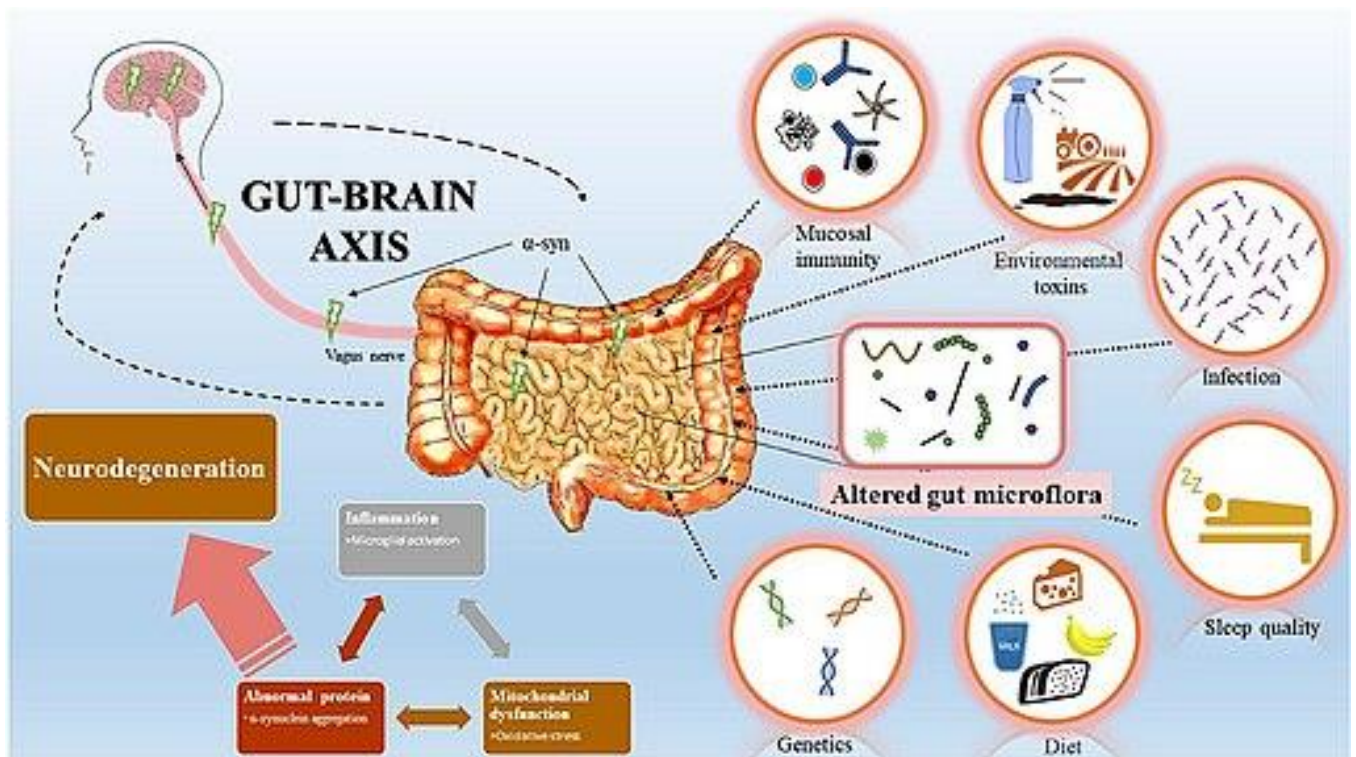


APLGO Product Q & A - MLS
With Pamela Zimmer and Mary Esther Gilbert, MSc HN, BSc NSP
March 10, 2025

