratory tract and has expectorant action.

- **Mullein** – Mullein has both mucilant and astringent properties. Its powerful healing abilities make it useful for healing weak lung tissue and chronic respiratory congestion. It has proven expectorant action that likely arises from saponin compounds in the plant. Scientific studies suggest that the mucilage in mullein protects mucous membranes, preventing cell invasion by viral allergens.
- **Chinese Lung Support Combination** – This Chinese herbal combination of 16 herbs works to strengthen weak lungs.
- **Fenugreek & Thyme Combination** – These two herbs support healthy mucous membranes and sinuses. This product can be particularly effective on sinus headaches and congestion. It also works well as a general decongestant and expectorant.
- **Garlic** – A powerful, aromatic herb, garlic aids decongestion and expectoration. Garlic works especially well on lung congestion. It has known antibacterial and antiviral properties.
- **Sinus Support Combination** – This combination contains burdock, golden seal, parsley, althea, Chinese ephedra, capsicum, horehound and yerba santa. Sinus Support helps dry up excessive drainage and eliminate excess phlegm, especially when caused by allergens. It is particularly helpful for chronic sinus problems. As this product contains Chinese ephedra, do not exceed recommended daily use. Not for use by pregnant women or those with high blood pressure.
- **Echinacea/Golden Seal Combination** – Echinacea contains polysaccharides that stimulate the production of phagocytes (cells that engulf and consume foreign matter). Taken at the earliest sign of a cold or infection, echinacea may help cut the recovery time remarkably. Golden seal has infection-fighting abilities and anti-inflammatory properties. Together these herbs help alleviate chronic or sub-acute inflammation.
- **Breathe Easy Combination** – This combination of 16 Chinese herbs is a decongestant and expectorant designed to open blocked respiratory passages. It helps dilate the bronchioles, cleanses the lungs of mucus and reduces fluid retention in the chest.
- **Lobelia** – Lobelia is particularly helpful for relaxing bronchial spasms and easing respiratory congestion. It can also relieve pain caused by muscle cramps in other areas of the body such as the pelvic region.
- **Histamine Block Combination** – This combination helps reduce the symptoms of allergies and other respiratory irritation caused by pollutants and toxins. This combination is able to help stabilize mast cells, which contain the histamine released during an allergy attack. Bromelain is also included as an anti-inflammatory to help reduce the swelling of mucous membranes during allergic reactions.
- **Lobelia/St. John's Wort Combination** – As a substitute for nicotine, lobelia helps the body readjust from tobacco dependence, while St. John's Wort assists in maintaining calm nerves and a good mood. Alfalfa provides balance and adds needed nutrition for smokers.

DEFICIENT MUCUS (DRY)

General Indications:

Deficient, thick, yellow mucus
Dry lungs and sinuses

Dry & Irritated (Dry)

Indications:

Dry, irritated cough
Unproductive cough



Mullein
Marshmallow
Licorice Root
Slippery Elm Tea
Lobelia

Dry & Weakened (Cold)*

Indications:

Wheezing, shortness of breath
Pale, thin
Dry, leathery lungs
Smoker ↓

Chinese Lung Support Combination
Horsetail

*Consult a doctor for a diagnosis first.

EXCESS MUCUS (WET)



Fenugreek & Thyme Combination



Cold/Congestion (Cold)

Indications:

White or clear mucus
Watery mucus

Lungs



Allergy Combination
Garlic

Sinuses



Sinus Support Combination



Infection (Hot)

Indications:

Yellow, green or brown mucus



Echinacea/Golden Seal Combination
Colloidal Silver (snort when packed)

CONSTRICTED AIRWAYS*

History of Anxiety/Stress

Indications:

Wheezing
Deep, gasping cough
Bronchial constriction
Nervous asthma
Asthma attack



Breathe Easy Combination
Lobelia
Asthma Homeopathic

History of Hayfever/Respiratory Allergies

Indications:

Itchy nose and ears
History of frequent ear infections
Red, irritated eyes
Exposure to air pollution
Allergic asthma



Histamine Combination
Allergy Combination

*Consult a doctor for a diagnosis first.

NICOTINE USE*

Indications:

Desire to stop smoking or using tobacco



Lobelia/St. John's Wort Combination
Tobacco Detox Homeopathic
Lobelia

*It takes 21 days to make or break a habit.

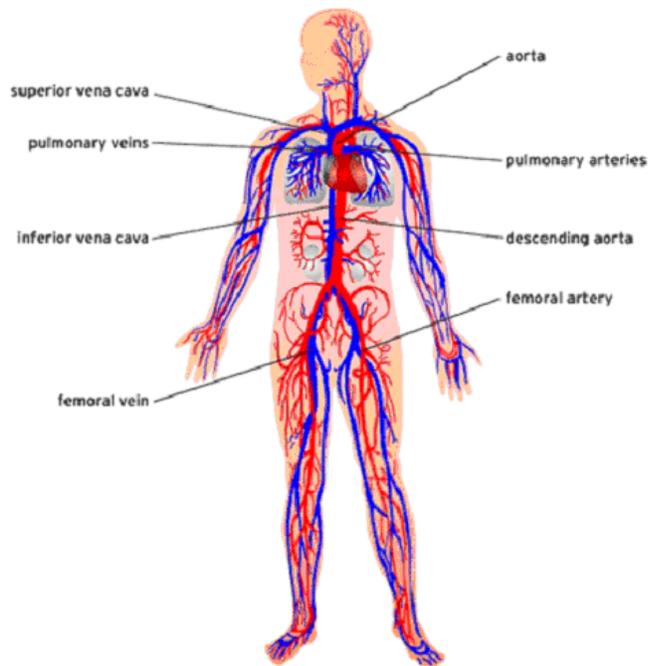
The Circulatory System

The circulatory system provides a continuous supply of nutrients and oxygen to every cell in the body. Simultaneously, it picks up carbon dioxide and other waste materials produced by the cells and carries them away for removal from the body.

Health concerns related to the circulatory system include high cholesterol or triglycerides, high blood pressure, stress, poor circulation and heart disease.

Examining the Circulatory System

In order for your body to stay alive, each of its cells must have a continuous supply of food and oxygen. At the same time, carbon dioxide and other waste materials produced by the cells must be picked up for removal from the body. The circulatory system performs these two functions.



The human heart makes the circulatory system work. A hollow, pear-shaped, muscular organ, the heart is located between the lungs in the middle of the chest. It pumps blood through the body, supplying cells and tissues with oxygen and nutrients. In order to meet your body's energy demands, your heart must beat more than 100,000 times per day.

Like all other body tissues, your heart also needs oxygen and nutrients in order to function properly. Because blood flowing through the heart is traveling too fast for the heart to absorb, the heart has its own system of vessels that supply it with oxygen and nutrients.

The heart contains four chambers: the upper chambers are called atria and the lower chambers are ventricles. Each half of your heart works as a separate pump. The right side of the heart is responsible for returning the oxygen-poor blood to the lungs to expel carbon dioxide and reoxygenate the blood. The left side receives the newly oxygenated blood from the lungs and pumps it through the entire body. Although the average adult body contains less than 1.5 gallons of blood, amazingly the heart pumps 2,000 gallons each day.

Blood vessels are small tubes that carry blood to and from all parts of the body. The human circulatory system is composed of three types of vessels that total an incredible 60,000 miles in length.

The arteries are the largest blood vessels. They carry oxygen-rich blood from the heart to the cells and tissues of the body. Because arteries transport under high pressure, they have walls that are much more elastic than veins. The arteries pulsate as a result of the force with which the heart pumps new blood into them.

