2020

Module 4: Vitamins

ACADEMY OF QUEST FOR HEALTH®

RX BALANCE Technology Inc.

8/6/2020

Academy of Quest for Health®

Module 4

Education with Excellence

4.0 Vitamins

Vitamins protect our health and facilitate numerous processes for an effective metabolism. The name "Vitamin" comes from the Latin word vita, meaning "life". Individual vitamins were named with letters of the alphabet in the order of their discovery. Today, there are 13 well-known vitamins, four fat-soluble and nine water-soluble.

4.0.1 Fat-soluble vitamins

Vitamin A

Vitamin A is crucial for many bodily processes, and is perhaps best known for its role in healthy vision. It is also required for the development and renewal of the skin and mucous membranes. It is involved with repair of the digestive and respiratory tract linings, protecting against pollutants and enabling appropriate gastric juices to be secreted for protein digestion. Vitamin A helps maintain the health of the tissues that line the bladder, kidneys, and genital organs. Our immune and reproductive systems are dependent on vitamin A to function properly.

Beta carotene is known as provitamin A, meaning that it is an inactive form of vitamin A that the body can use only when it has been converted to its active form. The carotene family is a group of red and yellow pigments found naturally in all plants. Of all the carotenes, beta carotene is the most active as a vitamin A precursor. While most people have no trouble converting beta carotene into vitamin A, the presence of vitamin B12, vitamin C, zinc, and protein are necessary for this conversion.

Most vitamin A is stored in the liver. Vitamin A is usually well absorbed, especially when adequate protein, zinc, and vitamin E are available.

Food sources of preformed vitamin A include chicken and beef liver, eggs, and butter. Food sources of beta carotene (and thus provitamin A) that can be converted by the body to vitamin A include green, red, orange, and yellow vegetables, mango, and cantaloupe.

Vitamin D

Known as the sunshine vitamin, vitamin D is manufactured by ultraviolet rays on the skin and provided in food and nutritional supplements. Vitamin D is crucial for bone growth and renewal as it stimulates the absorption of calcium and phosphorus. Vitamin D is also required for nervous system function.

Vitamin D is found in different forms in the body. The precursor to this vitamin in manufactured from cholesterol in the skin and is converted to provitamin D3 (cholecalciferol) with sunlight. It requires conversion first by the liver and then by the kidneys to become active vitamin D.

To increase vitamin D intake, enjoy more organic eggs and butter, cold-water fish such as halibut, herring, sardines, or salmon, cod-liver oil, high-quality vegetable oils, mushrooms, and dairy products.

Vitamin E

Vitamin E is an important antioxidant that is mainly stored in adipose tissue. It protects cell membranes, red blood cells, vitamin A, and the cells lining the lungs from oxidative damage. The immune system is dependent upon vitamin E to function properly, and the nerves and muscles also require this vitamin for proper maintenance.

Vitamin E can be divided into two families: the tocopherols and the tocotrienols. Each family consists of four different compounds (four tocopherols and four tocotrienols), all of which contain alpha, beta, gamma, and delta forms. It appears that the active form of vitamin E in the body comes from the tocopherols, with the most active being alpha-tocopherol.

Sources of vitamin E include cold-pressed vegetable oils, dark green leafy vegetables, nuts, seeds, beans, and whole grains.

Vitamin K

The main role of vitamin K is to maintain healthy blood clotting. Vitamin K is also needed to support bone structure. This vitamin is seldom supplemented as our intestinal bacteria manufacture vitamin K, thereby making deficiencies rare.

Vitamin K is found in foods such as cruciferous and green leafy vegetables, vegetable oils, and soybeans.

4.0.2 Water-soluble vitamins

B vitamins and vitamin C are easily assimilated because they dissolve in water. Since excess vitamins are eliminated through the urine, they need to be replenished more often than fat-soluble vitamins. The following nine water-soluble vitamins are known to be essential for health.

B vitamins

Most of the B vitamins are required to form coenzymes molecules that help enzymes carry out their functions, especially in the metabolism of carbohydrates, fats, and proteins. Most of the B vitamins are used up quickly, however, and need to be replenished often.

