

APLGO Women's Vitality Kit
AIR + BTY + GRW + HPR + HPY + MLS + 2 PWR Apricot + 2 RLX

Q & A with Julia Flynn Werre and Mary Esther Gilbert, MSc HN, BSc NSP
May 13, 2024

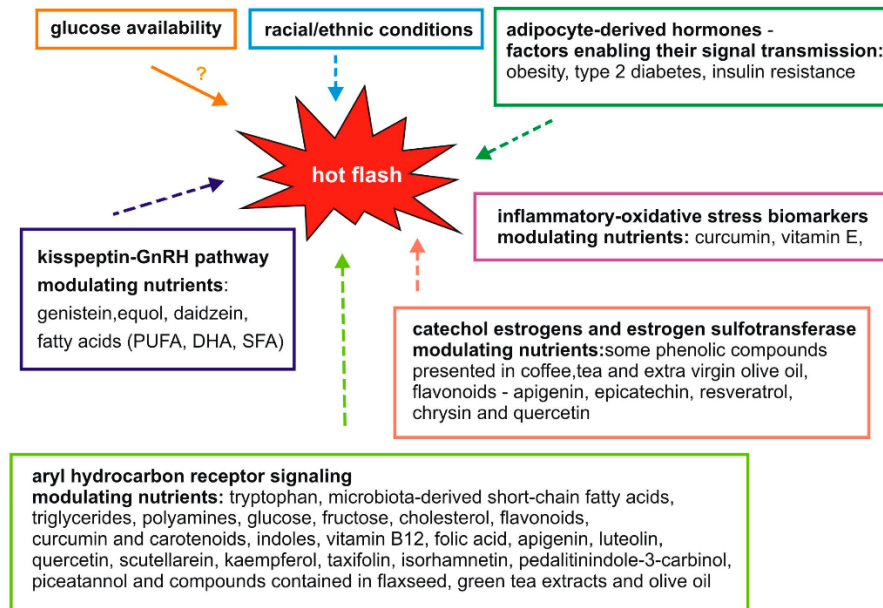
©2024 Mary Esther Gilbert, MSc HN, BSc NSP

1. Can these products/ingredients help with Hot flashes, Sleep, and Weight Loss? The overwhelming scientific evidence says yes!

Hot Flashes

- **What are hot flashes or vasomotor symptoms (VMS)?**
 - Hot flashes are a sudden onset of episodes of perspiration following warmth on the chest, neck, and face, and with heart palpitations and increased heart rate, a rise in systolic blood pressure, headache, fatigue, faintness, and anxiety.
 - Triggered by warm environments, hot drinks, emotional stress (Lugo, 2022).
 - Associated with impairments in quality of life, productivity loss, lowered moods, embarrassment, sleep disruptions, reduced memory function, and social isolation (Forma, 2024).
- **What causes hot flashes?**
 - Research indicates VMS occurs from a malfunction of the body's thermoregulatory functions:
 - Hormones and neurotransmitters regulated by the ovarian hormone, estrogen.
 - Norepinephrine and serotonin-neurotransmitters that regulate mood, sleep-wake cycles, memory, alertness, attention, appetite, behavior and libido.
 - Research indicates hot flashes are associated with higher risks of cardiac conditions and osteoporosis than women with no hot flashes (Lugo, 2022).
 - Research indicates certain enzymatic pathways of bioactive molecules such as the kisspeptin-GnRH pathway (adipocyte-derived hormones), certain estrogen hormones, inflammatory and oxidative stress biomarkers, and glucose utilization are stimulated through certain kinds of foods and therefore activate effector proteins related to hot flashes in menopausal women.
 - Average duration of hot flashes is approximately 4 to 20-30 years (Lugo, 2022).
 - Based on intricate endocrine, neuroendocrine, and epigenetic actions (changes in gene functions from behavior and environment influences).
 - Triggered by changes in body temperature, stimulating the hypothalamus gland to direct decreased estrogen levels, and to stimulate vasodilation and increased sweat gland activity.
 - Through body temperature changes, the neurotransmitters serotonin, which plays a role in mood, sleep, bone health, libido, digestion, wound healing, and noradrenaline, which plays a role in the "fight-or-flight" response, are also activated (Forma, 2024).

Hot Flashes Biochemical Pathways



- **Found to provide some Integrative relief for hot flashes or vasomotor symptoms (VMS):**

- Breathing exercises.
- Relaxation techniques.
- Dietary improvements.
- Flexibility-improving movements [static stretching exercises such as yoga; dynamic stretching actions such as Tai Chi]0.
- Acupuncture
- Reflexology
- Hypnosis (Lugo, 2022)

Sleep and Weight Loss/Weight Management

- **Why Sleep Is Critical for Efficient Weight Loss**

- Increasing research shows sleep duration is critical for regulating body weight.
 - Short sleep duration increases obesity risk.
 - Sleep restriction leads to overeating, lowered glucose tolerance and diabetes risk.
 - Poor sleep quality and irregular sleep patterns contribute to obesity risk.
 - Proper sleep habits have been associated with greater weight/fat loss (Kline, 2021).
- Cardiovascular disease, coronary heart disease, or stroke are leading causes of death in women, with increased risk after menopause.
- Hot flashes (vasomotor symptoms or VMS) have been linked to abnormal lipids, insulin resistance, and increased risk for hypertension, greater aortic calcification (reducing blood flow through the heart's aortic valve), especially in overweight or obese women.
- Moderate-intensity aerobic exercise of at least a total of 2 hours per week, and adults age 20-59 engaged in 30 minutes of vigorous physical activity were found to help prevent cardiovascular mortality.

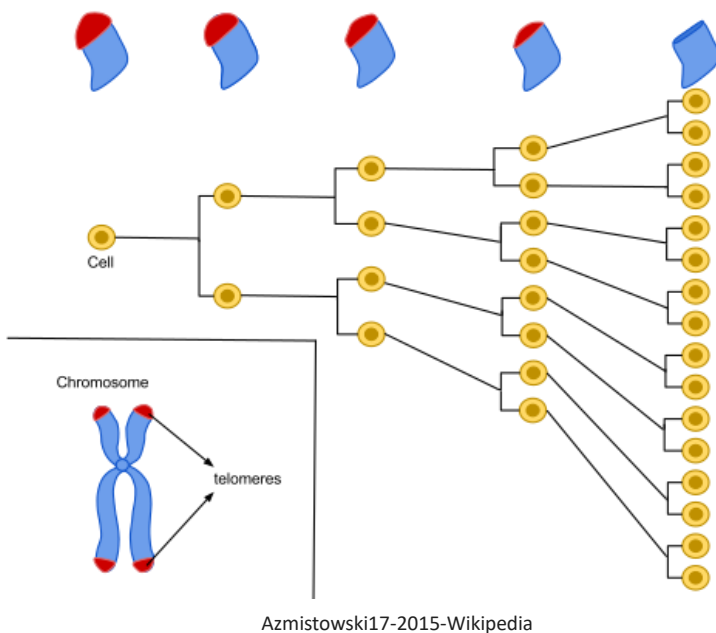
- Visceral fat increases and lean muscle mass decreases during transitions into menopause, with an increased risk of mortality [unless one engages in regular physical activities].
- Exercise and maintaining a nutrient-rich, balanced diet of fresh whole [organic] foods can prevent:
 - Weight gain
 - Reduce triglycerides
 - Control blood glucose and insulin actions
 - Potential atherosclerosis (Kline, 2021).
- Cessation of menstruation-related hormone production affects bone density (Jeong, 2022).

Sleep and Anti-Aging

Physical aging:

- The progressive decline and loss of physical abilities over time.
- Diminishing cell replication quality and therefore tissue instability occurs.
- Telomeric progressive shortening with each cell replication cycle (the repeat sequence of DNA replication quality diminishing over time).
 - Telomeres, located at the end of chromosomes, are caps that prevent loss of coding of DNA during transcription and cell replication, preventing cell senescence.
 - As a biomarker for aging, telomere length becomes shorter through time; with increasingly lowering telomere levels, cell replication is arrested and the cell stops dividing and dies.
 - The enzyme telomerase rebuilds the telomeric ends under optimized nourishment conditions (Carroll, 2021) (National, 2023).