The veins are smaller vessels that carry oxygen-poor blood and waste products back to the heart. This blood moves slowly due to low pressure. Veins can expand or contract to

accommodate variations in blood flow. Semilunar valves are found at regular intervals throughout the veins. These force the blood to move in only one direction.

Capillaries are microscopic in size. They link the arteries and veins to the tissues of the body. The exchange of oxygen and carbon dioxide takes place across thin capillary walls.

Blood supplies oxygen and transports nutrients, waste and hormonal messengers to each of the billions of cells in the body. Blood has four main components: red blood cells, white blood cells, platelets and liquid plasma. Red blood cells carry 99 percent of the oxygen the body needs and are the most abundant cells in the body, constituting 45 percent of the blood. White blood cells comprise an important part of the body's immune system. Their main function is providing defense against infectious agents. Platelets are tiny, specialized cells that are activated whenever blood clotting or blood-vessel repair is needed. Liquid plasma carries the other 1- percent of the oxygen the body needs and also helps repair damaged blood vessels. To do this, plasma is transformed into thin strands that create a protective mesh over the damaged area.

Did You Know?

- Randomized double blind clinical studies of standardized hawthorn berry extract show positive results, appearing to increase the efficiency of nerve impulses in, and protect against oxygen deprivation of, the heart muscle.
- Blood is made up of 55 percent plasma and 45 percent cells.
- Plasma is mostly water, but it also contains proteins (albumin, immunoglobulins, clotting factors, enzymes, transport proteins), salts, lipids (cholesterol), carbohydrates (glucose) and gases (oxygen, carbon dioxide).
- Garlic can offer significant protection against heart disease and stroke. It has also been shown to lower high blood pressure.

Circulatory System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the circulatory system.

- Lack of energy
- Bags under eyes
- Smoking
- Poor concentration or memory
- Stressful lifestyle
- Hair loss
- Sore or painful joints
- Low endurance/stamina
- Slow recovery from illness
- High-fat/low-fiber diet
- High-carbohydrate/low-protein diet

Circulatory System Suggestions

- Eat low to moderate amounts of fat daily.
- Avoid saturated fats.
- Eat lots of fruits, vegetables, onions and garlic.
- Perform aerobic exercise, especially walking.
- Manage weight.
- Avoid stress.

Circulatory System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Blood Pressure Combination** – This combination helps your body control the dangers of high blood pressure, regardless of the origin or cause. It inhibits damage to cells due to its potent antioxidant properties and helps relax and dilate blood vessels to encourage improved blood flow.
- **Cardiovascular Combination** – These herbs and nutrients protect the heart from disease and damage and support heart function and strength. Ingredients include hawthorn berries extract, red clover extract, ginkgo biloba, capsicum, folic acid, vitamins B6 and B12 and choline bitartrate.
- **CoQ10** – CoQ10 is essential for generating energy in every body cell and may help prevent heart disease and hypertension. It is also an antioxidant and is used in dental practices to help fight gum disease.
- **Magnesium** – The essential mineral keeps the heart muscle from going into spasm.
- **Grapine** – Grapine contains high amounts of proanthocyanidins – powerful antioxidants that help prevent cell damage by quenching oxidative free radicals. This combination of antioxidant nutrients has been shown to be many times more powerful than vitamin C or E. Proanthocyanidins also improve the integrity of collagen fibers, strengthening tissues in the skin, blood vessels, muscles, cartilage and other connective tissues.
- **Fat Grabbing Combination** – This combination contains guar gum, psyllium hulls, lecithin and chickweed herb. When taken with water, these ingredients combine in the stomach to create a gel that traps some fat molecules from food in the stomach, preventing their absorption into the bloodstream. This product promotes weight loss, increases dietary fiber intake and can help lower cholesterol (due to its psyllium hulls content).
- **Oral Chelation Combination** – This high-potency vitamin and mineral supplement contains herbs, amino acids and other nutrients designed to benefit the circulatory system. Minerals chelated to amino acids help remove plaque from artery walls, making this product a vital program for sufferers of arteriosclerosis.
- **Ginkgo & Hawthorn Combination** – These two herbs promote increased circulation and heart strength. In studies, hawthorn recipients also reported fewer overall symptoms, less fatigue and less shortness of breath. Ginkgo dilates blood vessels and bronchioles to improve circulation and oxygenation of cells. It also has scientifically proven nervous-system benefits.
- **Varicose Vein Combination** – This combination contains herbs that fortify and nourish the health, strength and resilience of veins, improving appearance and supporting optimal blood flow. The combination helps relieve congestion in the legs and minimizes damaged or weakened blood vessels.

Nature's Sunshine Mega-Chel Oral Chelation Program

Caution

The following program is based on the Nature's Sunshine Mega-Chel product as well as other Nature's Sunshine products. If you wish to use these products for this program please contact JLS. If you wish to follow a different oral chelation program, please follow the program that is advised for the product that you wish to use. Do not use this program with any products other than those Nature's Sunshine products listed below.

General Instructions

It is important to start slowly with this program and follow instructions. Otherwise, symptoms such as nausea, dizziness, headaches and skin eruptions may occur. It is also important to taper off as instructed, or fatigue and temporary nutritional deficiencies may result.

Working up to a Full Dose

For the first week, take the following with breakfast and dinner:

- 1 tablet of Mega-Chel
- ½ ounce of Colloidal Minerals OR 1 tablet of Mineral Maintenance.
- Every week increase the amount of Mega-Chel by one tablet. The second week, take two tablets of Mega-Chel and two tablets of Mineral Maintenance with breakfast and dinner. Continue this until you reach full program status (up to 12 tablets a day). If you are using Colloidal Minerals, gradually increase the amount of this supplement until you are taking 1 ounce in the morning and 1-ounce at night.

Full Program

A full dose of Mega-Chel is 4-6 tablets twice daily, depending on body weight. Large people should take 6 tablets twice a day. Small people should take 4 tablets twice a day. Individuals of average height and weight should find 5 tablets twice a day sufficient.

When you reach full dose, you will be taking the following with breakfast and dinner:

- 4-6 Mega-Chel tablets
- 1 ounce of Colloidal Minerals OR 4-6 Mineral Maintenance tablets.
- Stay on this full dose for a least one-month for each 10 years of your age. For example, if you are 40 you need to stay on the full dose for at least four months, six months if you are 60, etc.

Tapering Off

It is critical that you taper off slowly. On the full program you are taking large doses of certain vitamins and minerals, and your body will get lazy about extracting them from food. If you quit all at once, your body may experience a sudden drop in nutrient levels until it readjusts to absorbing these vitamins and minerals from food. Taper off by reducing the amount of tablets you take each week by two. After completing the program, some people use Mega-Chel as their daily vitamin and mineral supplement by taking two tablets per day.

Cleansing Reactions

As the body removes the plaque from the walls of the arteries, the blood cholesterol levels will temporarily rise. This is normal. The kidneys and liver will remove the calcium, cholesterol and impurities from the body. If there are indications that these organs are weak, it may be necessary to give them extra support. People with kidney weakness (history of symptoms like arthritis, chronic back pain, urinary infections, etc.) should take two KB-C with each meal. People with liver weakness (history of high cholesterol, skin problems, digestive upset, etc.) should take 1 teaspoon LOCLO in a large glass of water or juice upon arising and before retiring, plus two LIV-C with each meal.