Vitamin B1 (Thiamine)

Thiamine was the first B vitamin to be chemically identified. Early in the 20th century, Japanese scientists suspected a link between the severe occurrence of the nervous disease beriberi and the Japanese diet of polished white rice.

Thiamine is part of the coenzyme, thiamine pyrophosphate (TPP). TPP is required in the breakdown of glucose for energy and helps break down some amino acids. The production of deoxyribonucleic acid (DNA), our genetic material, and the brain's chemical messengers are also dependent on TPP. A deficiency of thiamine may result in decreased short-term memory, muscle weakness, and confusion.

To increase intake of vitamin B1, eat sufficient amounts of lean organic animal proteins, whole grains such as brown rice and oatmeal, as well as beans, nuts, and sunflower seeds.

Vitamin B2 (Riboflavin)

Riboflavin is part of two coenzymes that are involved in the breakdown of fats, proteins, and carbohydrates and needed for normal growth and energy. It promotes healthy vision, protecting against cataracts, dry eyes, and eye fatigue. The skin, nails, and hair all require riboflavin for health and vitality. Sore throat, cracks in the corners of the lips, and fatigue are symptoms of riboflavin deficiency.

Enjoy leafy green vegetables, lean meats, chicken, eggs, and almonds to obtain plenty of this vitamin.

Vitamin B3 (Niacin)

Part of two other coenzymes, niacin is important for energy and for the metabolism of carbohydrates, proteins, and fats. Niacin is required for brain and nervous system function and it important for DNA repair and cell differentiation.

Meat, dairy, nuts, dried beans, whole grains, and potatoes are high in vitamin B3.

Vitamin B6 (Pyridoxine)

Vitamin B6 is required for the formation of red blood cells and the metabolism of amino acids and glucose. Like some other B vitamins, pyridoxine plays a vital role in maintain the health of the nervous system.

B6 is found in lean meat, fish, bananas, green leafy vegetables, and potatoes.

Vitamin B12 (Cyanocobalamin)

Best known for its treatment of anemia and fatigue, vitamin B12 is the most easily depleted vitamin in those following strict vegetarian diets (no meat, eggs, milk, or fish). Required for DNA and ribonucleic acid (RNA) synthesis, this vitamin is vital to the production of every cell, especially the red blood cells. It is crucial for a healthy nervous system, because it helps maintain the myelin sheath surrounding nerves.

This vitamin is also unique because it requires a special protein, known as intrinsic factor, for proper absorption. Many elderly people are thought to be deficient in this vitamin as a result of poor assimilation.

B12 is abundant in lean beef, fish, eggs, and dairy products.

Pantothenic acids

Pantothenic acid derives its name from the Greek word panthos, meaning “everywhere”, as it is found in every living cell, plant and animal. The body is dependent on this vitamin for the production of hormones. Like the other B vitamins, pantothenic acid plays a vital role in metabolism and energy production.

Dietary sources of this vitamin include poultry, dairy, whole grains, vegetables, and fruit.

Biotin

This B vitamin is essential for the metabolism of proteins, fats, and carbohydrates as well as for cell formation. The use of fatty acids in the body could not occur without biotin. Biotin also assists in protein metabolism and the body’s use of other B vitamins, especially pantothenic acid, folate, and B12. The hair, nails, and skin need biotin for health supply of biotin.

Folate

Folate (also known as folacin or folic acid) is needed for DNA synthesis, cell differentiation, and amino acid metabolism. For this reason, it is especially important during pregnancy for normal fetal development. It also aids in the formation of red blood cells. Working hand in hand with vitamins B6 and vitamin B12, folate is also involved in the metabolism of the amino acid, methionine.

Those wishing to increase their folate levels should eat beans, dairy, dark green leafy vegetables, fruits, and whole grains.

Vitamin C

Vitamin C assists in the formation of the protein collagen, an essential component of teeth, bones, skin, tendons, and blood vessels. As one of the best antioxidants, it protects the body from free-radical damage to tissues, which ultimately leads to degenerative diseases and early aging. Vitamin C helps the body to better to better absorb other nutrients, especially iron.

Excellent sources of vitamin C include citrus fruits, berries, green leafy and cruciferous vegetables, tomatoes, sweet peppers, papaya, and sweet potatoes.