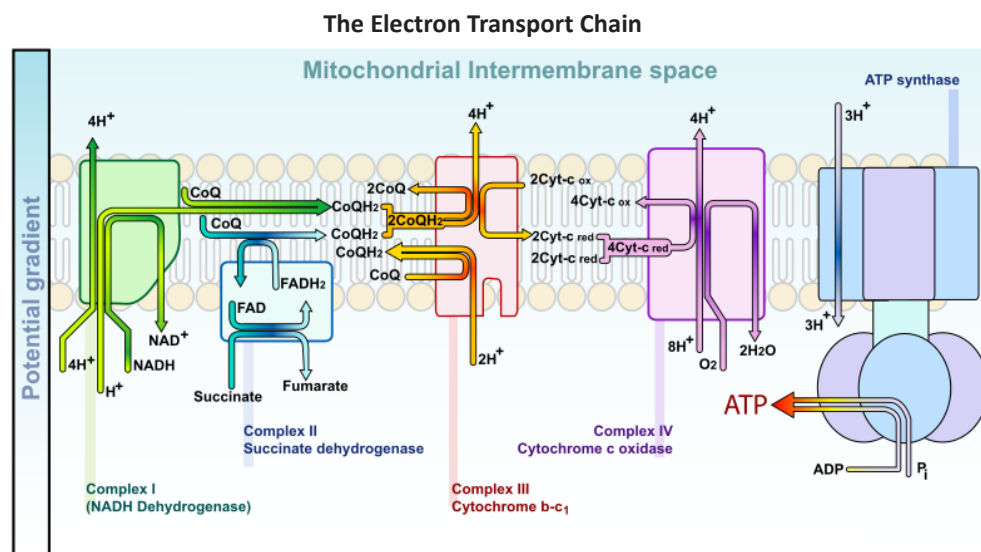
Telomere Damage - Shortening Over Time



- Under stress, during necrosis (tissue death), and in the process of senescence (loss of a cell's capacity for division and growth), immune system detection mechanisms initiate inflammatory responses.

- Sleep loss and sleep disturbances create conditions in the body that accelerate aging and shorten life span.
 - Cellular damage and impairment of cells' repair and restoration mechanisms.
 - Telomere loss, cell senescence, inhibition of cells to return to a replicative state.
 - Cell death occurs after it divides 50-70 times during its life cycle.
 - Changes in cell mitochondria energy production.
 - Immune cells recognize these conditions as a danger signal and mobilizes inflammatory responses.
 - Cell damage occurs when there is tissue injury and is corrected during normal wound repair; however, when there is persistent cellular damage, the immune response can become harmful.
 - Degenerative health process leading to ultimate system failure.
 - Diminishing ability to perform protective, life-promoting functions.
 - Cell death (apoptosis), or tissue death (necrosis).
 - Fragmented sleep alters endocrine and metabolic processes.
 - Activation of the sympathetic nervous system (SNS), which responds to stressful or dangerous situations.
 - Increases glucocorticoids actions that release energy to fuel increased metabolic stresses.
 - Taxes energy production of the mitochondria, leading to the mitochondrial-damaging reactive oxygen species (ROS) and disruption of the *electron transport chain*.*
 - ROS is known to damage DNA, leading to telomere shortening and cellular senescence.
 - Reduces production of superoxide dismutase (SOD), an enzyme in all living cells that helps break down potentially harmful, tissue-damaging oxygen free radicals (Carroll, 2021).

*“The electron transport chain is a series of four protein complexes that couple redox reactions, creating an electrochemical gradient that leads to the creation of ATP in a complete system named oxidative phosphorylation. It occurs in mitochondria in both cellular respiration and photosynthesis. In the former, the electrons come from breaking down organic molecules, and energy is released. In the latter, the electrons enter the chain after being excited by light, and the energy released is used to build carbohydrates.” (Ahmad, 2023)



- **Sleep allows the body's restorative processes of the brain and body to recover and replenish from daily activities.**
 - Energy renewal and regulation.
 - Mental focus.
 - Cellular repair and restoration.
 - A regular sleep pattern and circadian rhythm regulate vital immune system processes (Carroll, 2021).

Vitamin, Mineral, Phytonutrient Deficiencies - Preventing Metabolic Disruptions in Menopause

- *Metabolism* - the process of deriving energy from food consisting of proteins, whole food (unrefined) carbohydrates, and whole food fats rich in omega 3 fatty acids (minimizing foods higher in omega 6 and 9) and animal-derived fats.
- Transitions into menopause that result in metabolic disorders can be due to the change in body composition of a higher **fat to lean body mass ratio**.
 - Dyslipidemia (imbalance of blood lipids, and LDL and HDL cholesterol).
 - Impaired glucose tolerance and type 2 diabetes, increased risk factors for cardiovascular disease.
- Studies show that women who consume disproportionate amounts of fats, alcohol, less fiber and have vitamins, minerals, and phytonutrient deficiencies have a higher propensity for more abdominal obesity and metabolic syndrome. Nutrient deficiencies include:
 - B Complex
 - Vitamin C
 - Vitamin D3
 - Vitamin E
 - Calcium
 - Beta carotene and many other phytonutrients.
- Studies show that **reduced risk of metabolic syndrome** included the intake of seafood [from Arctic waters only], [and quality meats, eggs, dairy], whole grains, fresh fruits, berries, vegetables, leafy greens—rather than fast foods, sweets, and fried foods.
- **Reduced caloric intake combined with physical activity** shifts body composition to less body fat stores and increases healthy lean body mass, for safe and gradual, healthy weight loss.
 - Increases likelihood of maintaining normal blood pressure, blood glucose, and HDL cholesterol levels.
 - **Lower fat diets** are associated with helping to successfully manage weight gain, reduce obesity and therefore lower the risk of metabolic syndrome (includes obesity-related syndromes such as high risk of heart disease, stroke, diabetes, hypertension).
 - Including **whole foods rich in synergistic nutrients** are known to reduce risk of metabolic syndrome, as well as reducing stress and anxiety:
 - Vitamin D3
 - Omega-3 fatty acids
 - Antioxidants: vitamin C, E, and the mineral zinc.

- Probiotics (live cultured dairy products and fermented foods). (Jeong, 2022), (Vera-Santander, 2023).
- Beneficial phytoestrogens in plants, found in about 300 plants, include isoflavones, lignans, cumestan, and lactones (Defranciscis, 2019).

2. Is AIR something that is needed every day? And why?

Yes. [Go to AIR slide.](#)

3. Why is HPY part of this group?

[Go to HPY slide.](#)

4. Why are there 2 RLX and what is the importance for both boxes?

[Go to RLX slide.](#)

5. Are there any other products that would be helpful for a woman's vitality?

Go to [BTY](#), [GRW](#), [HPR](#), [MLS](#), and [PWR Apricot](#) slides.

“Vitality” – Physical and Mental Vigor

The Women’s Vitality Kit Provides Nourishing Factors for Facilitating All System Cellular Functions

- Clearing Delivery Pathways for Optimal Communications
- Cleaning the Body’s Circulation Systems
- Strengthening Immune Detections and Monitoring Systems
- Anti-Aging – Maintaining More Youthful Cellular Processes
- Maintaining Biochemical Homeostasis (Absence of Abnormal Conditions)
- Maintaining Conditions for Anti-Stress, Inner Calm
- Rapid Cell Repair, Regeneration
- Improved Metabolic Efficiency
- Improved Energy Production
- Improved Mental Acuity or Keenness

AIR Botanicals and Their Functional Nutrients

Aloe Vera Leaf Gel, Amla Berry Fruit, Black Currant, Cranberry, Dog Rose, Lemon, Lycium Berry, Maca Root, Vitamin C, Vitamin D, Zinc, Cranberry Flavoring



Allowing Free Flowing Circulation, Self-Cleansing, Self-Regenerating Systems:

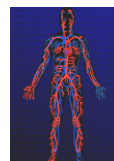
mucopolysaccharides, pectins, citric and other organic acids, flavonoids hesperidin, naringin; fatty acids macaridine, macaenes, macamides, and maca alkaloids, vitamin D, zinc.



