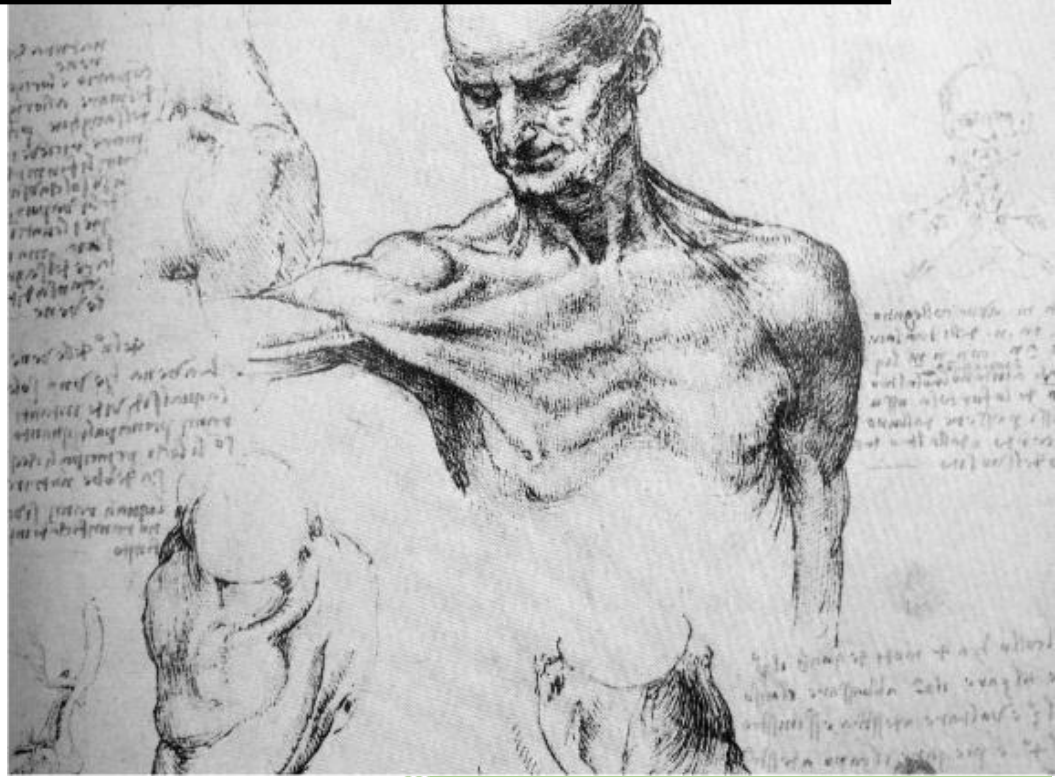


2020

Module 1: Anatomy & Physiology



ACADEMY OF QUEST FOR HEALTH®

RX BALANCE Technology Inc.

8/6/2020

Module 1

Education with Excellence

1.0 The Human Body

Knowing about health requires some knowledge about the body. We do not need to know how a car works to use it to get around, but if we do know how it works, we can tell when it needs maintenance and, in some cases, what to do to fix a problem. The same is true for our bodies. While humans have the same basic anatomy and physiology, each of us has a unique makeup, health history, and health status. By first learning the basic facts about the human body, we can move toward understanding individual, intimate, and intricate details when it comes to health. The structural organization of the human body is comprised of several interrelated levels.

The most basic is the chemical level: the atoms and molecules that make up the body. Atoms combine to become molecules and molecules combine to become cells, creating the cellular level. Groups of similar cells are called tissues. Four main types make up the tissue level: epithelial, muscle, connective, and nervous tissue. Tissues join to form organs, which are usually a combination of two or more different tissues. Organs have specific functions and recognizable shapes. Organs that are related to each other and serve a common purpose create the system level.

Body functions are carried out by systems or groups of organs, tissues, and cells. The stomach and intestines in the digestive system process food, provide nutrients for the body, and eliminate waste. The heart, blood vessels, and blood in the cardiovascular system transport these nutrients to every cell. The lungs, nose, and throat of the respiratory system provide oxygen, which also nourishes the cells. The nervous and endocrine (hormonal) systems regulate the body and instruct and direct every function. The integumentary system (skin, hair, and nails) is the first line of defense against disease, infection, and injury. The immune system guards against intruders in the body. These systems function in harmony with one another, along with the lymphatic, musculoskeletal, reproductive, and urinary systems.

When all is well, each system plays its part in the grand symphony of the healthy body. However, like a true musical orchestra, if one system is out of tune, all of the others are negatively affected.

1.1 The Nervous System

This nervous system helps maintain homeostasis—equilibrium in the body's internal environment. The nervous system is responsible for our behaviors, perceptions, and memories. We know that food, lifestyle, and overall health affect our behaviors and perceptions as well, which means health and food choices are vitally important for the proper maintenance of this system.

Information from all over the body travels quickly to and from the central nervous system (CNS). The CNS consists of the brain spinal cord. The body's messages are sent by impulses via neurons. Some of these impulses reach speeds between 44 and 429 kilometres per hour. The peripheral nervous system (PNS) includes all nervous tissue outside the CNS. The PNS is divided

into two branches: the somatic (voluntary) nervous system and the autonomic (involuntary) nervous system.

In the somatic nervous system, information is picked up from the five senses and from receptors that detect pain and temperature and transmitted to the CNS via sensory neurons. If necessary, signals are sent back from the brain, through the spinal cord and out through motor neurons to skeletal muscles where movement occurs. In the case of a reflex, the reaction is necessarily quicker, and the signals from the spinal cord, bypassing the brain.