QUEST | MULTI VITAMINS & MINERALS

Super Once A Day Time Release Multiple Vitamins and Chelated Minerals

Quest® Super Once A Day Time Release Multiple Vitamins and Chelated Minerals is a premier multivitamin and mineral formula that provides megadose nutrition in a single tablet. The time release format gives a continuous supply of nutrients, assuring maximum utilization of each ingredient. This supplement contains a complete spectrum of essential vitamins and easily absorbed amino acid-chelated minerals in a formula that also maximizes bioavailability and physiological bioactivity of the nutrients.

PRODUCTS CODES:

338392 (60 tablets)

338110 (90 tablets)

338120 (180 tablets)

HEALTH SOLUTIONS:

RECOMMENDED USE	DOSAGE FORM	RECOMMENDATIONS
For the maintenance of good health.	Tablet	Take 1 tablet daily with a meal. Take a few hours before or after taking medication.

DESCRIPTION:

Each easy-to-swallow tablet of Quest® Super Once A Day Time Release Multiple Vitamins and Chelated Minerals contains the following:

Nutrients:

Vitamin A (Palmitate) 10,000 IU

Vitamin D3 400 IU

Vitamin E (d-alpha-Tocopherol Acetate) 50 IU

Vitamin C (Ascorbic Acid) 150 mg

Vitamin B1 (Thiamine HCl) 50 mg

Vitamin B2 (Riboflavin) 50 mg

Chelated Minerals:

Calcium (HVP* Chelate, Calcium Phosphate) 125 mg

Magnesium (gluconate) 5.3 mg

Phosphorus (HVP* Chelate, Calcium Phosphate) 50 mg

Potassium (gluconate) 8.3 mg

Iron (HVP* Chelate) 15 mg

Lipotropic Factors:

Choline Bitartrate 50 mg

Inositol 50 mg

Non-Medicinal Ingredients:

PABA (Para Aminobenzoic Acid), Citrus Bioflavonoids, Lecithin (containing Unsaturated Fatty

Vitamin B3 (Niacin) 50 mg Pantothenic Acid (d-Calcium Pantothenate) 50 mg Vitamin B6 (Pyridoxine HCl) 50 mg Folic Acid 0.2 mg Vitamin B12 (Cobalamin) 50 mcg Biotin 50 mcg	Zinc (HVP* Chelate) 10 mg Manganese (HVP* Chelate) 1 mg Copper (HVP* Chelate) 1 mg Iodine (Potassium Iodide) 0.1 mg Selenium (HVP* Chelate) 25 mcg Chromium (HVP* Chelate) 25 mcg	Acids), Betaine (Hydrochloride), Hesperidin, Rutin, Papain, L-Cysteine, Alfalfa, Kelp, Parsley, Rosehips, Watercress, Rice Bran.

*HVP = hydrolyzed vegetable protein.

This product contains no artificial preservatives, colours, flavours, or dairy, egg, shellfish or sulfites

Recommended Daily Allowance:	Dosage for each nutrient in this formula varies, depending on age.
Food Sources:	**Vitamin A:** Liver, eggs, butter, dairy products. **Vitamin D:** Sunlight, fatty fish, eggs, fortified milk. **Vitamin E**: Vegetable oils, nuts, whole grains, wheat germ, eggs, butter, liver, green leafy vegetables. **Vitamin C**: Fruits and vegetables, especially Brussels sprouts, collards, kale, parsley, tomatoes, sweet peppers, watercress, black currants, oranges, lemons, strawberries. **Vitamin B1**: Organ meats, pork, legumes, whole grains, eggs, poultry, fish. **Vitamin B2**: Liver, dairy products, eggs, meat, poultry, fish, legumes, spinach. **Vitamin B3**: Organ meats, meat, poultry, fish, legumes, dairy products, eggs, whole grains. **Pantothenic Acid**: Organ meats, milk, fish, poultry, eggs, whole grains, legumes, broccoli, sweet potatoes, avocados, cauliflower. **Vitamin B6:** Nuts and seeds, legumes, wheat germ, whole grains, bananas, potatoes, salmon, herring, liver, meat, poultry, eggs. **Folic Acid:** Dark green leafy vegetables, liver, brewer's yeast, legumes, asparagus, broccoli, wheat germ, whole grains. **Vitamin B12**: Liver, kidney, beef, herring, mackerel, eggs, fish, cheese. **Biotin**: Egg yolk, liver. **Calcium:** Dairy products, legumes, dark green leafy vegetables, wheat bran, sea vegetables, almonds, Brazil nuts, figs. **Magnesium**: Legumes, nuts and seeds, whole grains, green leafy vegetables, blackstrap molasses, wheat germ. **Phosphorus**: Dairy products, meat, fish, nuts, legumes, whole grains. **Potassium**: Dairy products, fruits and vegetables. Iron: Liver, beef, poultry, sardines, oysters, eggs, whole grains, dried fruit, legumes, potatoes, dark