Clearing Respiratory Air-Ways: proanthocyanidins.

Improving the Immune System, Anti-free Radical Antioxidants, Antimicrobial Actions:

polyphenols, gallic acid, ascorbic acid, phenolic acids hydroxybenzoic acids:4-hydroxybenzoic acid, coumaric acid, gallic acid, protocatechuic acid, syringic acid, and vanillic acid; hydroxycinnamic acids caffeic acid and chlorogenic acid, flavonoid compounds flavonols, flavanones, flavan-3-ols, flavonol and quercetin derivatives; flavones apigenin, luteolin, myricetin; phenolics ellagitannins, tannic acid, ellagic acids, anthocyanins; trans-resveratrol, benzoic, chlorogenic, *p*-coumaric acids; flavonoids quercetin, epicatechin, and isorhamnetin, proanthocyanidins, resveratrol; organic acids gallic, protocatechuic, vanillic, chlorogenic, syringic, *p*-coumaric, ferulic, sinapic, cinnamic, quercetin, rutin, and rosmarinic acid; xanthophyll esters; flavonone glycosides eriocitrin, hesperidin, naringin, and flavone glycosides diosmin and 6,8 C-diglucosyldiosmetin; carotenoids zeaxanthin, β -carotene, neoxanthin, and cryptoxanthin; carotenoids, tocopherols; polysaccharides; vitamin C, D, zinc.

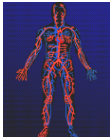


Anti-inflammatory: phyllantine, phyllantidine, anthocyanins, flavonols, phenolic acids, polyunsaturated fatty acids, anthocyanins, flavonols, phenolic acids, polyunsaturated fatty acids, quercetin, ascorbic acid; galactolipid, fatty acids linoleic, palmitic, and oleic acids; vitamin C (Gilbert, 2018).

BTY Botanicals and Their Functional Nutrients



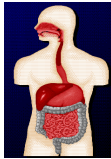
Aloe Leaf Gel, Apple, Artichoke Leaf, Ashwagandha Root, Avocado, Chamomile Flower (German), Dandelion Root, Ginseng Root - Siberian, Grape Seed, Green Tea Leaf, Lemon, Licorice Root, Magnolia Vine Fruit, Meadowsweet Leaf, Milk Thistle Seed, Pomegranate Seed, Rowanberry, Strawberry, Wild, Turmeric Root, Water Hyssop Leaf, Tea Mate Flavoring, Strawberry Flavoring



Immune System, Detoxification, Rapid Cell Regeneration and Repair, Boosting Mitochondria: organic acids ursolic, malic, tartaric, citric, chlorogenic, salicylic, arabic, boric, ascorbic acids; carotene, lactones, apigenin, apigenin-7-O glucoside, caffeic acid, chamazulene chlorogenic acid, coumarin, farnesene, luteolin, luteolin-7-O glucoside, and terpene bisabolol; phytoncides, chlorophyll, catechins, triterpenoids, sesquiterpenes, monoterpenes; polysaccharides, silybin, flavonoligans, curcuminoids



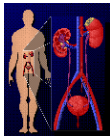
Anti-Inflammation, Free Radical Antioxidants: plant sterols lupeol, campesterol, beta-sitosterol; tannin, pectins, flavonoids apigenin, luteolin, patuletin, quercetin, hyperin, rutin, afzelin, quercetin, kaempferol; alkaloids; eleutherosides, omega 3, 9, & monounsaturated fatty acids, resveratrol, proanthocyanidins, resveratrol; catechins epicatechin, epigallocatechin, epigallocatechin-3 gallate, flavanols, polyphenols; citric, ascorbic acid; polyphenols, phenolic acids chlorogenic, p-coumaric, p-hydroxybenzoic, protocatechuic, salicylic, syringic, gentisic; silybin, caffeoylquinic acids



Anti-Microbial: phenolics triterpenic acids, anthocyanins; flavonoids, terpenoids, saponins glycyrrhizin (GL), 18 β -glycyrrhetic acid (GA), liquiritigenin (LTG), licochalcone A (LCA), licochalcone E (LCE), glabridin (GLD); lignans, triterpenoids.



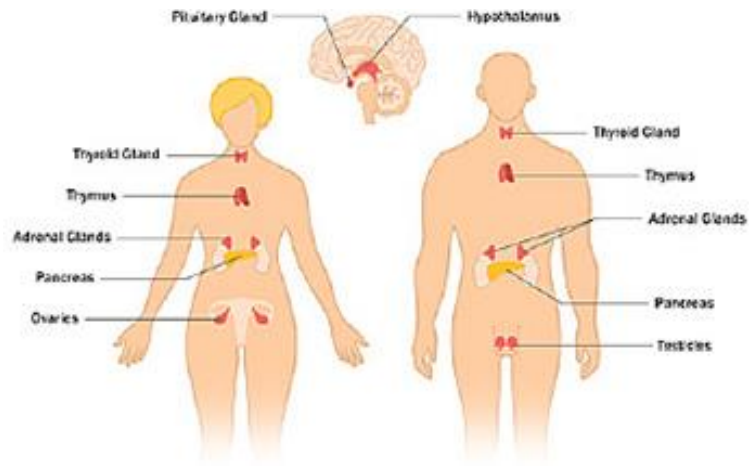
Fat, Glucose, Endocrine (Hormone) Metabolism, Bile Flow: ursolic acid, catechins, pectins, phytosterols, flavonoids hyperoside, isoquercitrin, rutin and quercetin; organic acids; tsinarin, carotene; lutein, zeaxanthin, cryptoxanthin; plant sterols, fatty acids, eleutherosides, resveratrol; flavonone glycosides eriocitrin, hesperidin, naringin; flavone glycosides diosmin, 6,8 C-diglucoyldiosmetin; punicalic, linoleic, arachidonic acids; polyphenolics anthocyanins, cyanidins



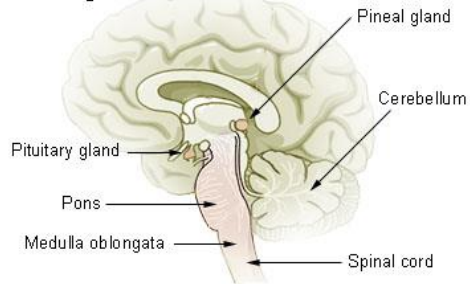
Stabilizing Stress Reactions, Cognition: sitosterols and acylsteroylglucosides, lutein, glycine, glycosides; curcuminoids curcumin (diferuloylmethane), demethoxycurcumin, and bisdemethoxycurcumin.

Circulation, Fluid Balance, Detoxifying: lutein, flavonoids, terpenoid; lutein, violaxanthin, antheraxanthin, zeaxanthin, neoxanthin and chlorophyll; eleutherosides, glycosides, resveratrol (Gilbert, 2018).