You may also wish to add some of the following supplements for special problems. Work up to these amounts gradually if you wish. For heart problems, take two HSII or two Hawthorn Berries capsules with each meal. For mental support, take two Ginkgo & Hawthorn combination capsules with each meal. For varicose veins and high risk for stroke, take two Butcher's Broom capsules with each meal.

HEART/CIRCULATION/BLOOD VESSELS

CIRCULATION

Blood Pressure Problems

Indications:

Blood pressure readings exceeding 140 over 90
Family history of high blood pressure
Advancing age
Diabetes
Cigarette smoking
Obesity
Stress

Blood Pressure Combination
Capsicum, Garlic & Parsley
Stress Combination
Calming Combination

Cholesterol Problems

Indications:

Cholesterol over 200
Triglyceride levels over 200
High-density lipoprotein (HDL) levels less than 35
High-fat, low-fiber diet
High-carbohydrate, low-protein diet
Stress

Grapine
Fat Grabbing Combination
Guggal Lipids
Lecithin
Cholesterol Regulating Combination
Check Possible Thyroid Influences

HEART/CIRCULATION/BLOOD VESSELS

BLOOD VESSELS*

Congested Arteries

Indications:

High blood pressure
Cold hands/feet
Sores in extremities that won't heal
Absent-mindedness
Medical diagnosis of hardening of the arteries
Angina

Oral Chelation Combination
Ginkgo/Hawthorn Combination

Congested Veins

Indications:

Varicose veins
Hemorrhoids
Spider veins

Varicose Vein Combination
Grapine

*Consult a doctor for a diagnosis first.

HEART/CIRCULATION/BLOOD VESSELS

HEART*

Indications:

Crease in ear lobe
Large, red, bulbous nose (rule out acne, rosacea or alcohol)
Crease in tongue from tip to back
Cold hands and feet
Swelling in the feet and ankles
Angina
Family history of heart disease



Cardiovascular Combination
CoQ10
Magnesium

*Consult a doctor for a diagnosis first.

The Urinary System

The urinary system filters the blood and removes waste chemicals and excess water from the body. The kidneys, ureters, bladder and urethra make up the urinary system.

A host of problems and disorders can affect this system. These include kidney stones, diabetes mellitus, hypertension, kidney cysts and tumors, infections, water retention, incontinence and back pain.

Examining the Urinary System

Humans have two kidneys, each about 4-5 inches long and about 6 ounces in weight.

They lie in the abdomen, one underneath the liver and the other underneath the spleen. The kidneys filter the blood and excrete waste products and excess water in the form of urine.

Inside the kidneys, the renal arteries divide into smaller and smaller branches until they become capillaries in the glomeruli, the kidney's primary filtering units. Each kidney contains about one million glomeruli, which pass the filtered blood through long tubules. The glomeruli and the tubules make up the nephrons, the functioning units of the kidneys. The efficiency of the kidneys diminishes with age as the number of functional nephrons decreases.

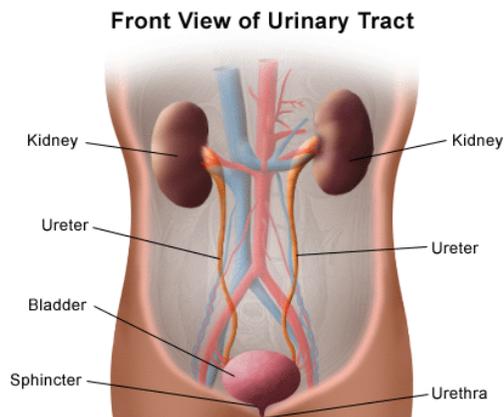
The kidneys have many functions and responsibilities. In addition to filtering the blood, they regulate water and electrolyte levels, eliminate waste products and control the body's acid-base balance. When excess water is ingested, the kidneys excrete it. When water is lost (as a result of diarrhea or sweating), the kidneys conserve it. The digestion of proteins generates ammonia, a powerful toxin that the kidneys eliminate from the body in the urine. When blood and body fluids become too acidic or too alkaline, the kidneys alter the urine acidity to restore balance.

The kidneys also produce or release several hormones. These include erythropietin (stimulates the production of red blood cells), renin (increases the reabsorption of sodium), angiotensin (stimulates aldosterone production and increases sodium reabsorption) and aldosterone (affects salt and water balance).

Urine travels from the kidneys through ureters (tubes) and into the bladder. Outflow is controlled by valves that prevent urine from flowing back up the ureters.

The bladder serves as a temporary storage tank for urine. It has flexible walls, allowing it to expand as it fills. As the bladder reaches capacity, the person senses the need to urinate. When the bladder empties, its walls contract, forcing the urine out.

The urethra is a single tube that carries urine from the bladder out of the body through the genitals. The urethra in males is about 10 inches long; while in females it is only about an inch long. Consequently, women are much more susceptible to urinary tract infections than men.



Did You Know?

- The herb hydrangea was used by the Cherokee Indians as a remedy for kidney stones. Its diuretic, emetic and tonic properties make it an excellent choice for urinary concerns of all kinds.
- Gallup International found that 15 million Latin American people in the U.S. suffer from a hyperactive bladder and at least one-third of them are searching for help. Hyperactive bladder is one of the principal causes of incontinence.
- A randomized, double blind, placebo-controlled trial among elderly women found that dietary cranberry provides almost twice the reduction in urinary bacteria as a placebo.

Urinary System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the urinary system.

- Body odor and/or bad breath
- Monthly female concerns
- Bags under eyes
- Skin/complexion problems
- Frequent urinary concerns
- Dry, damaged or dull hair
- Weak bones, teeth or cartilage

Urinary System Suggestions

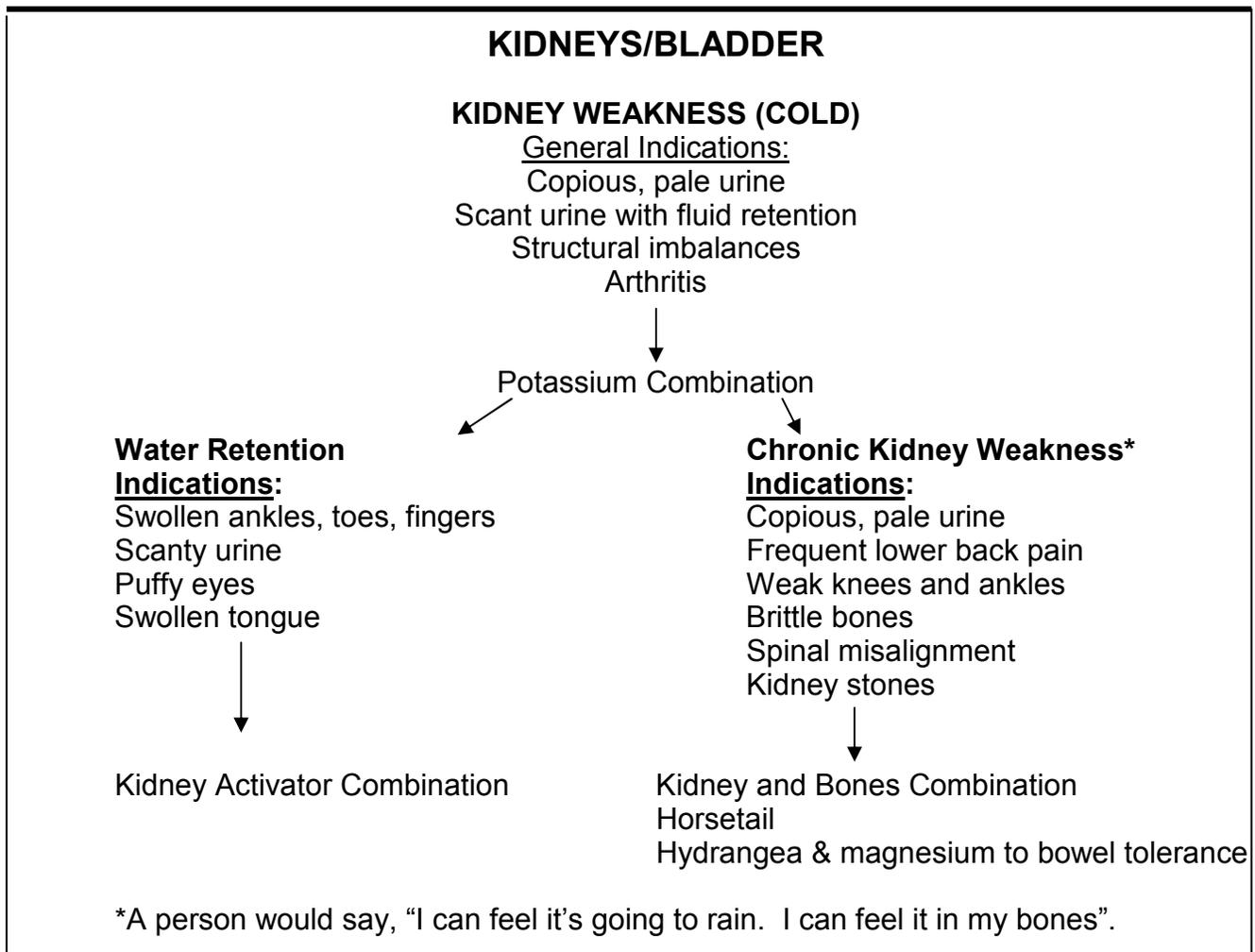
- Drink 64 oz. of water daily
- Drink cranberry juice
- Eat lots of fruit and vegetables
- Practice personal hygiene