	green leafy vegetables, prunes. **Zinc**: Oysters and other shellfish, fish, red meat, dark meat of poultry, whole grains, legumes, nuts and seeds. **Manganese**: Nuts and seeds, whole grains, dried fruit, green leafy vegetables. **Copper**: Organ meats, shellfish, nuts and seeds, whole grains. **Iodine:** Sea vegetables, fish, shellfish, iodized salt. **Selenium:** Depends on the selenium content of the soil. Meat, organ mat, whole grains. **Chromium:** Meat, liver, whole grains, brewer's yeast, cheese, beer.

Causes of Deficiency:	**Vitamin A**: Inadequate dietary intake, bile acid or pancreatic deficiency, liver disease, zinc deficiency. **Vitamin D**: Inadequate sunshine, poor diet. **Vitamin E**: Poor diet, Crohn's disease, celiac disease, cystic fibrosis. **Vitamin C**: Poor diet. **Vitamin B1**: Poor diet, refined grains, high sugar intake, alcoholism. **Vitamin B2**: Some weight-loss diets, alcoholism, oral contraceptives, antibiotics, stress. **Vitamin B3**: Poor diet. **Pantothenic Acid**: Deficiency has not been reported in humans because it is available in a wide variety of foods. **Vitamin B6**: Poor diet, some oral contraceptives, alcoholism, tobacco and air pollutants, stress. **Folic Acid**: Diet deficient in vegetables; alcoholism, some drugs. **Vitamin B12**: Strict vegetarian (vegan) diet, inadequate secretion of intrinsic factor. **Biotin**: Rare, prolonged consumption of raw egg whites. **Calcium**: Abnormal parathyroid function, vitamin D deficiency, magnesium deficiency, alcoholism, low-calcium diet, high sugar intake, excess protein relative to calcium intake, phosphates from carbonated beverages, excess caffeine, excess sodium. **Magnesium:** Diet of refined foods, excess calcium intake, alcoholism, surgery, diuretics, liver and kidney disease, some oral contraceptives. **Phosphorus**: Long-term use of aluminum-containing antacids. Deficiencies rare except in the elderly, menopausal women, and individuals on restricted diets. **Potassium**: Diet low in fruits and vegetables and high in sodium; prepared foods; excess fluid loss from sweating, diarrhea, or urination; diuretics, laxatives, Aspirin, and other drugs. **Iron**: Poor diet, diminished absorption or utilization, blood loss. **Zinc**: Poor diet, excess fibre, excess phytic acid from diet high in legumes and whole grains, Crohn's disease, malabsorption syndromes, alcoholism. **Manganese**: Diet of refined foods. **Copper**: Malabsorption syndromes, celiac disease, cystic fibrosis. **Iodine:** Iodine-poor soil, overconsumption of goitrogenic foods (raw cruciferous vegetables, rutabagas, raw spinach). **Selenium:** Poor diet, low selenium content of

	the soil, heavy metals, excess zinc, some chemotherapeutic drugs. **Chromium:** Refined foods, lack of exercise, antacids.