1. Everyone is talking about gut health and our gut being our 2nd brain, or even our 1st brain. Can you speak to that?

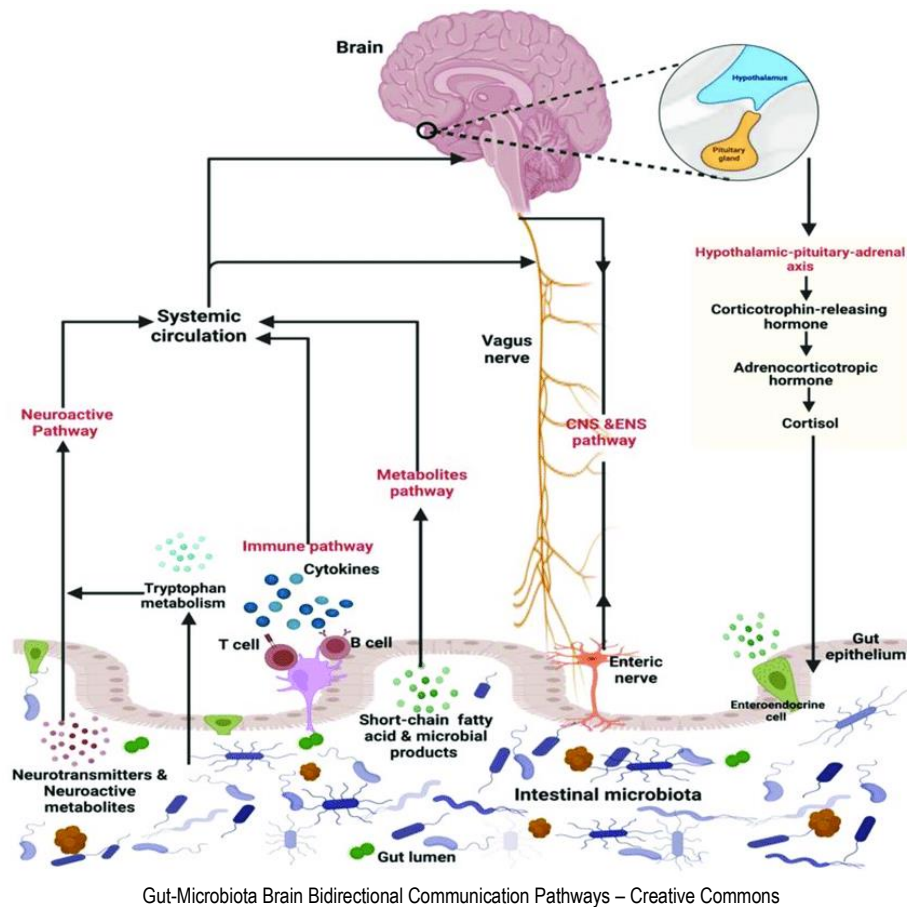
- **Gut-brain axis** – the multi-directional communication network that links the enteric (digestive tract) with the central nervous system.
 - Involves the endocrine (hormone-producing glands) and immune system communications with the brain.
 - Includes nerve connections to the gastrointestinal tract allowing the brain to influence intestinal actions including influencing immune cell responses and actions.
 - The gut in communication with the brain influences mood, cognition, and mental health.



Chao Yin-Xia et al - 2020 - Creative Commons Wiki

2. Would you say people with a healthier gut have better mental health? With our gut having up to 80% of our mood receptors, how does MLS support our mental health?

- The gut-brain axis communication network via the vagus nerve is what links the enteric (gut) and the central nervous systems, and involves communications that include the endocrine (glandular), humoral (body fluids and immune responses), metabolic (converting food to energy), and immune system routes of communication (Appleton, 2018).
- These communication networks are being constantly monitored via biochemical signaling by the endocrine/glandular/hormonal system that influences moods, emotional reactions, perceptions, etc.
- Such detections generate responses depending on if conditions are either adverse (health-threatening) or positive (life-perpetuating)—all of which depend on the level of deficiency or level of nourishment or nutrient satiety in the body, respectively.
- **Fluctuation of bacteria** in the intestines (enteric microbiota) extensively influences gut-brain communications via the vagal nerve.
 - a. Vagal nerve transports signals between the brain, heart, and digestive system.
 - b. Moods such as anxiety, depression, autism spectrum conditions are linked to gastrointestinal disruptions such as irritable bowel syndrome.
 - c. Diet is shown to influence the gut microbiome; this microbiota influences brain chemistry and behavior independently.
 - d. Microbes have been found to affect the neural network responsible for controlling stress responsiveness.
- Fiber, water, minerals, vitamins, raw food enzymes, phytonutrient-rich foods in the plant kingdom, healthy animal-derived protein, whole grains, raw nuts high in omega 3s—all are precursors for establishing aerobic, beneficial bacterial populations in the gut or colon.
- A nutrient- balanced daily diet is the key to an individual who is better able to more calmly and sensibly handle life stressors and maintain a more positive mental outlook.



Types of Cell Site Receptors Affecting Mood and Brain Communication

1. Serotonin Receptors (5-HT):

- **5-HT1A:** Plays a role in anxiety reduction and mood regulation (Garcia, 2014).
- **5-HT2A:** Linked to cognitive function and potentially mood disorders (Celada, 2004).
- **Other 5-HT subtypes:** 5-HT1B, 5-HT1D, 5-HT1E, 5-HT1F, 5-HT2B, 5-HT2C, 5-HT3, 5-HT4, 5-HT5, 5-HT6, 5-HT7 (Bakshi, 2025).
- **Mechanism:** 5-HT receptors are involved in various signaling pathways, including G-protein-coupled receptors and ligand-gated ion channels (Bakshi, 2025).

2. Dopamine Receptors:

- **D1, D2, D3, D4, D5:** Each subtype has distinct roles in reward, motivation, and motor function, all of which are linked to mood.
- **Mechanism:** Dopamine receptors are G-protein-coupled receptors that modulate neuronal activity (Bhatia, 2025).

3. Norepinephrine Receptors:

- **Alpha and Beta Subtypes:** Norepinephrine receptors are involved in the "fight-or-flight" response and play a role in mood and stress regulation.