The autonomic nervous system is called involuntary because it is beyond conscious control. This system ensures a stable inner environment with the help of two additional systems called sympathetic and parasympathetic. The sympathetic nervous system is responsible for situations of stress, increasing heart rate and blood pressure, and increasing sensitivity and reaction to stimuli. The parasympathetic system is responsible for rest, relaxation, and digestion.

Essential acids and B vitamins are especially important for our nerves. Fish, nuts, seeds, and whole grains nourish the nervous system. Relaxation, rest, and deep breathing also help to rebalance emotions and relieve the stress that affects the nerves.

1.1.1 The Brain

Information about how nutrition relates to the brain is available more now than ever before. What we eat affects our intelligence, moods, and appetite. Nutrition also affects the way our muscles work, as all the cells in our body, including the muscle cells, are connected to a nerve cell. The brain and nerves are the most highly evolved tissues in body.

The brain is made of neurons, the cells that determine how well our minds work. If our brains function optimally, we are alert, intelligent, and very receptive to our environment. If not, we find it increasingly difficult to concentrate on, understand, and absorb new information.

Its high fat content makes the brain especially vulnerable to free-radical damage. Free radicals (atoms with an unpaired electron) can wreak havoc in the body at the cellular level through oxidation; the rusting of metal or browning of an apple exposed to air are examples of oxidation. Compounds that prevent free-radical damage are called antioxidants or free-radical scavengers.

Antioxidants are present naturally in whole foods.

1.2 The Cardiovascular System

Consisting of the heart, blood vessels, and blood, the cardiovascular system nourishes each body cell by transporting nutrients throughout the body. "Cardio" refers to the heart, and "vascular" refers to the blood vessels. The body's network of blood vessels is powered by the

heart. In a 70-year lifetime, the heart will beat more than two and a half billion times and will pump enough blood to fill over 100 full-sized swimming pools.

The heart never rests.

Good circulation fuels the cells with oxygen, protein, and other vital nutrients for fuel and increases the speed at which carbon dioxide, cellular waste and toxins are removed from the body. Blood adjusts the body's temperature through the heat-absorbing and cooling properties of its water content and modifying the rate of blood flow through the skin, where excess heat can escape. Blood also serves a protective function; its clotting mechanism prevents blood loss from wounds to the skin or from internal damage, and its white blood cells, which are a part of the immune system, protect against toxins and foreign invaders.

1.3 The Respiratory System

The respiratory system shares the same responsibility as the cardiovascular system in that it also supplies oxygen to and expels carbon dioxide from the body. Oxygen is vital as it provides fuel for all bodily functions. The respiratory system also eliminates toxic waste, regulates the humidity and temperature of the air breathed in, and ensures the stability of the blood's acid-alkaline balance.

Divided into the upper and lower respiratory systems, the upper consists of the nose, nasal cavity, throat, and larynx; the lower refers to the trachea and lungs, including the bronchi, bronchi, bronchioles, and alveoli. The inner surface area of the lungs is approximately 35 times larger than the surface area of your skin. This huge surface allows the body to effectively absorb oxygen and expel carbon dioxide.

Blood exchanges carbon dioxide for oxygen through the network of capillaries on the surface of the alveoli, the tiny air sacs that are the destination of inhaled air. The blood, now enriched with oxygen, returns to the heart to be pumped through the rest of the body. A lack of iron, or lack of blood in the body, causes insufficient oxygen to be transported to the cells, resulting in symptoms of breathlessness, weakness, coughing, and fatigue.

1.4 The Digestive System

Eating is only one step in getting nourishment from the foods we consume. Everything we eat must be broken down before it can be used by the body. The breaking down of food is the digestive system's purpose. The digestive tract allows the body access to the important nutrients available in the foods we eat. The digestive organs, the liver, gallbladder, and pancreas introduce vital substances for the proper digestion of food.

Even before the first bite, digestion begins by smelling and seeing food when we are hungry; this triggers the secretion of digestive enzymes in saliva.

From the stomach, food enters the small intestine where it is broken down further so nutrients can be absorbed into the bloodstream. Excess particles are pushed through the intestines to be expelled.

Highly processed foods, alcohol, tobacco smoke, and a stressful, sedentary lifestyle may promote illness. In order for the digestive system to work properly, the nervous system requires rest and relaxation. Pain, gas, constipation, poor appetite, abdominal bloating, and nausea are typical symptoms of digestive problems.

Noticeable weight loss, blood in or changes to stools, and bad breath are also indications.

1.4.1 How the digestive system works

Imagine a 30-foot-long, mazelike passageway winding through the centre of your body. This miraculous food-transport system is your digestive tract. Also called the gastrointestinal tract, there are numerous connecting points along its route where food is broken down into simpler chemical forms (nutrients) by specialized enzymes for the digestion and absorption of macronutrients (protein, carbohydrates, and fats) and micronutrients (vitamins and minerals).

1.4.2 The mouth, pharynx, and esophagus

The smell and sight of appetizing food are the first signals the digestive system receives to begin the process of digestion. Even before the first morsel of food enters the mouth, digestive juices start flowing.

With the first bite, ptyalin, an amylase enzyme in saliva, begins the breakdown of carbohydrates into glucose.

Chewing food well promotes better digestion even before food enters the stomach where the greatest active chemical digestion begins.

Stomach muscle contractions assist the digestive process by kneading the partially digested food. Gastric juices contain hydrochloric acid (HCl), enzymes, and water.