Symptoms of Deficiency:	**Vitamin A**: Night blindness, dry eyes, eye infection, skin problems, slowed growth, reproductive failure, susceptibility to infection and disease (weak immune system). **Vitamin D**: Rickets, osteomalacia, osteoporosis, joint pain. **Vitamin E**: Nerve damage, muscle weakness, poor coordination, haemolytic anemia, damage to the retina. **Vitamin C**: Bleeding gums, easy bruising, fragile bones, poor wound healing, susceptibility to infection, hysteria, depression. **Vitamin B1**: Fatigue, depression, impaired mental function, pins-and-needles sensation and numbness of legs, constipation, beri-beri. **Vitamin B2**: Cracking of lips and corners of mouth, inflamed tongue, sensitivity to light, loss of visual acuity, cataracts, anemia, seborrheic dermatitis, fatigue, poor appetite. **Vitamin B3**: Apprehension, irritability, depression, weakness, memory loss, pellagra (dermatitis, dementia, diarrhea). **Pantothenic Acid**: Deficiency has not been reported in humans because it is available in a wide variety of foods. **Vitamin B6**: Depression, glucose intolerance, anemia, impaired nerve function, cracks in the corners of the mouth, eczema. **Folic Acid**: Anemia, irritability, weakness, insomnia, depression, poor growth, diarrhea, gingivitis, memory problems, loss of appetite, fatigue, shortness of breath. **Vitamin B12**: Impaired nervous system function, impaired mental function, pernicious anemia. **Biotin**: Hair loss; red scaly rash around eyes, nose, mouth, and genital area; depression; lethargy; hallucination; numbness and tingling in extremities. **Calcium**: Rickets, osteomalacia, osteoporosis, muscle spasms, leg cramps. **Magnesium**: Fatigue, mental confusion, irritability, weakness, heart disturbances, problems in nerve conduction and muscle contraction, muscle cramps, loss of appetite, insomnia, predisposition to stress. **Phosphorus**: Weakness, loss of appetite, loss of bone mass, loss of calcium. **Potassium**: Muscle weakness, fatigue, mental confusion, irritability, heart disturbances, problems in nerve conduction and muscle contraction. **Iron**: Anemia, learning disabilities, impaired immune function, decreased energy, fatigue. **Zinc:** Susceptibility to infection, slow wound healing, diminished appetite, impaired sense of taste and smell, impaired night vision. **Manganese:** Disruption to normal growth and metabolism, skin rash, loss of hair colour, bone remodeling,

	reduced growth of hair and nails, reduced HDL cholestero. **Copper:** Anemia unresponsive to iron, osteoporosis. **Iodine:** Goiter, cretinism, intellectual disability, growth retardation, miscarriage, increased infant mortality. **Selenium:** Increased risk of cancer, heart disease, low immune function. **Chromium:** Glucose intolerance, elevated blood sugar and insulin levels.

Complementary Nutrients:	**Vitamin A:** Zinc, vitamin E. **Vitamin D**: Calcium. **Vitamin E**: Selenium, vitamin E is necessary for the conversion of vitamin B12 to its most active form. **Vitamin C**: Bioflavonoids, vitamin E, selenium, beta carotene. **Vitamin B1**: Other B vitamins, magnesium. **Vitamin B2**: Other B vitamins, especially B1. **Vitamin B3:** Other B vitamins, tryptophan. **Pantothenic Acid**: Other B vitamins, carnitine, CoQ10. **Vitamin B6**: Other B vitamins, especially B2; magnesium; zinc. **Folic Acid**: Vitamin B12, SAM, vitamin B6, choline. **Vitamin B12**: Vitamin E, folic acid, vitamin C. **Biotin**: A healthy diet. **Calcium**: Vitamin D, magnesium, potassium, vitamin K. **Magnesium**: Calcium, phosphorus, vitamin B6. **Phosphorus**: Calcium. **Potassium**: Dairy products, fruits and vegetables. **Iron**: Vitamin C. **Zinc**: A healthy diet. **Manganese**: A healthy diet. **Copper**: A healthy diet. **Iodine**: A healthy diet. **Selenium**: Other antioxidant nutrients. **Chromium:** A healthy diet.

HOW IT WORKS:

Multivitamin and mineral supplements provide a balanced dose of the basic vitamins and minerals in amounts that pose little or no risk of overdosing on any one nutrient.