- **Mechanism:** Norepinephrine receptors are G-protein-coupled receptors that modulate neuronal activity (Cleveland, 2025).

4. Opioid Receptors:

- **Mu (MOR), Delta (DOR), and Kappa (KOR):** These receptors are involved in pain perception and have been implicated in mood disorders.
- **Mechanism:** Opioid receptors are G-protein-coupled receptors that modulate neuronal activity (Lutz, 2013).

5. Other Receptors:

- **Glutamate Receptors (NMDA, AMPA, etc.):** Glutamate is a major excitatory neurotransmitter, and its receptors play a role in learning, memory, and mood regulation (Mehdi, 2014).
- **GABA Receptors:** GABA is a major inhibitory neurotransmitter, and its receptors play a role in anxiety and mood regulation (Dulawa, 2019).
- **Muscarinic and Nicotinic Receptors:** These receptors are involved in the cholinergic system, which plays a role in mood and cognition (Dulawa, 2019).
- **Histamine Receptors:** Histamine receptors are involved in wakefulness, feeding behavior, and motivation (Cleveland, 2025).

3. Why do MLS and HPR work so well together?

HPR Helps Protects the Liver and Circulation

- **Artichoke** contains Tsinarin, improves circulation in the gallbladder, increasing flow of bile.
- **Avocado** helps eliminate toxins in the liver and balance cholesterol levels in the liver.
- **Dandelion** improves bile flow, digestive gland secretions (saliva, stomach enzymes), and contains liver-cleansing phytonutrients: lutein, violaxanthin, zeaxanthin, chlorophyll, and others.
- **Milk thistle seed** protects against scarring or cirrhosis.
 - Helps build important liver enzymes.
 - Neutralizes toxins in the liver, including toxins from alcohol.
- **Peach** contains anti-inflammatory compounds lutein, zeaxanthin, and essential fatty acids for heart function and strong blood vessels.
- **Raisin** has a liver cleansing effect, protects from cell damage as an antioxidant, reduces LDL blood cholesterol.
- **Turmeric root** helps the liver process or break down fats, aiding their digestion, reduces blood cholesterol levels, contains curcuminoids that eliminate synthetic toxic chemicals, prevents gallstones.

(Gilbert, 2021)

MLS Helps Protect the Liver and Gut Functions

Botanicals	Phytonutrients
<p style="text-align: center;">Artichoke Leaf (<i>Cynara folia</i>)</p> <ul style="list-style-type: none"> • Improves insulin secretion, energy and glucose metabolism. • Improves cholesterol metabolism when carbohydrates and fatty foods are ingested. • Cleanses liver, improves skin conditions, protects liver from free radical damage. • Prevents formation of liver cancer cells. • Aids digestion. • Helps immune system against illness-causing microorganisms. 	<ul style="list-style-type: none"> • Inulin – helps establish healthy microbiota in intestines. • Tsinarin – improves bile flow in the liver during fats digestion.
<p style="text-align: center;">Carnation, Seed (Clove) (<i>Syzigium aromaticum</i>)</p> <ul style="list-style-type: none"> • Improves digestion, stimulates appetite. • Strengthens liver functions. • Improves circulation, memory. • Antimicrobial. • Neutralizes reactive oxygen species' (ROS) cell-damaging effects. • Prevents damage to DNA, prevents oxidation of proteins, lipids, sugars in cell environment. 	<ul style="list-style-type: none"> • Phenolics – antibacterial, antiviral, antifungal, anti-yeast, help eliminate toxic metals aluminum, lead. • Organic acids – anti-inflammatory, antioxidants, anti-free radicals.