This potent mix of chemicals is so strong that the stomach's membrane lining secretes a protective mucus barrier to prevent these corrosive gastric juices from damaging the wall of the stomach. Without adequate mucosal protection, the stomach lining would be burned by the stomach's own acids, creating painful stomach ulcers.

Digestive activity in the stomach lasts anywhere from one to four hours per meal depending on the combination and amounts of food ingested. Liquids pass through the stomach most quickly, followed by carbohydrates, then proteins, and finally, fats. Next, the pyloric sphincter at the base of the stomach opens to release this mash of semi-digested food, called chyme, into the small intestine.

1.4.3 The small intestine

There is not too much that is small about the small intestine. In fact, this 20-foot (6 metres) section of the digestive tract is charged with accomplishing a huge task—unlocking and absorbing micronutrients from macronutrients. Enzymatic function in the small intestine is supported by the enzymes derived from consumed food. Over course of approximately three hours the small intestine, with the aid of the pancreas, liver, and gallbladder, breaks down proteins into amino acids, carbohydrates into simple sugars, and fats into fatty acids.

As chyme enters the small intestine, the pancreas, nestled below the stomach, contributes alkaline pancreatic juices necessary for the successful completion of the digestive process. These juices contain numerous enzymes. If fats have been eaten, the gallbladder releases stored bile. Bile produced by the liver and is not really an enzyme but rather a fat emulsifier that separates fat into small droplets so that pancreatic enzymes can more easily break them down for absorption.

The liver plays a key role in the metabolism of fats and proteins. It also regulates blood clotting and produces cholesterol, the precursor substance required for steroid hormone synthesis. As a blood cleanser, the liver breaks down remnants of hormones, medications, alcohol, and other toxic substances, rendering them harmless.

The pancreas, aside from manufacturing enzymes for the digestion of all foods, produces the hormone insulin, which is necessary for the cells to use glucose, a simple sugar. Carbohydrates are broken down to glucose, the major source of energy for the body. Without insulin, glucose is unavailable to the cells and remains in the bloodstream, causing problems such as hyperglycemia, polydipsia (excessive thirst), and polyuria (excessive urine production). Collectively, these symptoms are known as diabetes. Sweets are detrimental because they are absorbed immediately increasing blood sugar levels and forcing the pancreas to release large amounts of insulin quickly.

1.4.4 The large intestine

Basically, a holding tank for waste produced through the digestive process, the large intestine, or colon, is largely an elimination organ. However, vitamin K, water, and some electrolyte minerals are absorbed in this final section of the digestive tract.

Proper elimination of waste and bacteria from the colon is largely dependent upon a high-fibre diet, as fibre binds toxins and aids their passage through the colon.

1.5 The Endocrine System

Glands are a collection of specialized cells that secrete substances into the body. The body contains two kinds of glands: exocrine and endocrine. Exocrine glands (sweat, mucus, digestive, and salivary glands) secrete substances such as sweat, oil, and saliva into ducts, where the substances are carried into body cavities. Endocrine glands secrete dozens of chemical messengers, called hormones, and release them into the bloodstream to regulate all the systems in the body. The endocrine system is made up of nine major glands: hypothalamus, adrenals pancreas, parathyroids, pineal, thymus, thyroid, and the male and female sex glands (testes and ovaries).

The adrenal glands are located above the kidneys. Their secretions regulate the body's metabolism and maintain proper levels of sodium and potassium in the blood.

The gonads are responsible for the development and maintenance of the male and female sex characteristics. In women, the ovaries produce estrogen and progesterone. In men, the testes produce testosterone.

The hypothalamus, pineal and pituitary glands are located in the brain. The hypothalamus is located in the lower-middle part of the brain. It is responsible for regulating many aspects of the body's internal environment such as the heartbeat, blood pressure, appetite, water balance, and body temperature. It also controls the pituitary gland by signaling it to release hormones that are involved in a broad range of functions, from reproduction to development. The pineal gland releases melatonin, responsible for maintaining the body's internal clock and rhythms, such as sleep.

The pancreas (which is an organ and a gland) is located behind and a little lower than the stomach. It secretes digestive enzymes, and most importantly, it produces insulin, the hormone that breaks down glucose. It also releases the hormone glucagon, which raises blood glucose levels.

Located behind the sternum, the thymus produces hormones that promote the maturation of infection-fighting T cells. The thyroid, U-shaped gland lying on either side of the trachea, regulates metabolic rate. The parathyroid glands are two pairs of small glands embedded in the surface of the thyroid gland, one pair on each side. These glands release the parathyroid hormone, which increases the number and activity of bone-destroying cells, which are responsible for regulating calcium in the blood.

The endocrine glands can become ill from autoimmune processes, viruses, and bacteria, just like any other body system. A weakened immune system, psychological stress, and physical exhaustion all adversely affect the hormonal system.

1.6 The Lymphatic System and the Immune System

The lymphatic system is made up of lymph fluid, lymphatic vessels, red bone marrow (the production site of lymphocytes), and other structures and organs that contain lymphatic tissue, such as lymph nodes, the spleen, and thymus.

The lymphatic system plays three particularly important roles in the body. First, it carries out the immune response, combating against harmful agents. Second, it drains excess fluid from the tissues and returns it to the blood. Third, it carries digested fats and fat-soluble vitamins from the intestines to the blood.