Urinary System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Urinary Combination** – This combination is a general tonic for the kidneys. This formula contains herbs that soothe urinary irritation and improve general kidney function, including uva ursi leaves, hydrangea root, parsley herb, dandelion root, plus seven other herbs and nutrients.
- **Marshmallow** – This mucilant soothes the kidneys when they are irritated or inflamed. Marshmallow contains volatile oils and tannins that are responsible for its diuretic actions. It is especially helpful in passing kidney stones.
- **Cranberry & Buchu Combination** – This combination of herbs has anti-inflammatory, diuretic and antiseptic properties. Scientific studies show that cranberry makes the urinary tract inhospitable to bacteria, lessening the risk of urinary tract infections. Buchu acts as a diuretic and improves digestion. This product works best in acidic urine conditions. Do not use in conjunction with uva ursi.

- **Echinacea & Golden Seal Combination** – Echinacea is a bitter herb with a long list of beneficial properties. It contains polysaccharides that stimulate the production of phagocytes (cells that engulf and consume foreign matter). Taken at the earliest sign of cold or infection, echinacea may help cut recovery time remarkably. Golden seal has infection-fighting abilities and anti-inflammatory properties.
- **Potassium Combination** – This combination nutritionally supports the body’s enzyme system. A powerful source of trace minerals compatible with potassium utilization, this product contains 42 mg of elemental potassium per serving in an herbal base.
- **Kidney Activator Combination** – This herbal combination contains astringent herbs that have diuretic and toning properties. This formula includes juniper, parsley, uva ursi, dandelion and chamomile. Do not use this product when kidneys are inflamed.
- **Kidney and Bones Combination** – This combination contains 18 Chinese herbs that help strengthen the structural system by way of the urinary system. This product has analgesic, diuretic and anti-inflammatory properties and may help with urinary concerns and associated structural symptoms, including backache, osteoporosis and sciatica.
- **Horsetail** – This herb has diuretic properties and can help with some kidney conditions. It is particularly effective for healing when blood is present in the urine, or when children’s bedwetting is caused by irritation.



KIDNEYS/BLADDER

URINARY INFECTION*

Indications:

Diagnosis of urinary infection
Prevention of urinary infection



Cranberry & Buchu Combination
Echinacea & Golden Seal Combination

*Consult a doctor for a diagnosis first.

KIDNEYS/BLADDER

IRRITATED/INFLAMED (HOT)*

General Indications:

Scant, dark urine
Burning urination
Hot feeling over kidneys
Puffiness/darkness under eyes
Urination produces standing foam
General symptoms of heat



Urinary Combination
Marshmallow

*Consult a doctor for a diagnosis first.

The Structural System

The structural system consists of the skeleton (bones), muscles, skin, membranes and connective tissues. The bones provide a strong, stable, yet mobile, framework on which the muscles can act. The skeleton also supports and protects body organs, notably the brain and spinal cord (which are encased in the skull and spine) and the heart and lungs (which are protected by the ribs).

Structural system problems and disorders can include infections and inflammations (arthritis, gangrene, tetanus, warts, dermatitis, cold sores, ringworm, psoriasis, acne, ulcers), muscular dystrophy, tumors and fibroids, cramps, fibromyalgia syndrome, and autoimmune disorders (lupus, arthritis).

Examining the Structural System

The skeleton plays an indispensable role in movement. In effect, it consists of a series of independently movable internal levers on which the muscles can pull to move different parts of the body. The skeleton also supports and protects body organs, as explained above. The ribs make breathing possible by supporting the chest cavity so the lungs are not compressed, and by helping in the breathing movements.

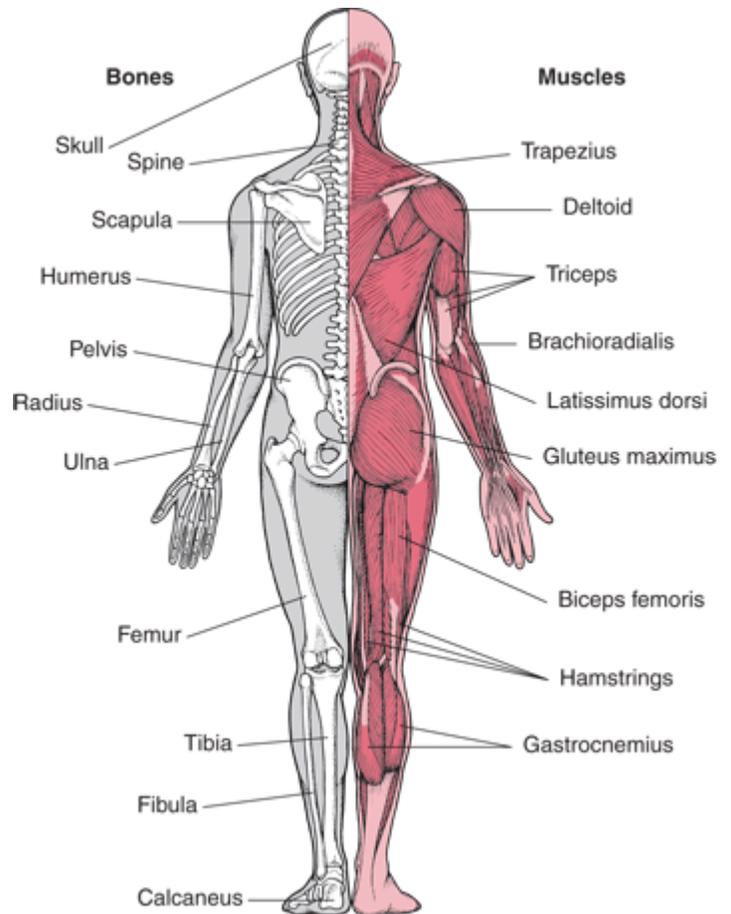
Another function of the skeleton is the production of blood cells, which are formed in bone marrow. The skeleton also acts as a reservoir for minerals, like calcium, which can be utilized when needed by other parts of the body.