Vitamin A: Plays a role in our immune system and in the formation of healthy epithelial tissue. An antioxidant, it protects against damage to cells that can lead to cancer. **Vitamin D**: Stimulates the absorption of calcium and has anticancer properties. **Vitamin E**: Protects the fatty tissues of the body. Protects against toxic substances. **Vitamin C**: An antioxidant and immune-enhancing vitamin. **Vitamin B1**: Protects against impaired mental function, required for proper energy production in the brain. **Vitamin B2**: Needed for tissue repair and for healthy eyes. Important for energy production. **Vitamin B3**: Functions in the body as a component in the coenzymes NAD and NADP. Plays an important role in energy production; fat, cholesterol, and carbohydrate metabolism; and the manufacture of many body compounds, including sex and adrenal hormones. **Pantothenic Acid**: Vital to the healthy functioning of the adrenal glands, which is why pantothenic acid has long been considered an "anti-stress" vitamin. **Vitamin B6**: Involved in the metabolism of amino acids and essential fatty acids, and is therefore required for the proper growth and maintenance of all body functions. **Folic Acid**: Vital to healthy cell division and replication, especially the lining of the

gastrointestinal tract, the skin, and the bone marrow, where blood cells are formed. Also involved as coenzymes for neurotransmitters, and important to the healthy functioning of the immune system. **Vitamin B12**: Involved in the production of DNA, red blood cells, and the myelin sheath that surrounds nerve cells and speeds the conduction of signals along nerve cells. For proper absorption of B12, the stomach produces a digestive secretion called intrinsic factor. **Biotin**: A B vitamin that is involved in the biosynthesis of fatty acids and energy production. **Calcium**: Besides its role in the formation of bones and teeth, calcium is also involved in fat and protein digestion and the production of energy. It is involved in blood clotting and the transmission of nerve impulses, and it regulates the contraction and relaxation of muscles, including the heart. **Magnesium**: Besides its role in maintaining healthy bones, magnesium is also involved in maintaining a healthy nervous system. In addition, magnesium is required for muscle relaxation, energy production, protein formation, cellular replication, the regulation of sodium and potassium in the cells, and efficient heart function. **Phosphorus**: The second most abundant mineral in the body after calcium. Contributes to bone hardness and plays a part in almost every important chemical reaction in the body, especially in the utilization of fats, protein, and carbohydrates. **Potassium**: The most important dietary electrolyte, potassium functions in the maintenance of water balance and distribution, acid-base balance, muscle and nerve cell function, heart function, and kidney and adrenal function. **Iron**: Transports oxygen from the lungs to the body's tissues and carbon dioxide from the tissues to the lungs. It also functions in several key enzymes in energy production and metabolism, including DNA synthesis. **Zinc**: Functions as a cofactor in over 20 enzymatic reactions. Plays a role in insulin activity, protein and DNA synthesis, taste and smell, wound healing, the maintenance of normal vitamin A levels, bone structure, and the immune system. **Manganese**: Required for many enzyme systems, normal bone growth and development, and normal reproduction. Also required for the proper functioning of the nerves and possibly the immune system. **Copper**: Copper is required for normal infant development, red and white blood cell maturation, iron transport, bone strength, cholesterol metabolism, myocardial contractility, glucose metabolism, brain development, and immune function. **Iodine:** Three-quarters of the iodine in the body is found in the thyroid gland, the remainder is found throughout the body, mostly in the fluid that bathes our cells, It is important in the proper functioning of the thyroid gland and is part of the thyroid hormones used to regulate our metabolism, influencing physical and mental growth, the functioning of the nervous system and muscles, circulatory activity, and the metabolism of all nutrients. **Selenium**: Best known as an antioxidant and anticancer mineral. A component of the enzyme glutathione peroxidase, which protects our cells against free radical damage. **Chromium:** Supplementation used in the treatment of impaired glucose tolerance (hypoglycemia and diabetes), elevated blood cholesterol and triglyceride levels, promotion of weight loss, and treatment of acne.

DID YOU KNOW…

Many studies indicate that most diets, even healthy ones, fall well below the Recommended Dietary Allowance for many nutrients.