Vitality Means Maintaining a Stabilized Hormonal System

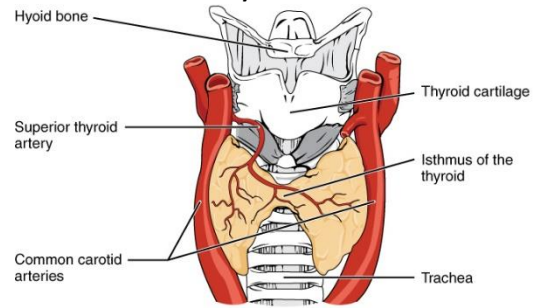


Pituitary and Pineal Glands

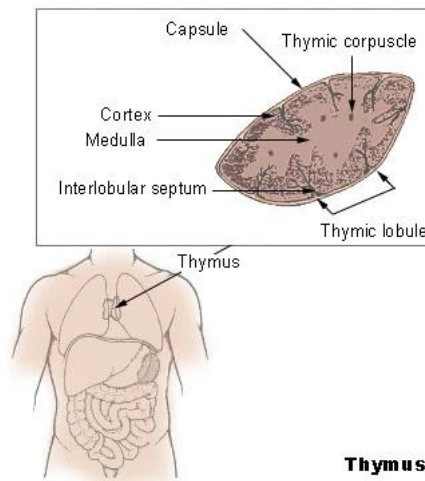


Wiki Commons 2005

Thyroid Gland



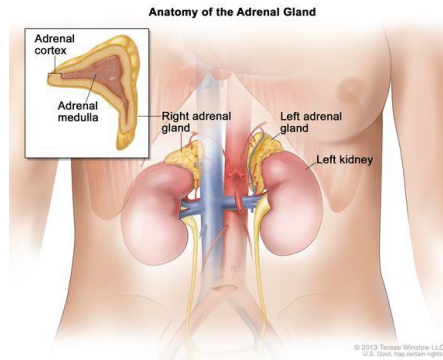
Wiki-CFCF-2013



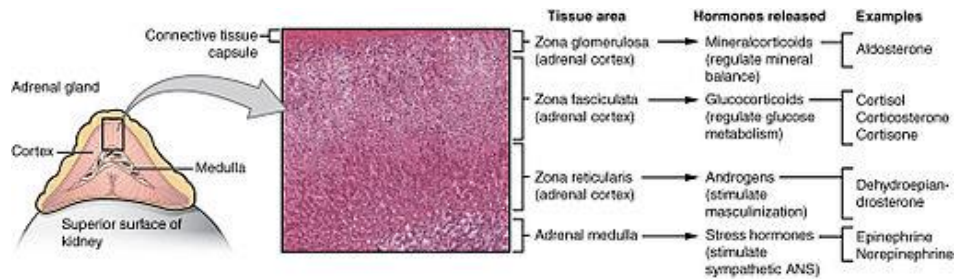
Thymus

PsychologyWiki-2024

Adrenal Glands

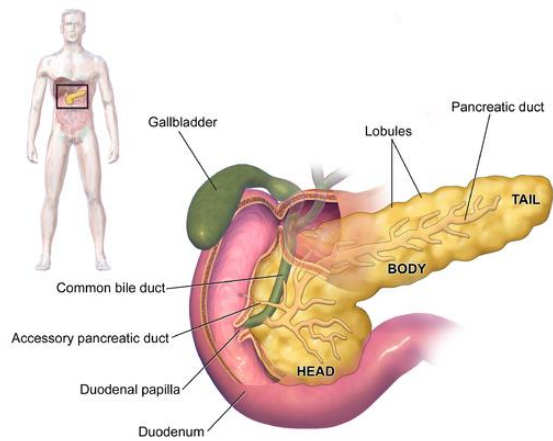


NationalCancerInstitute-2024



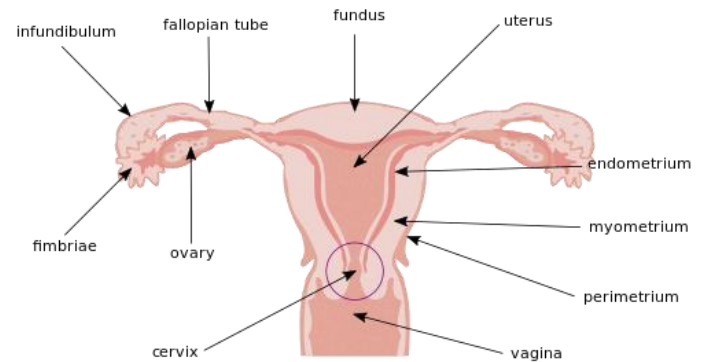
Open Stax College – Wiki - Mikael Haggstrom, M.D., 2020

Pancreas



Medical Gallery of Blausen Medical 2014

Ovaries



USGovt-Wiki-2021

Hormone Functions

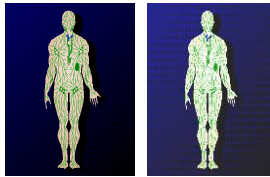
Where Hormone Is Produced	Hormone	Function
Adrenal glands	Aldosterone	Helps regulate salt and water balance by causing the kidneys to retain salt and water and excrete potassium
	Cortisol	Has widespread effects throughout the body Especially has anti-inflammatory action Maintains blood sugar level, blood pressure, and muscle strength Helps control salt and water balance
	Dehydroepiandrosterone (DHEA)	Used in the production of androgens (male sex hormones) and estrogens (female sex hormones) Has effects on bone, mood, and the immune system
	Epinephrine and norepinephrine	Stimulate the heart, lungs, blood vessels, and nervous system
Hypothalamus	Corticotropin-releasing hormone	Stimulates release of <u>corticotropin</u> (also called adrenocorticotrophic hormone [ACTH])
	Gonadotropin-releasing hormone	Stimulates release of luteinizing hormone and follicle-stimulating hormone
	Growth hormone–releasing hormone	Stimulates release of growth hormone
	Somatostatin	Inhibits release of growth hormone, thyroid-stimulating hormone, and insulin
	Thyrotropin-releasing hormone	Stimulates the release of thyroid-stimulating hormone and prolactin
Ovaries	Estrogen	Controls the development of female sex characteristics and the reproductive system
	Progesterone	Prepares the lining of the uterus for implantation of a fertilized egg and readies the mammary glands to secrete milk
Pancreas	Glucagon	Raises the blood sugar level
	Insulin	Lowers the blood sugar level Affects the processing (metabolism) of sugar, protein, and fat throughout the body
Parathyroid glands	Parathyroid hormone	Controls bone formation, blood calcium level, and the excretion of calcium and phosphorus by the kidneys
Pituitary gland	Corticotropin (also called adrenocorticotrophic hormone [ACTH])	Controls the production and secretion of hormones by the adrenal glands
	Growth hormone	Controls growth and development Promotes protein production
	Luteinizing hormone and follicle-stimulating hormone	Control reproductive functions, including the production of sperm and semen in men and egg maturation and menstrual cycles in women

Where Hormone Is Produced	Hormone	Function
		Control male and female sexual characteristics (including hair distribution, muscle formation, skin texture and thickness, pitch of voice, and perhaps even personality traits)
	Oxytocin	Causes muscles of the uterus to contract during childbirth and after delivery and stimulates contractions of milk ducts in the breast, which move milk to the nipple
	Prolactin	Starts and maintains milk production in the ductal glands of the breast (mammary glands)
	Thyroid-stimulating hormone	Stimulates the production and secretion of hormones by the thyroid gland
	Vasopressin (antidiuretic hormone)	Causes kidneys to retain water to prevent dehydration and, along with aldosterone, helps control blood pressure
Thyroid gland	Calcitonin	Tends to decrease blood calcium levels and helps regulate calcium balance
	Thyroid hormones	Regulate the rate at which the body functions (metabolic rate)

Merck Manual, 2024 <https://www.merckmanuals.com/home/multimedia/table/major-hormones>

GRW Botanicals and Their Functional Nutrients

Aloe Vera Leaf (Gel), Ashwagandha Root, Astragalus Root, Balsam Pear Fruit (Bitter Melon), Bilberry, Cranberry, Currant, Husk Tomato (Ground Cherry), Olive Leaf, Pomegranate Seed, Purple Coneflower Root, Reishi Mushroom, Rowanberry, Grape Flavoring, Grape Skin Extract Coloring



Immune Cell Production: T-Cells, macrophages; saponins, triterpenes, polysaccharides, flavonoids.

Detoxification: proanthocyanidins.

Cardiovascular Functions: flavonoids.

Mitochondria Energy Production: adenosine.