Muscles are structures composed of bundles of specialized cells that contract and relax to create movement. Muscles move both the body and the organs within it. The brain controls the voluntary movements of the skeletal muscles. Muscle activity is affected by changes in chemical composition of the fluid surrounding the muscle cells. A decrease in potassium ions causes muscle weakness; a reduction in calcium ions causes muscle spasm.

Membranes are layers of tissue, often very thin, that cover a body surface, line a cavity, divide a space or organ, or form the boundaries of individual cells. We have several membranes, including the meninges, peritoneum and tympanic.

Body tissues are collections of cells specialized to perform a particular function. Connective tissues include blood, adipose tissue (fat) and various fibrous and elastic tissues (tendons, ligaments, cartilage, etc.) that hold the body together.

Skin is the body's largest organ. It protects the internal organs from the environment. Its cells are continually being replaced, as they are lost to wear and tear. The skin consists of



a thin outer layer (the epidermis) and a thicker inner layer (the dermis). Beneath the dermis is the subcutaneous tissue, which contains fat. The hair and nails are extensions of the skin and are composed mainly of keratin – the main constituent of the outermost part of the epidermis. The skin acts as a barrier, shielding internal organs from injury, bacteria and harmful sunlight rays. It also regulates body temperature through perspiration.

You can help maintain structural health by getting adequate minerals in your diet, especially calcium, magnesium and phosphorus. These minerals, along with vitamin D, have been shown to help treat and prevent osteoporosis and osteomalacia (the softening and demineralizing of bones). Vitamin D is essential to the metabolism of calcium and phosphorus in the body.

Did You Know?

- The Institute of Medicine recently increased the Recommended Dietary Allowance (RDA) for calcium. The new daily levels recommended are 1,300 mg for children 9-18 years, 1,000 mg for people 19-50 and 1,200 mg for those over 50. Old levels were 400-600 mg/day for infants up to 1 year, 800 mg/day for children 1-10, 1,200 mg/day for ages 11-24 years and 800 mg/day for adults over 24.
- Back problems are the most common physical complaints among American adults.
- It is estimated that between 30-50 million Americans have arthritis, and most adults over 50 show some signs of it.
- The National Research Council reports that silicon deficiency leads to structural abnormalities of the long bones and skull in chickens, leading researchers to conclude that silicon is also important to the human structural system.

Structural System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the structural system.

- Skin/complexion problems
- Menopausal concerns
- Hair loss
- Sore or painful joints
- Difficulty in maintaining ideal weight
- Low endurance/stamina
- More than 2 cups of caffeinated beverages per day
- Brittle or easily broken fingernails
- Muscle cramps
- Feeling out of control
- Weak bones, teeth or cartilage
- Don't get enough exercise

Structural System Suggestions

- Eat regular, balanced meals
- Get adequate sources of calcium
- Perform weight-bearing exercises, including walking
- Chew fibrous fruits and vegetables for strong teeth
- Practice oral hygiene