<p style="text-align: center;">Chamomile, German, Flower (<i>Matricaria recutita</i>)</p> <ul style="list-style-type: none"> • Anti-inflammatory, antispasmodic. • Improves liver, urinary bladder, kidney, gallbladder, digestive functions. • Improves hypertension. • Contains glycine, amino acid known to have a calming effect on nerves. • Repairs ulcers, effective wound healing, skin lesions. • Lowers cholesterol. 	<ul style="list-style-type: none"> • Phenolics – anti-infection properties; improve immune system functions, anti-allergies. • Flavonoids - anti-mutagenic, antiangiogenic (stopping tumors from growing). • Terpenoids – antioxidant, antimicrobial, anti-allergic, anticancer, anti-hypertensive.
<p style="text-align: center;">Cinnamon Bark</p> <ul style="list-style-type: none"> • Improves circulatory system. • Pain relief. • Antimicrobial (larvicidal, antifungal, anti-yeast, antibacterial, antiviral) • Antioxidant, prevents tissue necrosis (death). • Suppresses neurodegenerative diseases (COX2 inhibitor) • Prevents plaques on nerve cells impairing brain functioning. 	<ul style="list-style-type: none"> • Cynnamaldehydes – prevent cancer cell proliferation. • Proanthocyanidins, catechins, flavonoids – destroy damaging free radical molecules. • Polyphenols – Insulin-like, lowers blood glucose and cholesterol.
<p style="text-align: center;">Coriander Seed</p> <ul style="list-style-type: none"> • Stimulates bile flow for fats digestion. • Essential oils important for growth, proper brain functioning. • Antioxidant, anti-free radicals. • Anti-diabetic, anti-hyperglycemic, improved insulin production. • Reduces fats accumulations in blood vessels. • Anti-anxiety. • Expels parasitic worms. • Relieves nausea. 	<ul style="list-style-type: none"> • Terpenes, Sesquiterpenes – destroys food-borne illness bacteria (<i>Salmonella, Listeria, Staphylococcus, Serratia, Enterobacter, Klebsiella, Pseudomonas, Escherichia</i>). • Carboxylic acids – detox toxic metals (mercury, lead). • Limonenes essential oils – antioxidant, antimicrobial, brain functioning
<p style="text-align: center;">Cranberry</p> <ul style="list-style-type: none"> • Protects kidney functions, genitourinary tract, anti-inflammatory. • Anti-bacterial - prevents <i>E. coli</i> adhesion to uroepithelial cells in urinary tract. • Prevents ulcerative <i>H. pylori</i> bacteria adhesion to stomach lining. • Helps excrete radioactive substances, and heavy metals (lead, cobalt, cesium, strontium). • Lowers cholesterol. • Corrects immune system modulation of inflammatory enzyme COX-2. 	<ul style="list-style-type: none"> • Phenolic acids, flavonoids, proanthocyanidins, anthocyanins – powerful anti-inflammatories. • Resveratrol – suppresses spread or proliferation of breast, colon, lung, prostate, leukemia tumors.
<p style="text-align: center;">Currant, Black</p> <ul style="list-style-type: none"> • Natural antibiotic, antibacterial actions. • Anti-amoebic, anti-fungal. • Improves cognitive performance, slows cognitive decline in aging. • Antioxidant, protects against oxidative stressors (free radicals). • Protects against cardiovascular disease. • Helps prevent elevated glucose and lipid levels. • Corrects intestinal malfunctions. • Helps restore or improve liver functioning. • Helps improve respiratory tract conditions. 	<ul style="list-style-type: none"> • Pectins – normalizes cholesterol. • Phytoncides – antibacterial, destroys <i>Staphylococcus aureus, corneybacterium diphtheriae, Shigella</i>. Destroys <i>Entamoeba histolytica</i>, amoeba that causes dysentery. • Anthocyanins, flavonoids – protect blood vessel and other cell walls from oxidative damage.

<p style="text-align: center;">Dandelion Root (<i>Tarxacum officinale</i>)</p> <ul style="list-style-type: none"> • Anti-viral, antifungal. • Antituberculosis. • Anti-carcinogenic. • Anti-arthritis • Helps maintain gallbladder functions. • Gastrointestinal/digestive, insulin stimulant. • Anti-inflammation. • Modulates immune system. • Protects gall bladder, kidney functions. 	<ul style="list-style-type: none"> • Lutein, zeaxanthin – anti-atherosclerosis, liver detoxification, anti-cirrhosis, anti-inflammatory.
<p style="text-align: center;">Fenugreek</p> <ul style="list-style-type: none"> • Carminative – reduces flatulence, eases constipation. • Aids respiratory system against congestion, inflammation, infections, expectorating properties, clears congestion, relieves coughing, bronchitis, allergies. • Assists in utilization of oxygen. • Helps control blood sugar in both types of diabetes. • Improves pancreatic function increasing insulin receptors in erythrocytes (red blood cells). • Protects brain and nerve functions. 	<ul style="list-style-type: none"> • Saponins, coumarins, genugreekine, - are anti-inflammatory superoxide scavengers that prevent cancer. • Plant steroidal saponins – can reverse atherosclerosis, lower cholesterol, triglycerides. • Trigonelline – stimulates renewal of brain cells, improves nervous system functions.
<p style="text-align: center;">Ginger Root</p> <ul style="list-style-type: none"> • Protects stomach lining, prevents intestinal parasites. • Prevents fatty liver. • Destroys bacteria, viruses, fungi, parasites. • Anti-inflammatory, analgesic (pain relief), anti-arthritis, reduces swelling. • Contributes essential fatty acids for cell membrane maintenance. • Analgesic (pain killer). • Rids respiratory system of phlegm, infections, colds, flu. • Antioxidant, detoxifier of accumulated toxic wastes. • Anticarcinogenic, chemopreventive. 	<ul style="list-style-type: none"> • Asparagines – a component of many proteins the body produces. • Choline – supports nerve, brain, muscle functions. • Caprylic acid – antimicrobial • Silica – essential for bones, tendons, aorta, kidneys, liver, hair, skin, nails.
<p style="text-align: center;">Grapefruit</p> <ul style="list-style-type: none"> • Antifungal, antibacterial, antiprotozoal, antiviral. • Helps prevent strokes or heart attack; helps prevent clots or thrombi (mobilized clots). • Antioxidant anti-inflammatory. • Improves insulin resistance in metabolic syndrome health conditions. 	<ul style="list-style-type: none"> • Flavonoids – aids in glucose metabolism, pancreatic insulin function, antithrombotic. • Flavonone -Actions are similar to insulin. • Naringin – prevents oxidative free radical scavenging molecules.
<p style="text-align: center;">Licorice Root</p> <ul style="list-style-type: none"> • Improves resistance to infectious diseases. • Works to inhibit viruses: hepatitis C, HIV, viral myocarditis, influenza virus, herpes simplex type 1, rotavirus, syncytial virus. • Help destroy: Candida albicans yeast, antibiotic Methicillin-resistant bacteria <i>Staphylococcus aureus</i>. • Antitumor. • Anti-inflammatory. • Helps regulate, modulate immune system actions. • Reduces toxins by life-threatening bacteria (pneumonia, skin infections). 	<ul style="list-style-type: none"> • Triterpenoids, flavonoids – immunomodulatory. • Saponins – Antiviral, antibacterial, anti-fungal. • Isoflavones – help control diabetes. • Liquiritigenin – reduces Staph bacteria exotoxin associated with endocarditis infection of the inner lining of heart chambers or valves.