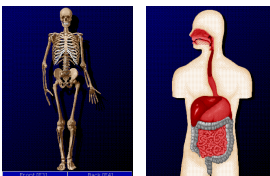
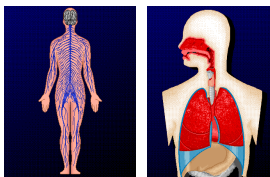
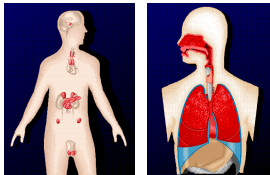
Antioxidants: phenolic acids.

Neutralize Free Radicals (Toxins), Anti-aging, Anti-inflammatory: plant sterols lupeol, campesterol, beta-sitosterol.

Stress-relieving Properties: sitoindosides and acylsterylglucosides.

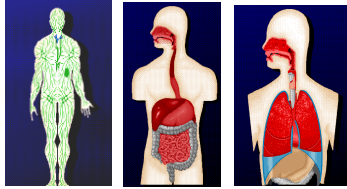
Hormone Precursors: alkaloids, tannins, glycosides, and natural plant steroids.

Clear Blood Vessels: anthocyanins (Gilbert, 2028).



HPR Botanicals and Their Functional Nutrients

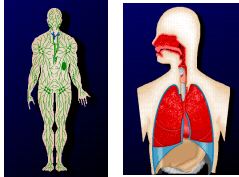
Artichoke Globe Leaf, Avocado, Dandelion Root, Milk Thistle Seed, Peach, Raisin, Turmeric Root, Peach Flavoring, Paprika Extract Coloring



Glucose, Insulin Metabolism: Tsinarin.

Fat Digestion, Cholesterol Metabolism, Gall Bladder Bile Flow: tsinarin, pectin.

Healthy Microbial Intestinal Environment: inulin prebiotic soluble fiber.



Antioxidant, Liver Detoxification, Free Radicals Neutralizing: lutein, violaxanthin, antheraxanthin, zeaxanthin, neoxanthin and chlorophyll, silybinin, silymarin, lutein, zeaxanthin, beta-cryptoxanthin, flavonols glycosides, quercetin, kaempferol, phenolic acids, coumaric acids; curcuminoids curcumin (diferuloylmethane), demethoxycurcumin, and bisdemethoxycurcumin.



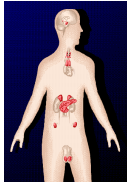
Protective Liver Function Antioxidants: apigenin, betaine, flavonolignans, silybinol, silybinin, silymarin, polyphenols; termerone, curlone, curumene, cineole, and *p-cymene*.

Energy Production: catechins, resveratrol, daidzein, genestein.

Circulation: curcumin (Gilbert, 2018).

HPY Botanicals and Their Functional Nutrients

Ashwagandha Root, Banana, Chamomile, Ginger Root, Ginkgo Leaf, Grapple Plant Root, Hemp Seed, Licorice Root, Passion Flower Leaf, Pear, Sea Buckthorn Berry, Turmeric Root, Green Tea Flavoring



Homeostasis, Biochemical Equilibrium, Adaptogenic/Anxiolytic, Decreasing Sensitivity to Stress:

sitosterols and acylsteroylglucosides, phenolics, tryptophan (converts to serotonin the happiness hormone), catecholamines norepinephrine, dopamine, indoles, glutamic acid; non-psychoactive tetrahydrocannabinol *acid* (THCA); epicatechin, ferulic acid, and protocathechuic acid; flavonoids, tannins, polyphenols, terpenoids, sterols and alkaloids; epigenin, galliccatechins, epigallocatechin.



Anti-inflammatory, Antioxidant, Immune Boosting: alkaloids, flavonoids leucocyanidin, quercetin, glucosides, luteolin, patuletin; tannins, phenolics, terpenoids, apigenin, apigenin-7-O glucoside, caffeic acid, chamazulene chlorogenic acid, coumarin, farnesene, luteolin, luteolin-7-O glucoside, and terpene bisabolol; flavonol glycosides, ginkgolides, bilobalide and proanthocyanidins; indoid glycosides harpagoside, harpagide, phenylpropanoid glycosides, tocopherols, carotenoids, phytosterols, lycopene, kaempferol, isorhamnetin, curcuminoids.



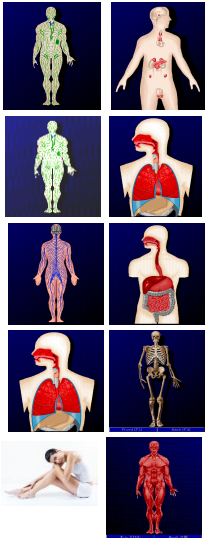
Increasing Mitochondria Energy Production, Stamina: steroidal lactones, sterols ergosterol, stigmasterol, lanosterol, and amyrins.

Promoting Cerebral Circulation, Cognition, Learning, Memory, Thinking, Nerve Functions: fatty acids, triterpenes, cyclomusalenol, cyclomusalenone, amino acid glycine, choline; linoleic, oleic omega-9 fatty acids; flavonoids, terpenoids, tocopherols, curcuminoids, lanosterol, saponins, glycosides, alkaloids.

Menstrual Cycle, Menopause: curcuminoids (Gilbert, 2018).

MLS Botanicals and Their Functional Nutrients

Artichoke Leaf, Carnation Seeds, Chamomile Flower, Cinnamon Bark, Coriander Seed, Cranberry, Black Currant, Dandelion Root, Fenugreek Seed, Ginger R, Grapefruit, Licorice Root, Mandarin, Papaya, Pine Nut, Pumpkin Seed, Purple Coneflower Root, Sweetie, Thyme Leaf, Turmeric Root, Orange Flavoring, Paprika Extract Coloring



Glucose Metabolism: insulin-potentiating factor (insulin-like polyphenol type-A, saponins, coumarins, genistein, rutin, apigenin, flavonols.

Fat/cholesterol Metabolism, Bile Flow: Tsinarin, linoleic & linolenic fatty acids, petroselinic acid, carotenoids.

Digestion, Intestines: organic acids gallic, caffeic, ellagic; quercetin, organic acids gallic, caffeic, ellagic; quercetin.

Immune, Antioxidants: flavonoids, luteolin, apigenin, resveratrol, ginsenosides, saponins, apigenins, caffeic, chlorogenic acids, coumarin, farnesene, luteolins, glucoside, terpene, flavonoids anthocyanins, flavones, isoflavones, tannins, stilbenes, lignans, limonoid, aglycones.

Circulatory/Cardiovascular/Respiratory: cinnamaldehydes, eugenol, linalool, cinnamic acid & acetate, caryophyllenes, terpinols, carboxylic acids, phenolic acids, flavonoids, proanthocyanidins, anthocyanins, tannins, flavonols, anthocyanins.

Brain, Nerves: linalool, geraniol, terpinene, alpha-terpineol, hydrocarbons, gamma terpenine, r-cymene, limonene, camphene, and myrcene, oleic acid, polyphenols, trigonelline.

Anti-microbial, Toxic Metals, Synthetics Detox: phenolics gallic, salicylic, caprylic acids, myricetin, quercetin, kaempferol, apigenin, sesquiterpenes, carboxylics, phytoncides, anthocyanins, flavonols, glycosides, glucosides, rutinosides, lutein, violaxanthin, zeaxanthin, chlorophyll, asparagines, liquiritigenin.

Anti-Inflammatory, Anti-Free Radical: flavonoids apigenin, luteolin, patuletin, quercetin, terpenoids, gossypin, gnaphalin, hesperidin, hibifolin, hypolaetin, oroxindin, quercetin.

Urinary System Protection: proanthocyanins.

Endocrine/Glandular/Reproductive: sterols (Gilbert, 2018).

PWR Apricot Botanicals and Their Functional Nutrients

Apricot, Ashwagandha Root, Asparagus Root, Damiana Leaf, Ginger Root, Ginkgo Leaf, Apricot Flavoring, Paprika Extract Coloring



Aiding Proper Hormone Balance: carotenoids.

Decreased Stress Sensitivities: sitoindosides and acylsterylglucosides.



Protective Antioxidants, Detoxification of Endocrine System: β -carotene, γ -carotene and lycopene, as well as β -cryptoxanthin, lutein, phytoene, phytofluene and zeaxanthin.