Lymphocytes or white blood cells immobilize germs using chemicals as weapons. The immune system memorizes the invader that causes the disease. Once the immune system has recognized a germ and built a matching weapon, the body is able to fight off the intruder more quickly and easily next time the germ is encountered. The immune system can be weakened by surgery, lengthy illness, extreme physical or emotional stress, poor dietary habits, lack of sleep, and exposure to toxic chemicals. When the immune system is weak, the body becomes more susceptible to various germs, allowing even simple illnesses to recur more easily and to last longer.

The immune system involves an exceedingly complex group of specialized cells that defend the body from infectious, disease-causing organisms. The immune system must also learn to recognize its own tissue and differentiate it from foreign cells. When recognition does not occur, a foundation is built for autoimmune diseases in which the body attacks itself, as in arthritis, multiple sclerosis, and lupus.

The clear fluid in tissue spaces, called interstitial fluid, collects accumulated waste and carries it into the lymphatic vessels where it becomes lymph. Lymphatic vessels are similar to the veins of the cardiovascular system, but the vessel walls are much thinner and have more valves. Unlike the bloodstream, the lymphatic vessels travel in one direction only, from the tissues to the bloodstream. In a continual process, fluid collects in the tissues from the arterial system. Once it is swept up into the lymphatic system, the fluid is cleansed and filtered by the lymph nodes before it re-enters the bloodstream.

Dietary fat and fat-soluble vitamins enter the bloodstream via the lymphatic system. In the small intestine, specialized lymphatic capillaries termed lacteals take the fats and vitamins in and transport them into lymphatic vessels where eventually, they are carried into the blood.

1.7 The Integumentary System

Skin, hair, and nail are highly valued as traits of beauty; however, they are also incredibly important for the healthy maintenance of the body. The integumentary system (which includes skin, hair, nails, and nerve endings) receives the most exposure to infection, disease, and injury because it is the protective barrier against sun, wind, cold, heat, bacteria, and physical trauma.

The skin consists of several layers. The outer layer is the epidermis; the second layer is the dermis, a tough yet elastic tissue; and the third layer, which is composed chiefly of fat cells, is called the subcutaneous layer. The epidermis protects the skin from microbes, heat and chemicals. The outermost cells are constantly worn away and replaced by new cells growing from below. The dermis contains the blood vessels, hair follicles, sweat glands, and nerves. It is here where temperature, fluids, and circulation are regulated. The fat layer serves as protection for the organs, bones, and muscles, as a storehouse of energy, and as an insulator from the cold.

The primary function of hair is protection. Hair on the head protects the scalp from sunburn and injury and prevents heat loss. Eyebrows and eyelashes guard the eyes from foreign particles. Hair in the nostrils and external ear canals prevent insects and foreign particles from entering through the nasal and auditory orifices. Nails allow us to grasp and manoeuvre small objects. They are tightly packed, hardened cells of the epidermis that form a solid cover to protect the ends of the fingers and toes from injury. Although nails are clear, most of the nail body looks pink because of the blood circulating beneath it.

The glands associated with the skin are the oil glands, sweat glands, ceruminous glands (a type of sweat gland in the ear), and mammary glands. The excretions from the oil, sweat, and ceruminous glands help to eliminate waste and toxins from the body, lubricate the skin and hair to keep them soft, and prevent foreign particles hair to keep them soft, and prevent foreign particles from entering the body. The mammary glands release milk from a woman's breast for nursing an infant.

1.8 The Skeletal and Muscular Systems

The bones, joints, and muscles work as a team to maintain upright posture and allow movement.

The adult skeletal system is made up of 206 bones, whereas babies have 350 bones in their body. As babies grow, their small bones fuse together to form larger bones.

The skeletal system is incredibly strong, protecting the inner organs and acting as a lever and attachment point for the muscles. Bone is living tissue in continual renewal. Bones are made up of mineral deposits that provide stability and cells that lend flexibility. If calcium and magnesium are not adequately derived from the diet, these minerals will be taken from the bones. As a result, the bones will slowly lose their density and deteriorate.

Joints are protected with a cartilage-covering and lubricating fluid to prevent the bones from grating against each other. Between the vertebrae in the spine, discs act as shock absorbers. The muscles and ligaments surrounding joints provide stability. Joint cartilage, ligaments, and tendons are not repaired as quickly and easily as other parts of the body since they are not well supplied with blood vessels.

Even the simplest voluntary motions such as picking up a glass of water involve complex coordination of muscles, all controlled by the brain via the nerves. Some muscles, such as those controlling the intestinal tract and blood vessel walls, work involuntarily, we are not even aware that the muscles are being used. Muscles also generate some body warmth through shivering.

Muscles require oxygen for fuel and regular use to remain conditioned. Muscles convert chemical energy into heat and movement. Conditioned skeletal muscles perform better and prevent arthritic changes in the joints and spine that are common with age.

1.9 The Urinary System

The urinary system controls the composition, volume, and pressure of the blood by removing and restoring water and solutes (dissolved substances). Its components are the two kidneys, two ureters, the urinary bladder, and the urethra.

The kidneys eliminate waste materials from the blood. Waste materials, if allowed to remain in the body, become toxic. Blood is pressed through a unique filtration system in the kidneys where its cell and fluids are separated. Most of the fluids are then returned to the blood, leaving waste products and water behind. This urine is then channeled into the urinary bladder, a holding vessel that must be emptied through the urethra when it reaches a certain capacity. The urethra has a sphincter muscle, which controls urination. If this muscle becomes weak or damaged as sometimes happens during childbirth, incontinence (the inability to hold urine in the bladder) can occur.