Structural System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

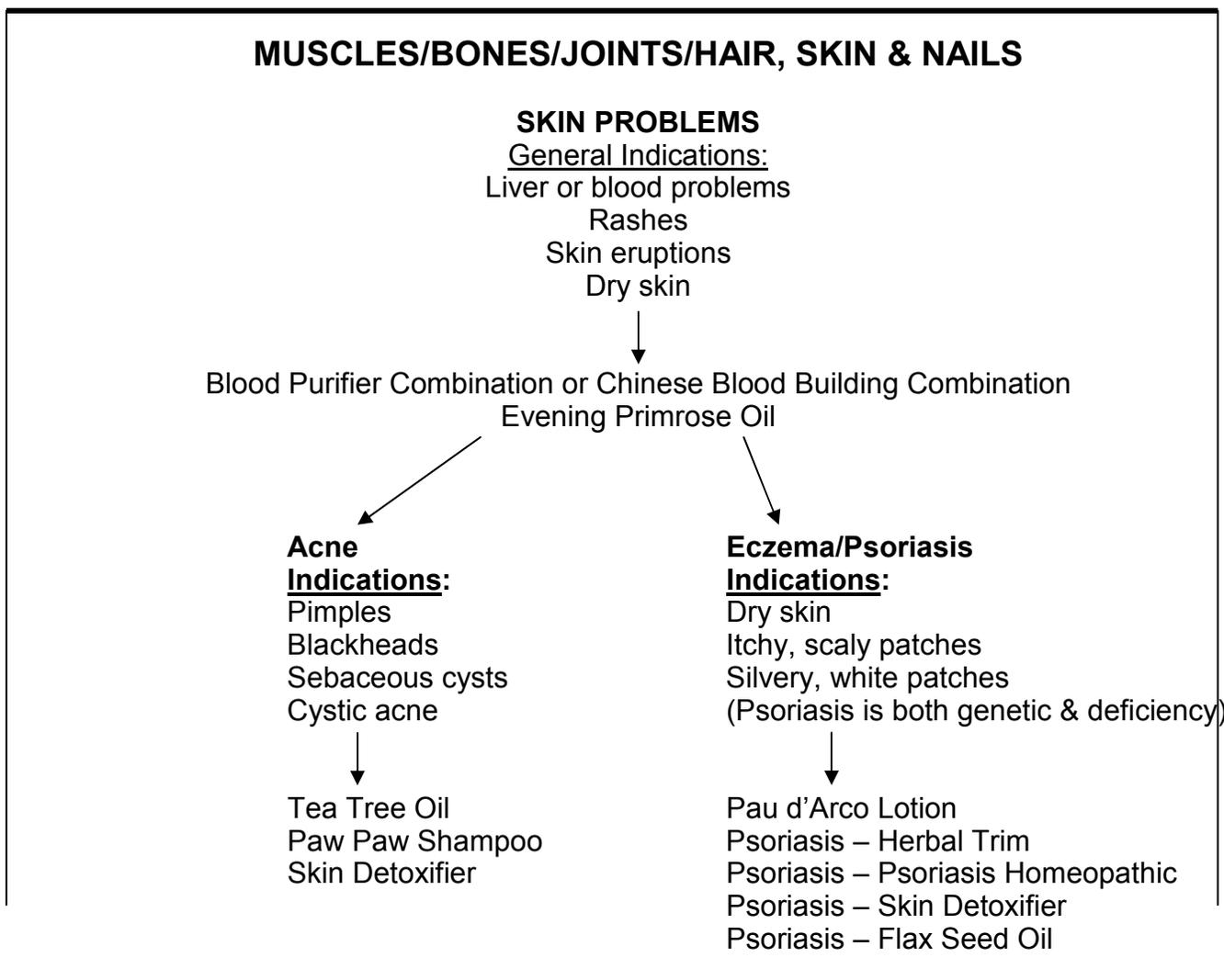
Muscular/Skeletal

- **Skeletal Combination** – This combination provides minerals and nutrients the body needs for strong, healthy bones and connective tissues. It contains vitamins A, C, D, B6 and B12, plus calcium, iron, phosphorus, magnesium, zinc, copper, manganese, potassium and boron contained in an herbal base to ensure maximum bioavailability of these important minerals and nutrients.
- **Hair/Skin/Nail Combination** – Along with calcium, magnesium, zinc and other trace minerals, silicon helps build stronger, healthier bones, teeth and nails. The two herbs richest in silicon are dulse and horsetail. These two herbs plus sage and rosemary make up this combination, a product that encourages strong, flexible fingernails; shiny, healthy hair; and healthy skin. Silicon also strengthens bones and joints.
- **Joint Support Combination** – This combination of herbs and nutrients was designed to reduce joint inflammation and ease pain. It contains bromelain (a protein digestive aid), hydrangea, yucca, horsetail, celery seed, alfalfa and nine other herbs that support healthy joints.
- **Glucosamine** – Glucosamine is a building block of cartilage. As such, it helps relieve arthritis symptoms and restore cartilage health. By supplementing with glucosamine, we can strengthen and rebuild cartilage throughout the body.
- **Chondroitin** – Chondroitin attracts fluid into the joints, where it acts as a shock absorber during impact. This fluid also brings vital nutrients to the cartilage. Chondroitin protects the cartilage from premature disintegration.
- **Fibromyalgia Combination** – If the body is deficient in energy-producing fuel, it breaks down muscle protein to create energy. This process causes pain, fatigue and other problems. Doctors have found that many people in this condition respond to supplements containing malic acid and magnesium, the two ingredients in this combination. These two nutrients provide fuel that generates energy to operate the body.
- **MSM/Glucosamine Cream Combination** – MSM/Glucosamine Cream contains the nutrients of MSM with the cartilage-strengthening properties of glucosamine to offer a nutritional cream for weary joints. It also enhances the appearance of skin, promoting softness and smoothness.

Skin

- **Blood Purifying Combination** – This combination contains a dozen herbs that help purify and cleanse the blood, thereby supporting proper liver function and healthy skin. Ingredients include burdock, pau d'arco, red clover, sarsaparilla, yellow dock, dandelion, buckthorn, cascara sagrada, peach bark, yarrow, Oregon grape and prickly ash bark.

- **Evening Primrose Oil** – Evening Primrose Oil assists the body in producing prostaglandins. Each capsule provides gamma linolenic acid (GLA). Evening Primrose provides essential fatty acids that help with eczema and brittle nails. Also contains vitamin E plus linolenic and oleic acids and palmitic oil.
- **Tea Tree Oil** – Tea Tree Oil is known as oil of Melaleuca. Kind to the skin and virtually irritant-free, Tea Tree Oil is highly prized for its antiseptic and antibacterial benefits.
- **Pau d’Arco Lotion** – Herbalists have long used pau d’arco to enhance and fortify the human immune system. Pau d’Arco Lotion is specially formulated for topical use on rashes on hands, arms and face. The emollient properties of Pau d’Arco leave skin feeling sooth and supple.
- **Herbal Calcium Combination** – This combination of calcium-rich alfalfa, oat straw, marshmallow, wheat grass, plantain, hops and horsetail provides nourishment to the structural system. These herbs are primarily vulnerary mucilants; that is, they soothe tissues and help them heal. This product may be taken internally or used as a poultice.



MUSCLES/BONES/JOINTS/HAIR, SKIN & NAILS

HAIR, SKIN & NAILS

Indications:

Split ends; hair lacks luster
Brittle fingernails



Hair, Skin & Nail Combination
Super GLA
Protein Digestive Aid - HCL

MUSCLES/BONES/JOINTS/HAIR, SKIN & NAILS

WEAK BONES

General Indications:

Brittle or easily broken bones
Bone or joint injuries
Lack of exercise
Menopause
Insufficient calcium
Vitamin D deficiency
Diet high in phosphate-containing foods such as animal products, alcohol and caffeine;
smoking
Hydrochloric acid deficiency



Skeletal Combination
Herbal Calcium
Boron – Bone Hardener

MUSCLES/BONES/JOINTS/HAIR, SKIN & NAILS INFLAMMATION

Joints

Indications:

Heat and/or swelling
Sensitivity to damp weather
Diagnosis of arthritis, gout or other
Inflammatory joint disease
High-protein diet



Joint Support Combination
Glucosamine – replaces cartilage
Chondroitin – moisturizes bones
(Use if walking and hearing cracking)
Noni
MSM
Coral Calcium – alkalinizing – arthritis
Green drink – alkalinizing – arthritis

Muscles

Indications:

Heat and/or swelling
Muscle pain
Sleep disorders
Depression
Fatigue



Fibromyalgia Combination
MSM/Glucosamine Cream (put on "it is")
IGF Spray

The Immune System

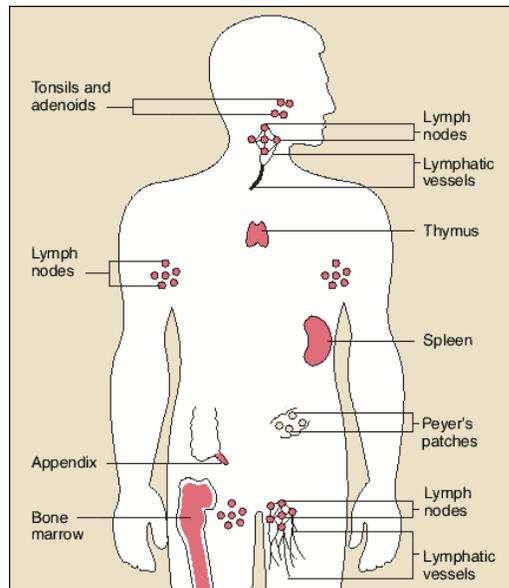
The immune system is the body's defense against germs, viruses and other invaders. The thymus gland, spleen, tonsils, adenoids and lymph nodes, along with a variety of white blood cells, all protect the body.

Common immune-system concerns include viruses, bacteria, fungus, cancer, fatigue, influenza, AIDS and stress. You can do a lot to keep your defenses strong and boost your immunity. The first step is making good dietary choices.

Examining the Immune System

Prevention is a fundamental principle of natural health. One of the best things you can do to prevent disease and disability is to support your immune system.

The immune system consists of various body organs and processes. Key structures include the thymus gland, spleen, tonsils, adenoids and lymph nodes. White blood cells also help defend the body.



This system is unlike other body systems in that it is not a group of physical structures (like the heart and blood vessels of the circulatory system), but a system of complex interactions involving many different organs, structures and substances. Among these are white blood cells, bone marrow, the lymphatic vessels and organs, specialized cells found in various body tissues, and specialized substances called serum factors that are present in the blood. Ideally, all of these components work together to protect the body against infection and disease.

The thymus gland plays a vital role in defending your body. It produces a special like of white blood cell called a T-lymphocyte. This unique cell plays a profound role in creating "cell-based" immunity. Immunity on a cellular level protects against fungi, viruses, bacteria and yeast infections. Your body has approximately one trillion lymphocytes.

The immune system helps protect us from malignancies. Tumor cells are always present in our bodies in small numbers. A healthy immune system will recognize and destroy tumor cells. When a person develops cancer, the immune function has failed to provide the body with protection. For some reason, the body does not recognize malignant cells, and they are allowed to reproduce.

After puberty, the thymus gland begins to shrink. Because the thymus is believed to be the source of hormones involved in the maturation of T-lymphocytes (discussed later), it is crucial that we supplement our diets with nutrients that nourish and build this gland. These include vitamin C with bioflavonoids, selenium, vitamin E, beta-carotene, zinc and alpha lipoic acid. Recent clinical data support the notion that many of us become zinc-deficient, as we grow older. This may help explain why elderly people become so much more susceptible to disease. Herbs that support the thymus gland include astragalus, echinacea and pau d'arco.