Protective Effect on Reproductive Organs: flavonoids quercetin, rutin, kaempferol and isorhamnetin.



Mitochondria Energy Production Protective Functions: melanoidins, saponins, unulin.

Nutrient Utilization: malic, citric acid, acetic, fumaric, tartaric, succinic, galacturonic, malonic, quinic acids.



Mental Alertness, Focus: terpenoids, flavonoids.

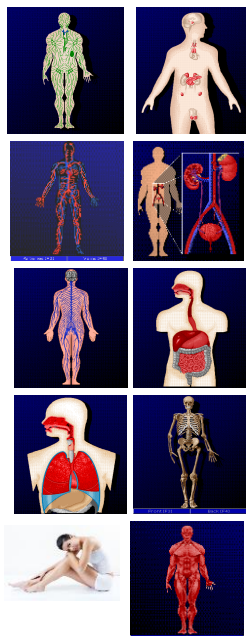
Bones, Tendons, Hair: Asparagines.



Aphrodisiac Properties: phytosterols, fatty Acids (Gilbert, 2018).

RLX Botanicals and Their Functional Nutrients

Artichoke Leaf, Carnation Seeds, Chamomile Flower, Cinnamon Bark, Coriander Seed, Cranberry, Black Currant, Dandelion Root, Fenugreek Seed, Ginger R, Grapefruit, Licorice Root, Mandarin, Papaya, Pumpkin Seed, Purple Coneflower Root, Sweetie, Thyme Leaf, Turmeric Root, Orange Flavoring, Paprika Extract Coloring



Glucose Metabolism: insulin-potentiating factor (insulin-like polyphenol type-A, saponins, coumarins, genistein, rutin, apigenin, flavonols.

Fat/cholesterol Metabolism, Bile Flow: Tsinarin, linoleic & linolenic fatty acids, petroselinic acid, carotenoids.

Digestion, Intestines: organic acids gallic, caffeic, ellagic; quercetin, organic acids gallic, caffeic, ellagic; quercetin.

Immune, Antioxidants: flavonoids, luteolin, apigenin, resveratrol, ginsenosides, saponins, apigenins, caffeic, chlorogenic acids, coumarin, farnesene, luteolins, glucoside, terpene, flavonoids anthocyanins, flavones, isoflavones, tannins, stilbenes, lignans, limonoid, aglycones.

Circulatory/Cardiovascular/Respiratory: cinnamaldehydes, eugenol, linalool, cinnamic acid & acetate, caryophyllenes, terpinols, carboxylic acids, phenolic acids, flavonoids, proanthocyanidins, anthocyanins, tannins, flavonols, anthocyanins.

Brain, Nerves: linalool, geraniol, terpinene, alpha-terpineol, hydrocarbons, gamma terpenine, r-cymene, limonene, camphene, and myrcene, oleic acid, polyphenols, trigonelline.

Anti-microbial, Toxic Metals, Synthetics Detox: phenolics gallic, salicylic, caprylic acids, myricetin, quercetin, kaempherol, apigenin, sesquiterpenes, carboxylics, phytoncides, anthocyanins, flavonols, glycosides, glucosides, rutinoides, lutein, violaxanthin, zeaxanthin, chlorophyll, asparagines, liquiritigenin.

Anti-Inflammatory, Anti-Free Radical: flavonoids apigenin, luteolin, patuletin, quercetin, terpenoids, gossypin, gnaphalin, hesperidin, hibifolin, hypolaetin, oroxindin, quercetin.

Urinary System Protection: proanthocyanins.

Endocrine/Glandular/Reproductive: sterols (Gilbert, 2018).

Maintaining Vitality Through Health-Promoting Daily Actions

Proper Cellular Hydration - Water

- Essential for life and is essential for every single function in the body.
- The single largest constituent of the human body—60% in adults, 75% in children.
- Monitoring thirst and drinking water throughout the day helps maintain proper body water balance or hydration.
 - Dehydration – the process of losing body water that affects cellular functions, including loss of electrolytes induced by exercise, cold, altitude, diuretics, and diarrhea, and hypovolemia (occurs when loss of blood is greater than loss of osmolytes, low-weight organic molecules that help regulate osmotic pressure in cell homeostasis and fluid balance such as when water loss occurs through respiration and skin evaporation).
 - An increase in dehydration has been found to be correlated with confusion, depression, anxiety, anger, hostility, fatigue.
 - Rehydration – the process of replenishing and regaining proper water balance.
 - Euhydration – a narrow and normal fluctuation in body water content, maintaining the net difference between water gain and water loss.
 - Hypohydration – a critical water deficit (Liska, 2019).
 - Hyperhydration – critical water excess that can result in electrolyte and mineral loss, is associated with cardiopulmonary disruptions, hyponatremia, edema, gastrointestinal dysfunction, postoperative complications, and morbidity and mortality (El-Sharkawy, 2015, Liska, 2019).
- Critical for skin health, neurological functions (cognition, mood), gastrointestinal and renal (kidney) functions.
- Critical for thermoregulation or regulation of body temperature.
- The universal solvent, including in the body's biochemical reactions: maintaining blood volume and proper thickness consistency, transporting nutrients, and removing metabolic wastes from the body.
- Helps regulate body weight and composition or lean body mass to body fat ratios. A lowered calorie diet and consuming 500 ml of water prior to each meal resulted in reduced body fat mass.
- Helps prevent headaches, improve cognition (perception, judgement, knowing).
- Associated with lowering risk for kidney stones.
- Affects production of hormones, including sex hormones, all of which affect aging.
- Reductions in the body's water volume more than 2% have been found to be correlated with greater fatigue and lowered alertness (Liska, 2019).

Maintaining Efficient Metabolism and Energy Production

Vitamins, Minerals, and Phytonutrients

- These essential and vital nutrients are involved in:
 - Energy production and metabolic rate of energy production.
 - Regulating the function of various proteins, such as signaling and messenger proteins, inflammatory proteins, tissue and cell structure generation functions.
 - DNA synthesis.
 - Oxygen regulation and transport.
 - Nerve and brain functions, maintaining structure and function of brain and nerve cells, generation of neurotransmitters, maintaining proper nerve transmission communications.
 - Muscular functions, such as preventing muscular weakness and maintaining muscular strength.
 - Exercise tolerance, preventing diminishing fatigue.
 - Cognition.
 - Psychological processes such as mental fatigue.
 - Serving as antioxidants and production of the body's own antioxidants.
 - Protective immune functions (Gilbert, 2018) (Tardy, 2020).

Anti-Aging and the Many Beneficial Effects of Exercise

- Physical fitness is known as being highly effective against rapid aging.
- Low fitness levels are associated with higher risk and predictors of cardiovascular and all other causes of degenerative states of health and mortality.
- Physical exercise is the best way to improve health, well-being, and human interactions, and to delay and prevent the consequences of aging, reducing the risk of death by 44%.
- Physical exercise has been shown to:
 - reduce risk of developing various types of cardiovascular diseases, obesity, diabetes, and dyslipidemia.
 - reduce risk of developing various cancers.
 - help control body weight.
 - strengthen muscles, bones, and joints.
 - improve coordination; increases neuro-motor responses and decreases risk of falls.