Besides detoxifying, the kidneys control the amount of water and minerals leaving the body. Every hour your kidneys remove up to 1.5 gallons (8L) of liquid from your blood. This liquid is

filtered, and any useful substances are returned to the blood. The leftover liquid and waste products are expelled from the body. The kidneys also regulate blood pressure and help maintain the acid-alkaline balance in the blood. For this reason, chronic kidney disease has serious implications for the rest of the body.

The kidneys also play a part in metabolism. They synthesize new glucose molecules during periods of fasting or starvation, secrete hormones to produce red blood cells, and synthesize calcitriol, the active form of vitamin D.

The functional part of the kidney, where filtration, secretion, and reabsorption take place, is the nephron. The number of nephrons is determined at birth. If they become diseased, new ones cannot form. However, nephrons are able to increase their workload. If one kidney is removed, the other will enlarge, and can function at 80 percent of capacity of two kidneys.

1.10 The Reproductive System

Although the foundation of reproductive organs exist at birth, it is not until about 10 years later that the full functioning of the system is spurred by the endocrine system, causing a sudden change in hormone production to begin puberty. These same hormones are responsible for sex drive and secondary sex characteristics, including facial and genital hair, distribution of body fat, and breast development. The hormones, which also affect emotions in both sexes, are produced in the sexual organs themselves and in endocrine glands outside the reproductive system.

In men, the main reproductive organs include the penis, testes, ducts, and accessory sex glands (the seminal vesicles, bulbourethral glands, and prostate). The testes (or testicles) produce sperm and secrete hormones. The testes are contained in a pouch called the scrotum. The muscle fibres in the scrotum regulate the temperature of the testes, important to the survival of the sperm. Unless kept at 37.4°F (3 °C) lower than the core body temperature, the sperm will die.

Sperm production, from beginning to end, takes about 72 days, and produced at a rate of 300 million per day. When a sperm matures, it begins to move through a series of ducts in the reproductive system, mixing with different fluids to become semen. The prostate gland contributes to the composition of semen by releasing a slightly acidic fluid with enzymes that gives semen its milky appearance and aids in sperm motility and viability.

Sperm are eventually ejaculated from the body. Once sperm have been ejaculated by the penis into the vagina, they have a life expectancy of 48 hours. Healthy men can retain their

reproductive capacity for 70 or 80 years. After the age of 55, however, fewer sperm are viable for insemination.

In women, the ovaries, uterus, the fallopian tubes, and vagina are the major reproductive organs. Once a month, the ovaries will produce an egg, which is released into one of two fallopian tubes at midcycle, or ovulation. While the egg is in the fallopian tube, it may or may not be fertilized by sperm. The uterus prepares for possible fertilization by building up its walls to protect the fertilized egg when it arrives from the fallopian tube. Once there, the uterus provides the fertilized egg with nutrients until the placenta takes over. The female reproductive system has a limited fertility period of 30 to 40 years.

1.11 The Body-Mind Connection

For the past 30 years, scientific research has begun to demonstrate the link between physical and psychological health—the body-mind connection. While humans have known for centuries that people suffering from the loss of a loved one face a greater risk of premature risk of premature death. We have only recently learned why.

We now know that emotions are relayed to the immune system through a shared link, the autonomic nervous system. As a result, grief and other painful emotions can cause our immune system to shut down, putting us risk for a whole host of illnesses.

Conversely, a healthy emotional outlook boosts our resistance to disease. These findings have given rise to the new field of psychoneuroimmunology (PNI), which seeks to map out the connection between psychological processes such as emotions and the body's natural defenses.

Healing with mind-body medicine often begins by promoting physical and mental relaxation and developing better ways of coping with stress. A variety of techniques may be used, including biofeedback, body psychotherapy, hypnotherapy, and guided imagery.

Psychologists define emotions as mental responses to events, circumstances, people, or our own thoughts and memories. They course through our conscious and unconscious beings at all times, whether at critical junctures or during seemingly inconsequential moments of our lives.

Biologists tell us that our emotions are rooted in self-preservation, triggering physiological reactions that enable us to find food, escape danger, and reproduce. For example, fear increases the flow of blood to the muscles, making it easier to run or take flight, while the love we display to our offspring ultimately helps to ensure the continuation of our genes. Emotions have also evolved into facial expressions and body language so that each member of a social group can signal his or her wants and need to other members. Whether in the decisions we

make or the way we conduct our relationships, emotions have enormous sway over our lives. They may even have the power to make us sick or to cure us.

In the human brain, learning, memory, and emotions are housed in the limbic system surrounding the brainstem. Within the limbic system, emotional impulses originate in the amygdale, an almond-shaped structure that triggers the physiological reactions associated with emotions. The amygdale is also responsible for imprinting emotions onto memories by releasing some of the same neurochemicals when an event is recalled as when it occurred.

A network of neural pathways connects the amygdale to the neocortex, the "thinking brain," allowing us to reflect on our feelings and to think before acting. In times of perceived crisis, those pathways are bypassed and impulse overrides reason. When we succumb to an irrational experience such as road rage, it is the amygdale that takes over the thinking brain.

Sometimes, emotions and their physiological effects can seem indistinguishable. Intuitive "gut feelings", or somatic markers, develop simultaneously in the limbic system and the body. These steer us toward one course of action or another, it be avoiding danger or seizing opportunity.

Each emotion sparks a distinctive physiological reaction, the body's program for dealing with the different situations that arise in our emotional lives.