The lymphatic system, which includes the tonsils, adenoids and lymph nodes, is responsible for collecting lymph fluid and draining waste from the tissues. This fluid must be purified by white blood cells, which destroy infections, kill microorganisms and remove cellular

waste. Our lymph nodes also help produce armies of antibodies, which are special cells designed to kill specific organisms. Herbs like ginseng, golden seal and echinacea help support and cleanse the lymphatic system. Regular exercise also promotes lymphatic system health.

The body's defense mechanisms are complex. In some cases, a virus must penetrate several lines of defense in order to cause a problem. Our defenses include the skin, mucous layers covering infection-susceptible tissues, white blood cells (or leukocytes) and interferon. Leukocytes are divided into two classes called granulocytes and agranulocytes. These two classes are further divided into smaller groups.

Granulocytes are primarily phagocytic, which means they have the ability to ingest particulate substances, a process called phagocytosis. Granulocytes include juvenile neutrophils, segmented neutrophils, basophils and eosinophils. Neutrophils neutralize bacteria and small particles by ingesting them. Basophils are believed to deliver anticoagulants to facilitate blood-clot absorption. Eosinophils increase in numbers with asthma and during certain infections.

The agranulocytes include monocytes and large and small lymphocytes. Monocytes can ingest large particles such as foreign proteins and peptides, while lymphocytes produce antibodies and are critical to cellular immunity.

Interferon is a protein that forms when cells are exposed to viruses. Uninfected cells will become immune to the virus when exposed to interferon. Interferon inhibits a virus's ability to reproduce.

If the body's ability to properly produce interferon or leukocytes is impaired, invading, disease-producing microorganisms may successfully challenge the health of the body. Weakening of the immune system results in increased susceptibility to virtually every type of illness. Some common signs of impaired immune function include fatigue, listlessness, repeated infections, inflammation, allergic reactions, slow wound healing, chronic diarrhea and infections that represent an overgrowth of some normally present organism such as oral thrush or yeast infections.

Type of Immunity

The human immune system is functional at birth, but immunity really develops as the body matures and learns to defend itself against different foreign invaders called antigens. The immune system has the ability to learn to identify and remember specific antigens that it has encountered. It does this through two basic means – cell-mediated immunity and humoral immunity.

In cell-mediated immunity, T-lymphocytes (or T-cells) identify and destroy cancerous cells, viruses and microorganisms like bacteria and fungi. These cells mature in the thymus gland – hence the “T” designation. Here they learn to recognize what is “self,” and therefore should be tolerated, and what is “non-self,” and therefore should be destroyed.

Humoral immunity involves the production of antibodies. These are not cells, but special proteins whose chemical structures form to match the surfaces of specific antigens. Antibodies concentrate in body fluids – tears, saliva, mucus, etc. – where they guard the entrances to the body. When they encounter their specific antigens, antibodies either damage the invasive cells or alert the leukocytes to attack.

Another group of white blood cells, the B-lymphocytes (manufactured by and matured in the bone marrow) produce the antibodies. When the B-lymphocyte meets a particular antigen, it engineers an antibody to match the antigen and stores a blueprint of the invader so it can initiate the production of antibodies in the case of any future exposure.

Key immune-boosting nutrients include vitamins A, C and B6, along with the minerals magnesium, selenium and zinc. The vast majority of people fail to get even Recommended Dietary Allowance levels of these nutrients from their diet, let alone optimal intakes. For this reason, supplementing with a high quality, comprehensive multivitamin is a proven way to boost your defenses. Vitamin C has antiviral properties and has proven successful against most viruses tested. The mineral zinc has been linked to the body's ability to resist viruses.

Immune System Analysis

If you have four or more of the following indications, you may consider nutritional aid to the immune system.

- Lack of energy
- Illness more than twice a year
- Difficulty digesting certain foods
- Food allergies
- Recent or frequent use of antibiotics
- Poor resistance to disease
- Belching or gas after meals
- Stressful lifestyle
- Sore or painful joints
- Difficulty in maintaining ideal weight
- Slow recovery from illness
- Exposure to air pollution daily
- Feeling out of control
- Food/chemical sensitivities
- Recurrent yeast/fungal infections

Immune System Suggestions

- Reduce stress
- Eat lots of fruit and vegetables
- Eat adequate complete proteins
- Avoid simple sugars
- Get adequate sleep and exercise

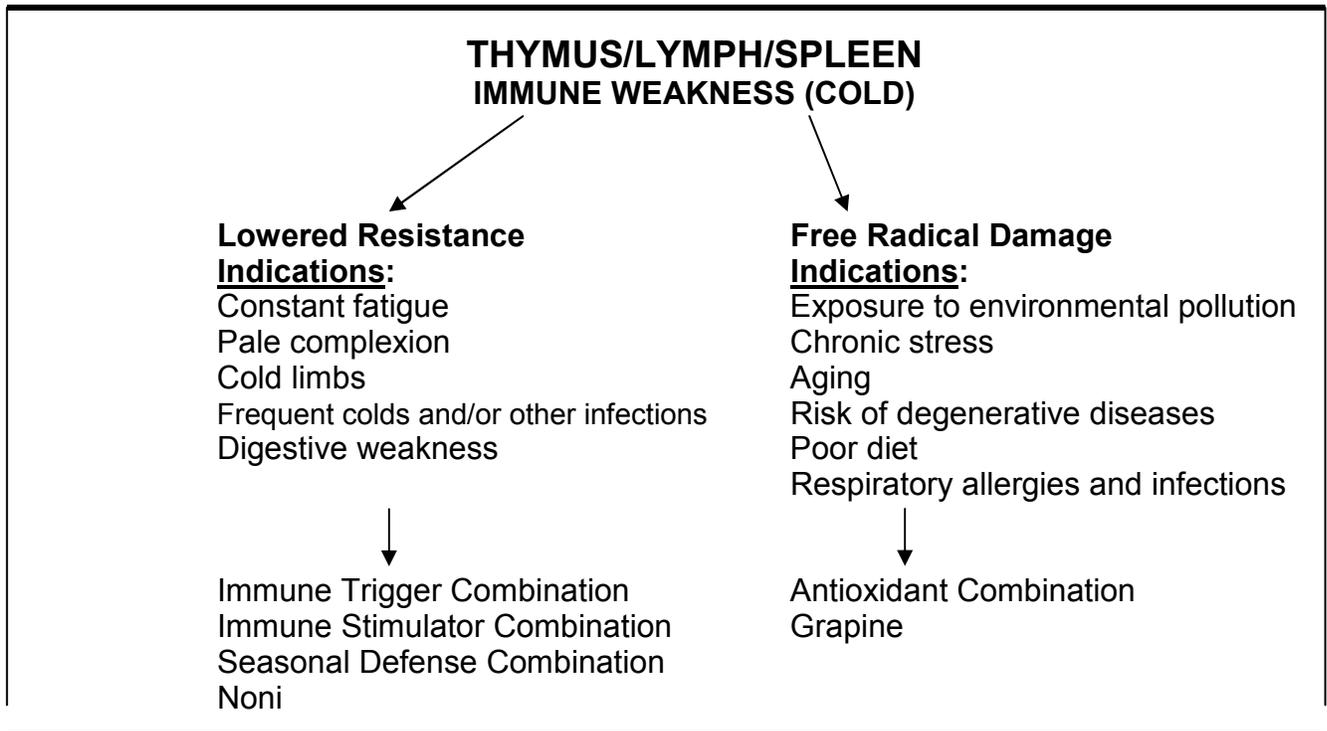
Immune System Products

The following products are listed with ingredients only as not to sell any particular product line. These ingredients can be purchased at any store you wish. If you are interested in the actual combinations listed below, please contact JLS directly.