- improve immune system activity.
- improve balance of hormones relating to emotions, stress, depression, and anxiety.
- improve aerobic capacity.
- reduce neuronal losses, protect against cognitive dysfunction in aging.
- Remaining physically active, full-range nutrient nourishment, and avoiding risk factors results in looking more youthful with youthful body movements, and have a more youthful nature.
- Physical fitness is associated with elevated self-esteem and self-image, helps prevent depression, anxiety and panic syndromes.
- Qualification of terms:
 - *Physical Activity* – any body movement through muscle action that increases blood circulation and energy expenditure (Castillo-Garzón, 2006).
 - *Physical Exercise* – planned, structured, repetitive and purposeful muscle actions for improving strength, endurance, flexibility, and synergistic coordination and physical skills (Gilbert, 2023) .
 - *Physical Fitness* – describes one’s level of physical capabilities: cardiorespiratory or heart/lung capacity, circulatory efficiency, muscular strength, speed and agility, coordination and flexibility.
- VO_{2max} is the most important predictor of cardiovascular death.
 - VO_{2max} – the maximum amount of oxygen a person can utilize during intense exercise.
 - VO_{2max} is a measure of cardiovascular and respiratory capacity.
 - Basic formula for calculating your own VO_{2max} :
 - $VO_{2max} = \text{maximum milliliters of oxygen consumed in 1 minute per body weight in kilograms.}$

VO2MAX CHART FOR WOMAN

Age	Poor	Fair	Average	Good	Excellent
≤29	≤23.9	24-30.9	31-38.9	39-48.9	49
30-39	≤19.9	20-27.9	28-36.9	37-44.9	45
40-49	≤16.9	17-24.9	25-34.9	35-41.9	42
50-59	≤14.9	15-21.9	22-33.9	34-39.9	40
60-69	≤12.9	13-20.9	21-32.9	33-36.9	37

Keep in mind that these VO2max scores are for nonathletes.

INSCYD



Wiki-Cosmed-2011

- There is an inverse relationship between aerobic capacity and disease.

- Aerobic capacity is an important determinant of insulin activity.
- Low cardiorespiratory capacity is associated with metabolic syndrome (abdominal obesity, glucose tolerance, insulin resistance in type 2 diabetes, hypertension, hyperlipidemia) (Castillo-Garzon, 2006).

Sunlight, a Critical Component of Optimal Health – The Right Amount With Nutrient Protection

- It is commonly recognized that exposure to **ultraviolet radiation (UVR)** is either beneficial or causes adverse effects on health, depending on one's skin type, nutrition, and other factors.
 - Excessive UVR exposure has been shown to lead to various types of skin cancers.
 - Many other cancers are the result of too little exposure to UVR in those who live in the higher latitudes.
 - UVR exposure has been found to reduce problems in glucose concentrations and insulin resistance.
- Too much of **UVB radiation** causes sunburn and results in the generation of DNA-damaging free radicals that can lead to skin cancers. (UVA is proven to cause skin aging.)
 - Both UVR and UVB radiation can damage collagen, destroy vitamin A in skin and accelerate skin aging.
 - **Melanins**, endogenous pigments formed in melanocytes in the skin, scatter and absorb UV light, protecting human skin against UV radiation.
- By contrast, disorders of the musculoskeletal system, autoimmunity, and cancers are thought to be due to very low levels of UVR exposure, resulting in:
 - Disorders of the musculoskeletal system.
 - Increased risk of autoimmune diseases.
 - Life-threatening cancers.
- The lack of sunlight exposure results in vitamin D deficiency (Mead, 2008).
 - At least 1,000 genes that govern every body tissue are thought to be regulated by the body's active form of **cholecalciferol, 1,25-dihydroxyvitamin D₃ (calcitriol)** (Swami, 2012).
 - Vitamin D₃ is involved in calcium metabolism, neuromuscular, and immune system functioning.
- Vitamin D is synthesized in the skin via a photosynthetic reaction when exposed to UVB radiation.
 - How much vitamin D the body makes depends on how much melanin, the skin pigment, is produced in the melanocytes.
 - Light skin-colored people in swimsuits can release 50,000 IU (1.25 mg) of vitamin D into the circulatory system within 24 hours with just half an hour of sun exposure,.
 - Under same conditions, tanned individuals can yield 20,000-30,000 IU.
 - Under same conditions, dark-skinned individuals can yield 8,000-10,000 IU.
 - Conversion occurs primarily in the liver to the major active form, **25-hydroxyvitamin D**.

- Kidneys and other body tissues form **1,25(OH)D**, which is a hormone similar to steroid hormones.
 - Enhances calcium and phosphorus absorption.
 - Regulates bone-calcium metabolism for metabolic functions, neuromuscular transmission signals, and maintaining bone mineralization.
 - Insufficient vitamin D results in rickets, a disease that retards growth and causes various skeletal deformities such as bowed legs.
- Studies have found that the circulating of **25(OH)D** increased bone density and reduced falling in older people as a result of strengthened muscles and bones.
- Low vitamin D levels precipitates and exacerbates osteoporosis.
- More scientists are concerned about information warning the public about too much UVR and UVB exposure is contradicting their many health-protective, health-promoting effects while avoiding sunburn.
 - **Antioxidant phytochemicals (aka phytonutrients)** and their antimutagenic and immune-modulating actions have demonstrated protective effects against UVR-induced skin cancer.
 - Polyphenols
 - Apigenin
 - Curcumin
 - Proanthocyanidins
 - Resveratrol
 - Silymarin.
- When exposed to bright sunlight in the morning, more of the hormone **melatonin** (aka “the sleep hormone”) is produced, resulting in entering sleep more easily at night.
 - Melatonin production varies from season to season.
 - **Melatonin rhythm** established with bright morning light has been found to be effective against insomnia, premenstrual syndrome, and seasonal affective disorder (SAD).
- Melatonin’s precursor, **serotonin**, is also affected by daylight exposure; it is converted to melatonin in darkness.
 - Mammalian skin produces serotonin; many types of skin cells produce serotonin and transform it into melatonin.
 - Serotonin is created by the body’s nerve cells from the amino acid, tryptophan. (Do not take tryptophan alone; amino acids work in synergy).
 - Higher serotonin levels result in more positive moods and a calm, focused mental perspective.
 - Spending time outdoors can have a major impact on melatonin rhythms that improve mood, energy, and sleep quality (Mead, 2008).
- Nutrients Protection Against Skin Damage From Sunlight
 - Damage to the body’s collagen alters the dermal structures of the skin.
 - Skin loss of elasticity, resilience, and firmness.
 - Skin appears leathery, rough, wrinkled.
 - Pigmentation becomes uneven, with appearance of brown spots.

- Many phytochemical compounds (phytonutrients) with skin-protective attributes for UV protection include:
 - Carotenoids: beta-carotene, alpha-carotene, lycopene, phytoene, phytofluene,
 - Xanthophylls: lutein, zeaxanthin, and alpha and beta cryptoxanthin (Gilbert, 2018)(Sies, 2004).

See also [BTY slide](#).

Reference:

Ahmad M, Wolberg A, Kahwaji CI. Biochemistry, Electron Transport Chain. [Updated 2023 Sep 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK526105/>

Carroll JE, Prather AA. Sleep and Biological Aging: A Short Review. *Curr Opin Endocr Metab Res*. 2021 Jun;18:159-164. doi: 10.1016/j.coemr.2021.03.021. Epub 2021 Apr 5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8658028/>

Castillo-Garzón MJ, Ruiz JR, Ortega FB, Gutiérrez A. Anti-aging therapy through fitness enhancement. *Clin Interv Aging*. 2006;1(3):213-20. doi: 10.2147/cia.2006.1.3.213. PMID: 18046873; PMCID: PMC2695180. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2695180/>

De Franciscis P, Colacurci N, Riemma G, Conte A, Pittana E, Guida M, Schiattarella A. A Nutraceutical Approach to Menopausal Complaints. *Medicina (Kaunas)*. 2019 Aug 28;55(9):544. doi: 10.3390/medicina55090544. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6780855/>

El Khoudary, S. R., Brooke, A., Beckie, T. M., Hodis, H. N., Johnson, A. E., Langer, R. D., Limacher, M. C., Manson, J. E., Stefanick, M. L., & Allison, M. A. (2020). Menopause Transition and Cardiovascular Disease Risk: Implications for Timing of Early Prevention: A Scientific Statement From the American Heart Association. *Circulation*, 142(25), 2399–2401. <https://doi.org/10.1161/CIR.0000000000000912>

El-Sharkawy, A. M., Sahota, O., & Lobo, D. N. (2015b). Acute and chronic effects of hydration status on health. *Nutrition Reviews*, 73(Suppl_2,1), 97–109. <https://doi.org/https://doi.org/10.1093/nutrit/nuv038>

Forma E, Urbańska K, Bryś M. Menopause Hot Flashes and Molecular Mechanisms Modulated by Food-Derived Nutrients. *Nutrients*. 2024; 16(5):655. <https://doi.org/10.3390/nu16050655>

Gilbert, M. E. (2023). *Eating for Physical Power and Stamina*. Tucson, AZ: Holistic Choices Publishing.