Academy of Quest for Health®

RESEARCH:

The efficacy of multivitamin and mineral supplementation is supported by a comprehensive report issued by the Council for Responsible Nutrition. The report found that ongoing use of multivitamins and minerals demonstrated a quantifiable positive impact in areas ranging from strengthening the immune system of highly vulnerable elderly patients to drastically reducing the risk of neural tube birth defects such as spina bifida. This report was written based on the review of a decade's worth of the most scientifically significant studies measuring the health benefits of multivitamins and other nutritional supplements. One of the report's findings states, "The routine use of multivitamin and mineral supplements by the elderly could improve immune function and thus reduce infectious disease, potentially cutting in half the total number of days they are sick."

SIDE EFFECTS:

This formula is generally safe at the recommended dosage.

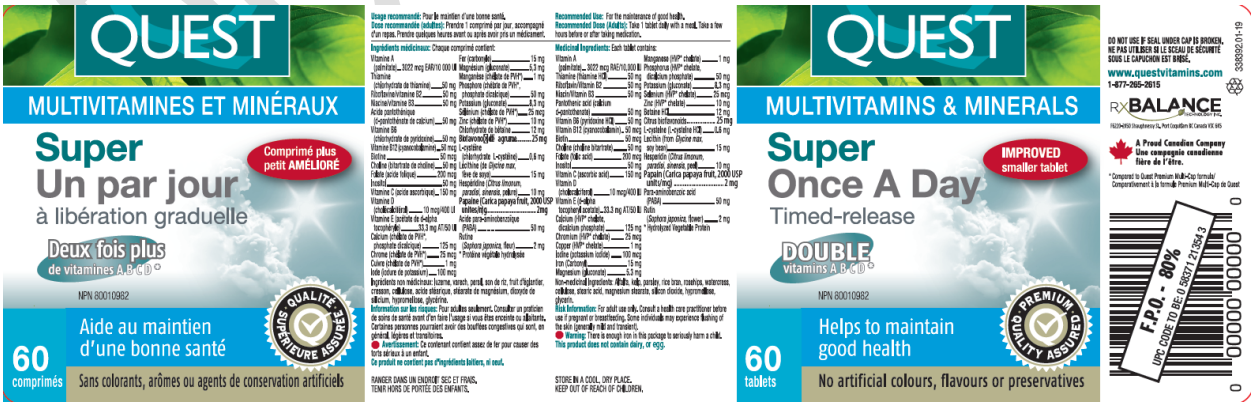
INTERACTIONS AND SAFETY CONSIDERATIONS:

Not for use by children. Consult a health care practitioner if you have a serious illness or are taking medications.

OTHER CONSIDERATIONS:

Consult a health care practitioner before use if you are pregnant or breastfeeding. Keep out of reach of children.

LABEL:



RX BALANCE® The Quest for Health® with knowledge

Education with Excellence

Module 4: Vitamins

quiz

1. Which of the following are water-soluble vitamins?
   a. A, E, C, and all the Bs
   b. A, D, E, and K
   c. all the Bs and C
   d. all of the above
   e. a and b only

2. Quest® Super Once A Day contains 50 mg of which following nutrients?
   a. vitamin B1, vitamin B2, vitamin B3, pantothenic acid, and vitamin B6
   b. choline and inositol
   c. para-aminobenzoic acid (PABA)
   d. a and b only
   e. all of the above

3. Which of the following nutrients are found abundantly in green leafy vegetables?
   a. vitamin D
   b. vitamin E
   c. vitamin B2
   d. a and b only
   e. b and c only

4. Vitamin B3 is:
   a. a component of coenzymes.

b. important for carbohydrate, protein and fat metabolism.

c. required for brain and nervous system function.

d. all of the above

e. a and b only

5. Folate is involved in the metabolism of which amino acid?

a. serine

b. methionine

c. histidine

d. valine

e. alanine

6. Humans can manufacture their own vitamin C. True or false?

7. Quest Vitamin D3 provides 1000 IU of provitamin D3. True or false?

8. Most of the fat-soluble vitamins are required to form coenzymes. True or false?

9. Vitamin B12 helps maintain the myelin sheath that surrounds nerves. True or false?

10. A prolonged deficiency of vitamin D may result in osteoporosis. True or false?