- **Immune Defense Combination** – This combination is a convenient 14-day herbal food program containing nutrients that boost the immune system. This combination provides natural sources of vitamins A, C and E, plus selenium and zinc. Fight off the never-ending assault of poisons, toxins and other microscopic dangers.

- **Garlic** – This popular herb offers a boost to the immune system with its antibacterial, antifungal and antiviral properties.
- **Colloidal Silver** – Colloidal silver is an effective antimicrobial that inactivates the enzyme responsible for the multiplication of bacteria, fungi and viruses.
- **Echinacea** – Echinacea contains polysaccharides that stimulate the production of phagocytes (cells that engulf and consume foreign matter) and active T-lymphocytes, macrophages and natural killer cells. Taken at the earliest sign of a cold or infection, echinacea may help cut recovery time remarkable.
- **Olive Leaf** – Olive Leaf supports normal blood pressure and cholesterol levels and strengthens the immune system against viral and bacterial attacks.
- **Virus Chinese Combination** – This centuries-old blend of nine Chinese herbs helps you battle infection. This combination strengthens your kidneys, liver, stomach, blood and adrenals. It also helps detoxify and energize the body.
- **Una de Gato** – Una de gato provides beneficial alkaloids. Combined with astragalus and echinacea, this product gives your immune system the added boost it needs to keep you on your feet.
- **Elderberry Combination** – Recent research shows that elderberry, a plant long used to treat colds, possesses antiviral activity. This formula also includes echinacea, a popular immune stimulant, and royal jelly, a highly nutritious substance produced by bees.
- **Zinc Lozenges** – By combining zinc with echinacea and licorice root, the lozenges not only soothe the mouth and throat, they also provide added immune-system support and extra energy.
- **Pau d'Arco** – Pau d'Arco contains a chemical called Lapachol, which may provide nutritional support to the immune system. It is commonly used against many conditions of unwanted growth, including fungus, yeast and tumors.
- **Bifidophilus** – This probiotic supplement contains living organisms to help replace depleted bacteria that are necessary for proper immune function.
- **Immune Trigger Combination** – This formula contains astragalus and ganoderma. Astragalus functions much like echinacea, while ganoderma is similar to garlic. This combination enhances the body's ability to respond to forces that might otherwise weaken it.
- **Immune Stimulator Combination** – This combination contains polysaccharides, which promote macrophage activity. It contains nutrients that kill unfriendly microorganisms, viruses, bacteria, allergens, molds and parasites. It also increases immunoglobulin proteins in the intestinal tract to combat foreign invaders.
- **Antioxidant Combination** – This combination contains tocotrienols, lycopene and alpha lipoic acid in a base of rose hips, milk thistle and turmeric. Tocotrienols can penetrate the fatty membranes of cells, taking their antioxidant properties deep within the cells. Lycopene has been linked to prostate health. Alpha lipoic acid is both fat and

water-soluble and can move through the entire cell, scavenging free radicals. Rose hips provide vitamin C, carotenoids and flavonoids for immune system support. Turmeric helps protect liver tissue and promotes healthy cholesterol levels.



THYMUS/LYMPH/SPLEEN

INFECTION (HOT)

General Indications:

General weakness or fatigue
Recurring infections
Acute infections
Exposure to infectious agents
Enlarged lymph nodes

Bacterial Indications:

Medical diagnosis of
Bacterial infection
(staph, strep, etc.)

Fungal Indications:

Frequent antibiotic use
Vaginal yeast infections
General weakness
Medical diagnosis of
Yeast or fungal infection

Echinacea
Olive Leaf

Viral

Chronic Infection

Indications:

Medical diagnosis of
Chronic viral infection
(herpes, Epstein-Barr virus, etc.)

Virus Chinese Combination
Una de Gato

Acute Infection

Indications:

Common cold
Influenza

Elderberry Combination
Zinc Lozenges
Seasonal Defense

Pau d'Arco
Colloidal Silver
Bifidophilus
Yeast Fungal Homeopathic
Paw Paw Cell Reg
(for cancer)

CERTIFIED WOMEN'S HEALTH COUNSELOR ONLINE COURSE - SESSION 16 QUESTION & ANSWERS

NAME: _____
ADDRESS: _____
CITY, STATE, ZIP, PC: _____
PHONE: _____
FAX: _____
E-MAIL: _____

Please be sure to fill out the information above, complete the test and e-mail or mail it back to us at iridology@netzero.net or P.O. Box 485, Weimar, CA, 95736-0485. We will grade your question & answer session and will let you know if we have any questions or concerns. **Please use a separate sheet to do this assignment.**

1. What three things do our bodies produce to process proteins, carbohydrates and fats?
2. Where does most nutrient absorption take place?
3. Bile is produced by the _____ and stored in the _____.
4. What are some indications that the digestive system is weak and may need nutritional aid?
5. What is the job of the colon?
6. Name two things that are important in maintaining a healthy colon.
7. What prevents the back-flow of waste between the colon and small intestine?
8. What are some indications that the intestinal system is weak and may need nutritional aid?
9. The glandular system coordinates actions in the body by secreting _____ into the bloodstream.
10. The _____ is the main link between the nervous and glandular systems.
11. The _____ gland stimulates many other glands by secreting tropic (releasing) hormones.
12. What are some indications that the glandular system is weak and may need nutritional aid?
13. Neurons (nerve cells) generate _____ that travel down axons from one cell to another.
14. Many nerve cells are insulated with _____ to speed up impulses and prevent cross firing.
15. _____ are chemicals used to transmit impulses from one neuron to another.
16. Stress depletes our bodies' reserves of vitamins _____, _____, _____ and _____. Regular replenishment of these nutrients helps maintain optimal nervous-system health.
17. What are three indications that the nervous system is weak and may need nutritional aid?
18. The respiratory system provides _____ to the bloodstream.
19. Where does the exchange of oxygen and carbon dioxide take place?
20. What do cilia on the bronchi do?
21. What are some indications that the respiratory system is weak and may need nutritional aid?
22. What large blood vessels carry oxygen-rich blood from the heart to the cells and tissues of the body?
23. How many miles long is the human circulatory system?
24. Veins are smaller vessels that carry _____ blood and _____ back to the heart.
25. Blood has four main components: red blood cells, _____, platelets and _____.
26. What are some indications that the circulatory system is weak and may need nutritional aid?
27. Each hour the kidneys filter 10 times the amount of blood in the body. T/F
28. Each kidney contains about one billion glomeruli. T/F
29. The kidneys serve as a temporary storage tank for urine. T/F
30. The efficiency of the kidneys diminishes with age. T/F
31. What are some indications that the urinary system is weak and may need nutritional aid?
32. Tissues are collections of _____ specialized to perform a particular function.
33. _____ is the largest organ of the body. It protects organs from the environment and regulates body temperature via perspiration.
34. What acts as a reservoir for minerals like calcium and is responsible for producing red blood cells?
35. What are some indications that the structural system is weak and may need nutritional aid?
36. What is the result of a weak immune system? _____
37. The body's defenses include mucous layers covering tissues, _____, interferon and _____.
38. What system includes the tonsils and adenoids and collects waste in a fluid that it drains from the tissues?
39. What are some indications that the immune system is weak and may need nutritional aid?