Gilbert, M. E. (2018). *Potent Superfoods for Lifelong True Health*. Tucson, AZ: Holistic Choices Publishing.

Jeong HG, Park H. Metabolic Disorders in Menopause. *Metabolites*. 2022 Oct 8;12(10):954. doi: 10.3390/metabo12100954. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9606939/>

Kline CE, Chasens ER, Bizhanova Z, Sereika SM, Buysse DJ, Imes CC, Kariuki JK, Mendez DD, Cajita MI, Rathbun SL, Burke LE. The association between sleep health and weight change during a 12-month behavioral weight loss intervention. *Int J Obes (Lond)*. 2021 Mar;45(3):639-649. doi: 10.1038/s41366-020-00728-8. Epub 2021 Jan 7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7914147/>

Liska D, Mah E, Brisbois T, Barrios PL, Baker LB, Spriet LL. Narrative Review of Hydration and Selected Health Outcomes in the General Population. *Nutrients*. 2019 Jan 1;11(1):70. doi: 10.3390/nu11010070. PMID: 30609670; PMCID: PMC6356561. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6356561/>

Lugo T, Tetrolashvili M. Hot Flashes. [Updated 2022 Dec 19]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK539827/>

Mead MN. Benefits of sunlight: a bright spot for human health. *Environ Health Perspect*. 2008 Apr;116(4):A160-7. doi: 10.1289/ehp.116-a160. Erratum in: *Environ Health Perspect*. 2008 May;116(5):A197. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2290997/>

National Institutes of Health - NIH Research Matters. *Long telomeres may heighten cancer risks*. (2023, May 23). <https://www.nih.gov/news-events/nih-research-matters/long-telomeres-may-heighten-cancer-risks>

Sies, H., & Stah, W. (2004). NUTRITIONAL PROTECTION AGAINST SKIN DAMAGE FROM SUNLIGHT. *ANNUAL REVIEW OF NUTRITION* , 24, 173–200. <https://doi.org/https://doi.org/10.1146/annurev.nutr.24.012003.132320>

Swami S, Krishnan AV, Wang JY, Jensen K, Horst R, Albertelli MA, Feldman D. Dietary vitamin D₃ and 1,25-dihydroxyvitamin D₃ (calcitriol) exhibit equivalent anticancer activity in mouse xenograft models of breast and prostate cancer. *Endocrinology*. 2012 Jun;153(6):2576-87. doi: 10.1210/en.2011-1600. Epub 2012 Mar 27. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3359605/>

Tardy AL, Pouteau E, Marquez D, Yilmaz C, Scholey A. Vitamins and Minerals for Energy, Fatigue and Cognition: A Narrative Review of the Biochemical and Clinical Evidence. *Nutrients*. 2020 Jan 16;12(1):228. doi: 10.3390/nu12010228. PMID: 31963141; PMCID: PMC7019700. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7019700/>

Vera-Santander VE, Hernández-Figueroa RH, Jiménez-Munguía MT, Mani-López E, López-Malo A. Health Benefits of Consuming Foods with Bacterial Probiotics, Postbiotics, and Their Metabolites: A Review. *Molecules*. 2023 Jan 27;28(3):1230. doi: 10.3390/molecules28031230. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9920731/>

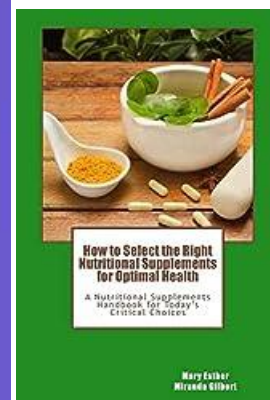
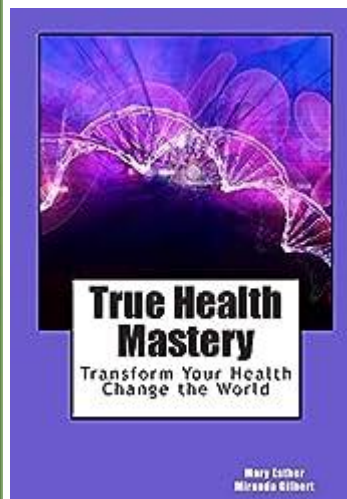
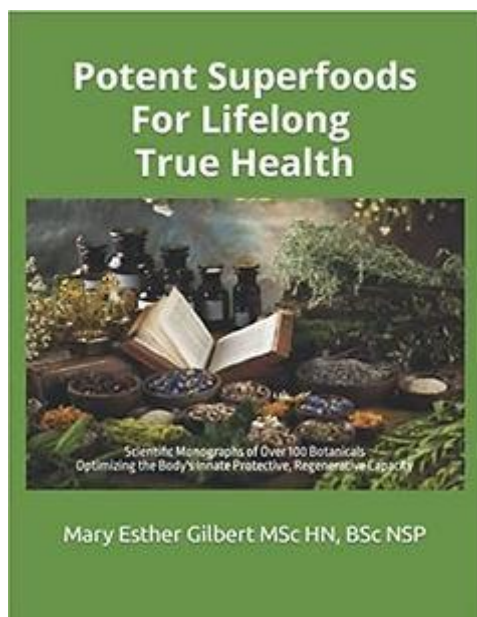
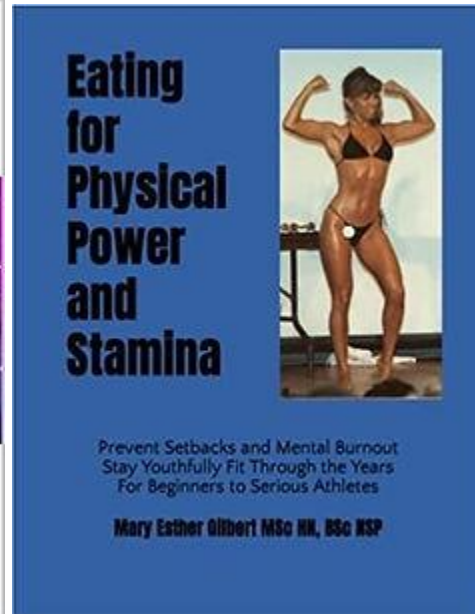
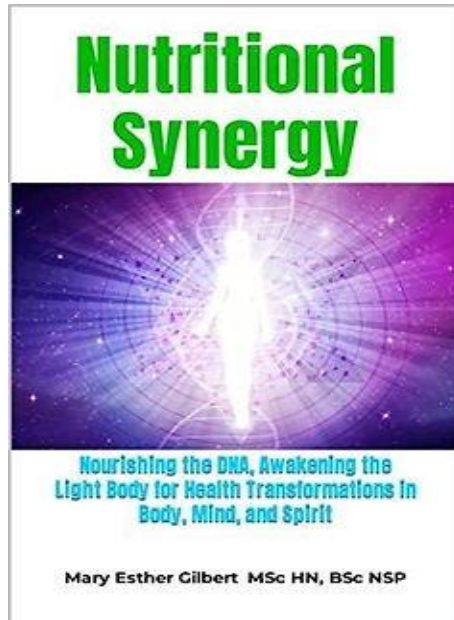
Resources:

Download This and Other APLGO Free Q & A Product Zoom Call PDF Documents and View the Product Call Videos:

<https://www.holisticchoices.com/apl>

Books, Book Descriptions and Summaries by Mary Esther Gilbert, MSc HN, BSc NSP

<https://www.holisticchoices.com/books-by-mary-esther-gilbert>



Subscribe to Mary Esther's YouTube and Rumble Channels

<https://www.youtube.com/@holisticchoices>

<https://rumble.com/c/c-679245>