<p style="text-align: center;">Mandarin</p> <ul style="list-style-type: none"> • Softens secretions in upper respiratory tract and bronchi. • Lowers risk of cancers of the gastrointestinal tract. • Lowers risk of stroke, improves blood lipids. • Antifungal, antiviral, antibacterial. • Prevents nerve spasms in muscle contractions. • Helps remove toxins via colon and kidneys. • Helps maintain proper acid/alkaline balance in stomach, prevents ulcers. • Aids digestion. • Aids the immune system. 	<ul style="list-style-type: none"> • Flavonoids – potent antioxidants that improve lifespan in the elderly. • Limonene essential oils – relieve stress, elevate mood, aid nerve, brain functions; aid hormone production. • Plant sterols – hormone precursors. • Carotenoids – protect against free radicals.
<p style="text-align: center;">Papaya</p> <ul style="list-style-type: none"> • Helps regenerate vertebral disc connective tissues. • Destroys intestinal parasites, antiviral, antifungal. • Prevents high blood pressure (anti-hypertensive). • Aids in wound healing, , normalizes blood clotting, reduces likelihood of scars. • Helps detoxify the liver. • Anti-inflammatory. • Helps prevent histamine reactions in the immune response. • Heals great variety of skin conditions. • Excellent digestive aid. 	<ul style="list-style-type: none"> • Papain – enzyme that breaks down protein (proteolytic enzyme). • A great variety of antioxidant compounds – antimicrobial, antitumoral, protecting against cardiovascular events, anti-free radical.
<p style="text-align: center;">Pumpkin Seed</p> <ul style="list-style-type: none"> • Maintains muscle memory and control. • Aid in cell membrane signaling, lipid transport. • Important for protein synthesis, collagen formation. • Aid immune system actions. • Aids in wound healing. • Aids in correct cell reproduction in synthesis of DNA and RNA. • Eliminates parasites. 	<ul style="list-style-type: none"> • Curcubitin – eliminates parasites (nontoxic to humans). • Carotenoids – • Choline – precursor of neurotransmitter acetylcholine.
<p style="text-align: center;">Purple Coneflower (<i>Echinacea</i>)</p> <ul style="list-style-type: none"> • Purifies blood, kidneys, liver. • Anti-inflammatory against infections of the respiratory, urinary systems. • Anti-bacterial. • Hormonal-regulating effects. • Maintains proper reactions of pro-inflammatory cytokine proteins in nerve injuries and immediate inactivation of viruses and bacteria. 	<ul style="list-style-type: none"> • Polysaccharides – aid in cell communications, cell membrane structures, and energy storage for fueling a diversity of biochemical processes. • Glycoproteins – protein-carbohydrates that protect nerve cells and their myelin sheath. • Flavonoids - aids in glucose metabolism, pancreatic insulin function, antithrombotic.