Anger, for example, floods the brain with catecholamines-hormones that prime the body for action—and stimulates the nervous system, putting it on a general state of alert. Stress and anxiety set off the nervous system's "fight-or-flight" response, a chain of physiological events in which blood pressure rises and muscles contract. According to the American Medical Association, stress contributes to 75 percent of all cases of illness in the United States.



Sleep Tight™ Timed Release Melatonin

Nature's Harmony® Timed Release Melatonin 2 mg Tablet is a high-quality melatonin supplement. Melatonin helps to reset the body's circadian rhythm (sleep-wake cycle), helping to increase total sleep time and sleep quality in people suffering from sleep restriction or an altered sleep schedule, such as shift work and jet lag. Timed Release Melatonin is ideal for relief from temporary insomnia, providing natural relief without the side effects of prescription sleeping pills.

PRODUCTS CODES: 400885

HEALTH SOLUTIONS:

RECOMMENDED USE	DOSAGE FORM	RECOMMENDATIONS
Helps increase the total sleep time and sleep quality in people suffering from sleep restriction or altered sleep schedule, e.g. shift-work and jet lag. Helps relieve the daytime fatigue associated with jet lag and helps reduce the time it takes to fall asleep in people with delayed sleep phase syndrome. Helps re-set the body's sleep-wake cycle of circadian rhythm.	Tablet	(Adults) Take 1 tablet daily at bedtime only. For use beyond four weeks, consult a health care practitioner.

DESCRIPTION:

Each easy-to-swallow tablet of Nature's Harmony® Sleep Tight™ Timed Release Melatonin contains 2 mg of synthetic melatonin. This synthetically sourced melatonin product is not sourced from the pineal gland of beef cattle, and therefore, contains absolutely no risk of BSE (mad cow disease).

This product does not contain corn, dairy, egg, gluten, shellfish, soy, sulfites, animal derivatives, artificial colours, flavours, or preservative.

Recommended Daily Allowance:	N/A
Food Sources:	None
Causes of Deficiency:	Poor diet, depression or anxiety, stress, prescription medications, shift work.
Symptoms of Deficiency:	Sleeping problems, insomnia.
Complementary Nutrients:	Chamomile tea.

HOW IT WORKS:

Melatonin is a hormone produced by the pineal gland in the brain. Once released into the bloodstream, melatonin prepares the body for sleep by decreasing temperature, alertness, and performance. Nature's Harmony® Sleep Tight™ Timed Release Melatonin interacts with melatonin receptors in the body in the same way as naturally produced melatonin to safely and effectively help restore the natural sleep-wake cycle, increase sleep time, improve sleep quality, relieve daytime fatigue associated with jet lag, and ease shift-work transitions.



DID YOU KNOW...

The darker you make the room you sleep in, the more melatonin your body produces.

RESEARCH:

Several studies have shown an association between decreased melatonin levels and increased risk of insomnia. Research has shown that melatonin increases the speed of falling asleep, improves quality and duration of sleep, and reduces the frequency of nighttime waking. Studies also support the use of melatonin to reduce the effects of jet lag. Most importantly, melatonin is a sleep aid without any hangover-like side effects.

INTERACTIONS AND SAFETY CONSIDERATIONS:

Consult a health care practitioner prior to use if you have a hormonal disorder, diabetes, liver or kidney disease, cerebral palsy, seizure disorders, migraine, depression and/or hypertension or if you are taking blood pressure or sedative/hypnotic medications. If symptoms persist continuously for more than 4 weeks (chronic insomnia), consult your health care practitioner. Do not use if you are taking immunosuppressive drugs, are pregnant or breastfeeding. Do not drive or use machinery for 5 hours after taking melatonin.

OTHER CONSIDERATIONS:

Keep out of reach of children.

LABEL:



Usage recommandé: Aide à augmenter la durée totale du sommeil (aspect de la qualité du sommeil) chez les personnes souffrant de restriction du sommeil ou d'horaires altérés du sommeil (par exemple, le travail à horaires variables et le décalage horaire). Aide à soulager la fatigue diurne associée avec le décalage horaire. Aide à réduire le temps nécessaire pour s'endormir (aspect de l'endormissement de la qualité du sommeil) chez les personnes souffrant du syndrome de retard de phase du sommeil. Aide à rétablir les cycles veille-sommeil (aspect du rythme circadien).

Dose recommandée (adultes): Prendre 1 à 5 comprimés, une fois par jour, au coucher ou avant. Pour un usage au-delà de quatre semaines, consulter un praticien de soins de santé.

Ingrédient médicamenteux:
Chaque comprimé contient:
Mélatonine (synthétique).....2 mg

Ingrédients non médicamenteux: aldilate de calcium, phosphate de calcium dibasique, stéarate de magnésium, cellulose, dioxyde de silicium, hypromellose.

Information sur les risques: Ne pas utiliser si vous êtes enceinte ou allaitante, ou si vous prenez des médicaments immunosuppresseurs. Consulter un praticien de soins de santé avant d'en faire l'usage si vous souffrez de problèmes hormonaux, de diabète, d'une maladie du foie ou des reins, de paralysie cérébrale, de troubles épileptiques, de migraines, de dépression et/ou d'hypertension ou si vous prenez des médicaments pour la pression artérielle ou des sédatifs et/ou hypnotiques. Consulter un praticien de soins de santé si les symptômes persistent pour plus de quatre semaines. Ne pas conduire ou utiliser de la machinerie pendant 5 heures après avoir pris de la mélatonine.

De produit ne contient pas de: maïs, ingrédients laitiers, œuf, gluten, crustacés, soya, sulfites, dérivés d'origine animale, ni colorants, arômes ou agents de conservation artificiels.

RANGER DANS UN ENDROIT SEC ET FRAIS.
GARDER HORS DE PORTÉE DES ENFANTS.

Recommended Use: Help increase the total sleep time (aspect of sleep quality) in people suffering from sleep restriction or altered sleep schedule (e.g. shift work and jet lag). Help relieve the daytime fatigue associated with jet lag. Help to reduce the time it takes to fall asleep (sleep onset latency aspect of sleep quality) in people with delayed sleep phase syndrome. Help reset the body's sleep-wake cycle (aspect of the circadian rhythm).

Recommended Dose (Adults): Take 1 to 5 tablets once daily, at or before bedtime. For use beyond four weeks, consult a health care practitioner.

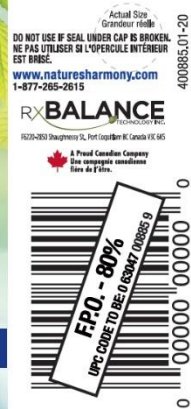
Medicinal Ingredient:
Each tablet contains:
Melatonin (synthetic).....2 mg

Non-medicinal Ingredients: Calcium aldilate, calcium phosphate dibasic, magnesium stearate, cellulose, silicon dioxide, hypromellose.

Risk Information: Do not use if you are pregnant, breastfeeding, or taking immunosuppressive drugs. Consult a health care practitioner prior to use if you have a hormonal disorder, diabetes, liver or kidney disease, cerebral palsy, seizure disorders, migraine, depression and/or hypertension or if you are taking blood pressure or sedative/hypnotic medications, if symptoms persist continuously for more than four weeks, consult your health care practitioner. Do not drive or use machinery for five hours after taking melatonin.

This product does not contain: corn, dairy, eggs, gluten, shellfish, soy, sulfites, animal derivatives, or artificial colours, flavours or preservatives.

STORE IN A COOL DRY PLACE.
KEEP OUT OF THE REACH OF CHILDREN.





Sleep Tight™ Sugar Free Liquid Melatonin

Nature's Harmony® Sugar Free Liquid Melatonin may help in the temporary relief of insomnia. Each 1 mL dropper of Nature's Harmony Liquid Melatonin provides 3 mg of melatonin. This dosage form, with a natural wild fruits flavour, is a suitable choice for people who have difficulty swallowing pills.

PRODUCTS CODES: 400890

HEALTH SOLUTIONS:

RECOMMENDED USE	DOSAGE FORM	RECOMMENDATIONS
Helps increase total sleep time aspect of sleep quality in people suffering from sleep restriction or altered sleep schedule, e.g. shift-work and jet lag. Helps to relieve the daytime fatigue associated with jet lag. Helps reduce the time it takes to fall asleep in people with delayed sleep phase syndrome. Helps reset the body's sleep-wake cycle aspect of circadian rhythm.	Liquid	Take 1 dropper (1mL) a day at bedtime only. For use beyond four weeks, consult a health care practitioner.

DESCRIPTION:

Melatonin is a hormone produced by the pineal gland in the brain. Responsible for regulating our sleep-wake cycles, this hormone is released into the bloodstream to induce sleep. Melatonin helps regulate our body's regeneration process and, therefore, helps to maintain healthy, youthful tissues. Melatonin promotes sleep, eases shift work transitions, and may relieve jet lag, without the hazards or side effects of prescription sleeping pills.

Recommended Daily Allowance:

N/A

Food Sources:	None
Causes of Deficiency:	Poor diet, depression or anxiety, stress, prescription medications, shift work.
Symptoms of Deficiency:	Sleeping problems, insomnia.
Complementary Nutrients:	Chamomile tea.

HOW IT WORKS:

In the natural sleep-wake cycle, darkness triggers the release of melatonin. Once released into the bloodstream, melatonin prepares the body for sleep, decreasing temperature, alertness and performance. Melatonin supplements interact with melatonin receptors in the brain in the same way to induce sleep and help regulate the body's normal sleep patterns.

RESEARCH:

Several studies have shown an association between decreased melatonin levels and increased risk of insomnia. Melatonin increases the speed of falling asleep and improves the overall quality of sleep. Studies also show that supplementing with melatonin before and after travel can reduce the effects of jet lag. Most importantly, melatonin is a sleep aid without any hangover-like effects.

INTERACTIONS AND SAFETY CONSIDERATIONS:

Do not use if you are pregnant, breastfeeding or taking immunosuppressive drugs. Consult a health care practitioner prior to use if you have a hormonal disorder, diabetes, liver or kidney disease, cerebral palsy, seizure disorders, migraine, depression and/or hypertension or if you are taking blood pressure or sedative/hypnotic medications. If symptoms persist continuously for more than four weeks, consult your health care practitioner. Do not drive or use machinery for five hours after taking melatonin.

OTHER CONSIDERATIONS:

Nature's Harmony® Sleep Tight™ Sugar Free Liquid Melatonin is a synthetically sourced melatonin product. It is NOT sourced from the pineal gland of beef cattle and, therefore, contains absolutely no risk of BSE (mad cow disease).