<p style="text-align: center;">Sweetie (Pomelo and White Grapefruit Hybrid)</p> <ul style="list-style-type: none"> • Effective against viral, flu, and respiratory infections. • Boosts the immune system, efficient elimination of infectious organisms (bacteria, viruses). • Normalizes blood pressure, prevents hypertension, swelling. • Improves cardiac function, blood vessel structures. • Digestive aid. • Restores liver and digestive tract functions. • Decreases fibrinogens (micro proteins that form obstructive scarring formed in abnormal blood clotting in anticoagulant actions). • Can lower low-density lipoprotein (LDL) cholesterol levels. 	<ul style="list-style-type: none"> • Polyphenolic flavonoid compounds – antihypertensive effects, reduction in diastolic blood pressure, antioxidants. • Flavonoids – anti-inflammatory
<p style="text-align: center;">Thyme Leaf</p> <ul style="list-style-type: none"> • Helps normalize blood pressure. • Effective against food-borne illness-causing <i>Pseudomonas</i>, <i>Salmonella</i>, <i>E. coli</i>, <i>Staph bacteria</i>, and the overgrowth of the yeast, <i>Candida albicans</i> (cause of thrush). • Kills larvae of mosquito that carries West Nile virus, Yellow fever virus, St. Louis encephalitis, dengue fever, Chikungunya fever. • Stimulates cancer cell self-destruction (apoptosis). • Antifungal, disinfecting agent. • Corrects conditions in gastrointestinal tract. • Reduces inflammation in mouth and throat mucous membranes. 	<ul style="list-style-type: none"> • Polyphenols – antioxidants, prevent lipid peroxidation or formation of free radicals. • Essential oils – destroy infectious microbes; prevents formation of biofilm: essential oil effective against widespread foodborne pathogens.: <i>Staphylococcus aureus</i>, <i>Salmonella enterica</i> or <i>enterica</i> serovar, Typhimurium and <i>Bacillus cereus</i>.
<p style="text-align: center;">Turmeric Root</p> <ul style="list-style-type: none"> • Improves fats digestion and liver functions. • Reduces inflammatory cytokines that disrupt glucose metabolism, lessens insulin resistance allowing uptake of glucose out of the bloodstream. • Aids immune system in reducing psychological stress responses. • Reduces inflammation in conditions of osteoarthritis, cardiovascular disease. • Exhibits cardio-protective anti-inflammatory properties preventing cardiac injuries, improving circulatory pathways while destroying/neutralizing free radicals. • Prevents and improves neurodegenerative processes, prevents the formation of plaques in microcirculatory pathways in the brain, prevents shrinking of hippocampus (learning and memory). • Strong antimicrobial. • Blocks enzymes needed for cancer growth, prevents tumor development, destroys cancer cell cultures <i>in vitro</i>. • Found to be effective against serious conditions in every body system. 	<ul style="list-style-type: none"> • Curcuminoids – free radical neutralizers of synthetic agricultural, industrial, and processed food chemicals. • Essential oils and resins – protective of the brain environment, reversing age-related brain conditions

(Gilbert, 2024)

4. Can this MLS/HPR combo take the place of a pre and / or pro-biotic? And why?

Yes, the many plant phytochemical complexes such as polysaccharides in **purple coneflower (*Echinacea*)** have been shown to be excellent prebiotics that allow the gut to increase its aerobic or oxygen-loving bacteria populations, and to aid in communications, sending messages throughout the body systems.

Consuming foods that are prebiotics such as the **artichoke** that contains fructan inulin fiber can supersede needing to provide the body with probiotic foods such as active cultured yogurt and beverages and fermented foods such as sauerkraut, miso, kefir and others.

With the aid of such phytochemicals and fibers, healthy gut environments provide optimal communications between cells of the intestines and signals to the brain via the vagus nerve, known as the gut-brain axis.

5. When is the most optimal time to take MLS? Is it common for “discomfort” as our bodies “get used to” a regulated gut?

MLS, and any other drop, can be taken at any time. However, the body does its best regenerative, repair, and growth processes when sleeping. Maintaining energy levels involves a nutrient-balanced diet, exercise, sunlight, proper hydration, consistent sleep time, and stress management.

If these factors are missing, not only can digestive upsets and other health problems emerge, one can experience chronic fatigue and may feel the need to sleep after taking MLS or other drops.

If a person has digestive system problems, it would be best to take MLS during the day and where there are convenient restroom facilities or when at home. When restoring the proper intestinal environment, there may be some clearing out of stuck or festering fecal matter and repairing of intestinal tissues. Depending on the extent of the person’s state of health or condition, this may or may not be uncomfortable.

Drinking plenty of spring water throughout the day is very important to reduce discomfort, soothe inflamed tissues, and help flush out feces and residual toxins.

Note: never drink distilled water, and do not drink or cook with tap water unless it has been filtered with a filtration system that cleanses down to the .01 micron or 10 nanometer range to remove not only illness and disease-causing microbials, but heavy metals and synthetic pollutants. Home water filtration systems filter at 2 to 3 micron ranges and therefore are not adequate for producing completely safe drinking water.

Once the colon has been restored to its proper environment, one can have experienced not only the restorative, cleansing benefits, but the full nutritive, pansystemic benefits MLS has to offer.

The body has a high capacity to adapt to the conditions it is given or exposed to. However, it doesn’t mean it has “gotten used to” any condition, good or bad.