LABEL:

Usage recommandé: Aide à augmenter la durée totale du sommeil (aspect de la qualité du sommeil) chez les personnes qui souffrent d'un manque de sommeil ou d'une perturbation du sommeil, causés par exemple par les quarts de travail ou le décalage horaire. Aide à atténuer la fatigue de jour attribuable au décalage horaire et aide à réduire le temps qu'il faut pour s'endormir chez les personnes affectées par le syndrome du retard de phase. Aide à rétablir le cycle veille-sommeil du rythme circadien.

Dose recommandée (adultes): Prendre 1 compte-gouttes (1 mL) par jour à l'heure du coucher seulement. Pour un usage de plus de quatre semaines, consulter un praticien de soins de santé.

Ingédient médicamenteux: Chaque compte-gouttes de 1 mL contient:
Mélatonine (synthétique)..... 3 mg

Ingédients non médicamenteux: eau filtrée, stévia, saveur naturelle de fruits sauvages, acide malique, benzoate de sodium, sorbate de potassium.

Information sur les risques: Ne pas utiliser si vous êtes enceinte ou allaitante, ou si vous prenez des immunodépresseurs. Consulter un praticien de soins de santé avant d'en faire l'usage si vous souffrez de problèmes hormonaux, de diabète, d'une maladie du foie ou des reins, de paralysie cérébrale, de troubles épileptiques, de migraines, de dépressions et/ou d'hypertension ou si vous prenez des médicaments pour la pression artérielle ou des sédatifs et/ou hypnotiques. Consulter un praticien de soins de santé si les symptômes persistent pour plus de 4 semaines. Ne pas conduire un véhicule motorisé ou opérer de la machinerie pendant cinq heures après avoir pris de la mélatonine. Tenir hors de portée des enfants. Tenir à l'abri de la chaleur, de la lumière et de l'humidité.

Ce produit ne contient pas d'ingrédients laitiers, oeuf, gluten, crustacés, soya, sulfites, dérivés d'origine animale ou colorants ou arômes artificiels.

Brasser avant d'utiliser. Réfrigérer après ouverture ou utiliser dans les 60 jours.

RX BALANCE
1627-2610 (téléphone) 24, Port-Couillard 16 Canada V5C 6A5



A Proud Canadian Company
Une compagnie canadienne
fière de l'être.

DO NOT USE IF SECURITY SEAL IS BROKEN.
NE PAS UTILISER SI LE SCEAU DE SÉCURITÉ
EST BRISÉ.
www.naturesharmony.com
1-877-265-2615



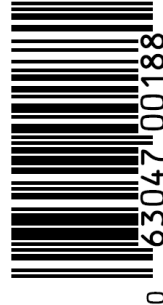
Recommended Use: Helps increase total sleep time aspect of sleep quality in people suffering from sleep restriction or altered sleep schedule, e.g. shift-work and jet lag. Helps to relieve the daytime fatigue associated with jet lag. Helps reduce the time it takes to fall asleep in people with delayed sleep phase syndrome. Helps reset the body's sleep-wake cycle aspect of circadian rhythm.

Recommended Dose (Adults): Take 1 dropper (1 mL) a day at bedtime only. For use beyond four weeks, consult a health care practitioner.

Medicinal Ingredient: Each 1 mL dropper contains:
Melatonin (synthetic)..... 3 mg

Non-medicinal ingredients: Filtered water, stevia, natural wild fruits flavour, malic acid, sodium benzoate, potassium sorbate.

Risk Information: Do not use if you are pregnant, breastfeeding or taking immunosuppressive drugs. Consult a health care practitioner prior to use if you have a hormonal disorder, diabetes, liver or kidney disease, cerebral palsy, seizure disorders, migraine, depression and/or hypertension or if you are taking blood pressure or sedative/hypnotic medications. If symptoms persist continuously for more than four weeks, consult your health care practitioner. Do not drive or use machinery for five hours after taking melatonin. Keep out of reach of children. Protect from heat, light and moisture. This product does not contain dairy, egg, gluten, shellfish, soy, sulfites, animal derivatives, or artificial colours or flavours. Shake prior to use. Refrigerate after opening or use within 60 days.



RX BALANCE® The Quest for Health® with knowledge

Education with Excellence

Module 1: Anatomy & Physiology

quiz

1. What is the sweetening agent of Nature's Harmony Sleep Tight™ Sugar Free Liquid Melatonin:
 - a. fructose
 - b. stevia
 - c. sorbitol
 - d. aspartame
 - e. sucralose
2. Which of the following is part of the CNS?
 - a. spinal cord
 - b. brain
 - c. sensory neurons
 - d. all of the above
 - e. a and b only
3. The term "homeostasis" refers to:
 - a. the brain and spinal cord.
 - b. equilibrium in the body's internal environment.
 - c. the body's five senses.
 - d. serious interruptions in circulation
 - e. a state of poor digestion
4. Digestive organs include the:
 - a. liver, gallbladder, and pancreas.
 - b. stomach, lungs, and kidneys.
 - c. gallbladder, heart, and brain.
 - d. spleen, lymph nodes, and liver.
 - e. all of the above
5. Which system defends the body from infectious, disease-causing organisms?
 - a. urinary
 - b. digestive
 - c. nervous
 - d. immune
 - e. skeletal and muscular
6. The hypothalamus controls the pineal gland. True or false?
7. The sympathetic nervous system is responsible for digestion. True or false?
8. Melatonin is synthesized and released by the pineal gland. True or false?

9. Digestive activity in the stomach lasts anywhere from four to eight hours per meal, depending on the combination and amount of food eaten. True or false?
10. Proper elimination of waste and bacteria from the colon is largely dependent upon a high-fibre diet. True or false?

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