When all of the biologically correct or biocompatible conditions are met for what the body requires to adjust all systems toward optimal functioning, then “getting used to” restored health no longer applies.

6. Being lactose intolerant, since taking MLS I don't need to take ICE as much as I was. What is the difference between the two?

ICE

Warning Signs, Malfunctions Imbalances, Deficiencies	Botanical Ingredients
Constipation – dehydration, lack of dietary fiber, lack of exercise (poor circulation), irritable bowel conditions.	Aloe Carrot Chamomile
Cramping – Sluggish peristaltic motions, blockages, mineral deficiencies.	Aloe Carrot Chamomile Meadowsweet Leaf
Diarrhea – anaerobic (illness-causing) bacteria, parasites, poor nutrient absorption, overeating and overwhelming the stomach's digestive process, not chewing food thoroughly.	Aloe Chamomile Licorice Root Meadowsweet Leaf
Pain – Burning sensations in stomach, localized pain, stomach pain, "heartburn", bloating.	Aloe Licorice Root Meadowsweet Leaf
Flatulence – pressure, odorous gases, overwhelming the stomach's digestive secretions hydrochloric acid (HCL) and digestive enzymes. Not chewing food thoroughly before swallowing. Toxins released from bacteria metabolic byproducts.	Aloe
Sluggish Motility – going more than a day without a bowel movement, being sedentary, dehydration, insufficient dietary fiber. High dietary fats leading to gallbladder problems.	Aloe Carrot Chamomile
Damaged Tissues – ruptures, inflammation.	Aloe Carrot Chamomile Meadowsweet Leaf Sea Buckthorn Berry
High acidity conditions – a cascade effect of inflammatory responses in all tissues, toxicity.	Aloe Carrot

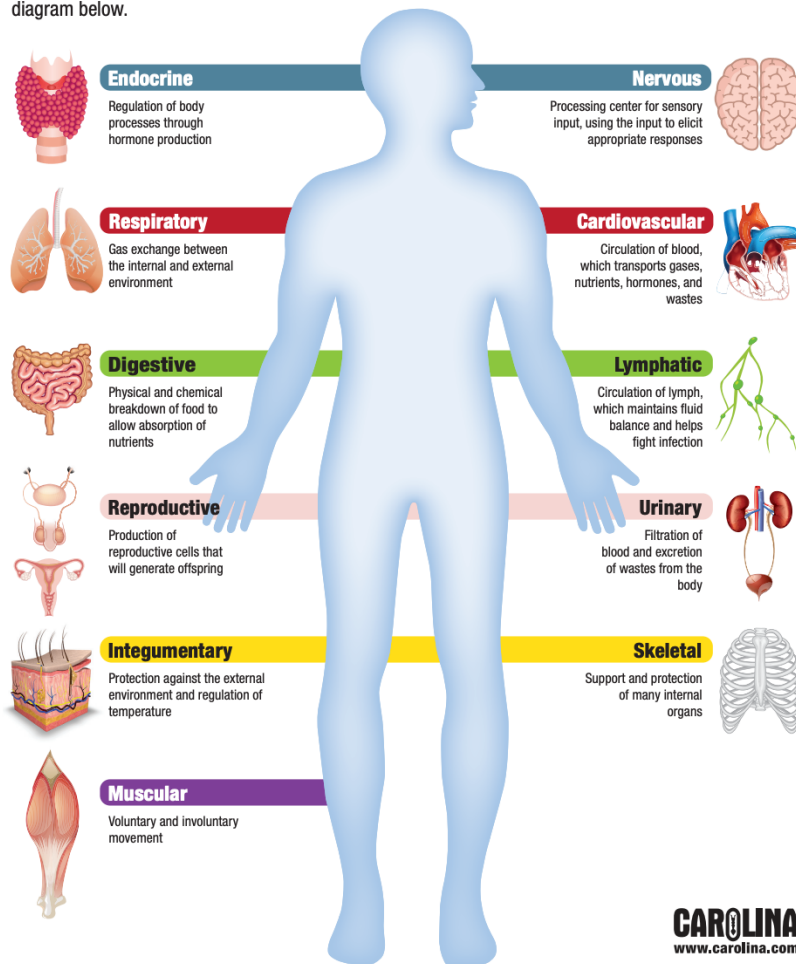
7. Why should someone take MLS if they don't have food sensitivities like lactose intolerance or gluten sensitivity, or something like IBS?

The botanicals in MLS benefit virtually all body systems by providing the nutrient factors that ensure the proper functioning at cellular levels:

Digestive, Urinary, Nervous, Lymphatic (Immune), Respiratory, Cardiovascular, Muscular, Skeletal, Integumentary (Skin), Endocrine (Glandular, Hormonal, Reproductive) Systems.

Human Body Systems

There are 11 main systems that keep our bodies functioning. Learn the primary roles of each in the diagram below.



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8. Our bodies can get parasites. How does MLS help support against parasites?

MLS contains many anti-microbial plant complexes that inactivate the growth of anaerobic bacteria and viruses, kill parasites, and aid the immune cells in disassembling and eliminating them.

Ginger root, papaya, pumpkin seed, and turmeric root in MLS' are anti-parasitic botanicals.

9. Now that we know that MLS and HPR work well together, are there any other combos with MLS that are beneficial, for example PFT, could that help with more potential weight loss results?

PFT

Brown Algae

- Contains *fucoidan*, found to inhibit lipids of fats (triglycerides) accumulations during breaking down fats (lipolysis).
- Anti-obesity agent, contains *eicosapentanoic acid* and *fiber* that improves use of fat in metabolism.
- Reduces formation of new fat cells (adipocytes), decreases adipose or fat cell sizes.
- Decreases inflammatory markers such as *interleukin-6*, a protein immune cells produce under inflammation conditions.

Ginger Root

- Contains essential amino acids that play a role in energy metabolism.
- Is a cholagogue; stimulates bile flow from the liver in fat metabolism.
- Contains *choline*, essential for transporting lipids from the liver in fat metabolism; in choline deficiency, fat accumulates in the liver, leading to NAFLD (non-alcoholic fatty liver disease).

Chromium Picolinate

- Studies showed an increase in lean body mass and a decrease in body fat percentages after 90 days of supplementation.
- Directly involved in protein, fat, and protein metabolism.

(Gilbert, 2024)

GTS

Apple

- Antihyperlipidemic (helps regulate fat metabolism).
- Ursolic (regulates metabolism)

Ginseng, Siberian

- Contains eleutherosides found to accelerate metabolism, help split fat molecules to reduce fatty acids for energy production.
- Speeds up carbohydrate metabolism, helps excrete excess fats from the body.
- Contains essential amino acids needed to maintain the body's metabolism: tryptophan, tyrosine, valine, leucine, threonine, and lysine.
- Contains citric acid, important in the energy production Krebs or TCA (tricarboxylic acid) cycle.

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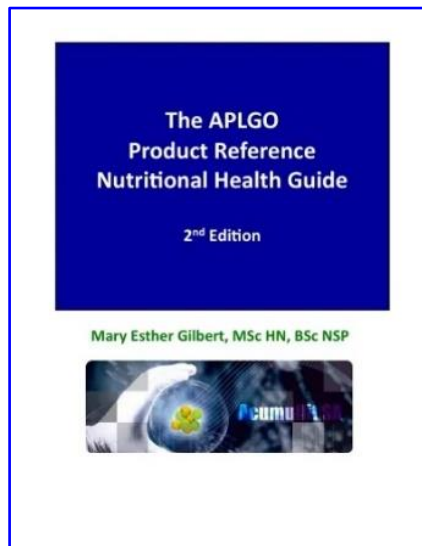
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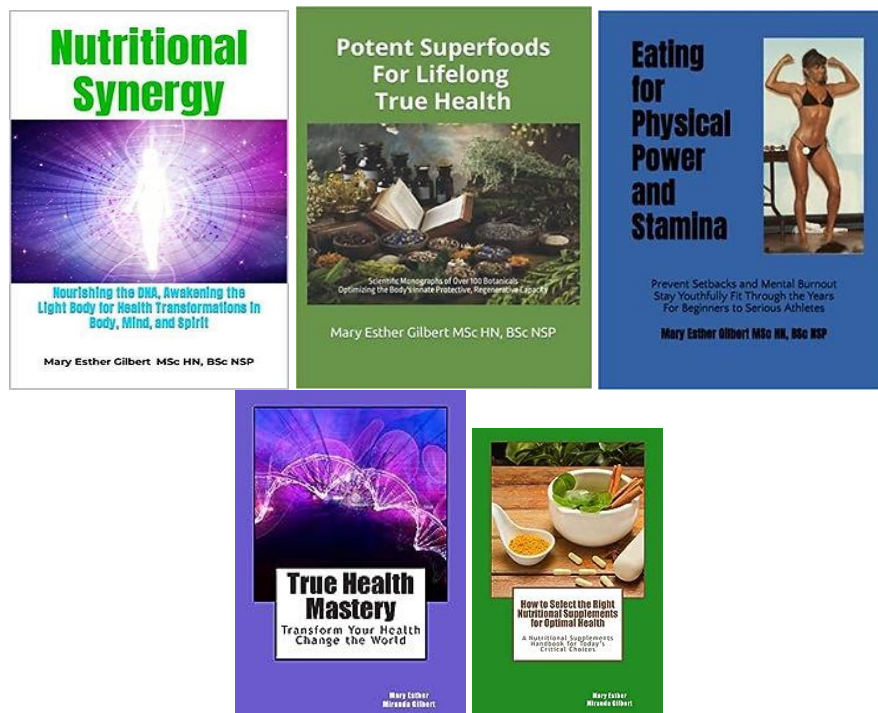
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