

The Five 'Pillars' of nutritional supplementation

It is now scientifically and medically recognized that even high-quality and balanced diets need to be supplemented with the nutrients groups constituting these 'pillars'.

Supplementation of the 'Pillars' to augment a good diet will ensure that you will have a complete and balanced nutritional intake, providing the best possible opportunity to enjoy optimum health and lower the risk of disease development throughout your whole life.

Furthermore, if supplementation of these nutrients is necessary in the healthy individual, then they are clearly essential supplemental nutrients for any individual who is un~well

I. Vitamins and Minerals

Scientific and medical studies suggest that the levels of vitamins and minerals that are required for optimum health and disease prevention are above the amounts that can be reliably supplied in even a good diet.

Most of these vitamins and minerals can be provided at optimal levels for every day intake by quality nutritional products. Bio availability of nutrients, herbs and natural food sources are important for supplements to be most effective.

All foods, nutraceuticals, herbs and supplements that are ingested continually, will develop ineffective tolerance at best and allergy at worse. The principles of Integrative Allergy are important in foods and supplementation. Rotate your supplements and foods.

II. Omega - 3 Fatty Acids (and Omega - 6 Fatty Acids)

Eating too much of any type of fat can cause obesity and related diseases. However, some types of fat, especially the Omega -3- fats, are essential for our body and provide a wide range of health benefits. Unfortunately, they are chronically under supplied in the diet. This means that, unless your diet contains flaxseed oil together with at least two large portions of fresh oily fish per week, it will be providing substantially less than the optimum amount of Omega -3 Fatty Acids. Other essential fats, omega - 6 FA, from warm weather plants, and omega - 9 FA, olive oil as well as saturated fats (from coconut oil) are also important to re-habilitate and maintain cellular and other membranes. All detoxification and cellular functions occur on membranes and the health of membranes are critical for health.

These fatty acids are essential to optimum health from pre-birth and throughout our lives, and adequate intake will help reduce risk of cardiovascular disease, chronic inflammation, allergy and cancer while enhancing brain and cognitive function. Maintaining membranes with essential fatty acids is essential for health.

Of course, eliminating the bad fats like hydrogenated (trans) fatty acid, and reducing the saturated fats is part of membrane maintenance.

Antioxidants

Antioxidants are the body's defense mechanism against damaging levels of reactive chemicals called 'free radicals'. The normal healthy person produces free radicals, but the levels are balanced against the amounts of antioxidants in the body to neutralize them.

However, increased environmental toxins combined with decreased levels of antioxidants in our diet, have resulted in the over-production of free radicals. This phenomenon is now known to be the underlying cause, or to be a mediating factor, in the following diseases:

- Cardiovascular disease
- Diabetes (type I and II)
- Cancer
- Chronic inflammatory disease
- Free radicals are thought to contribute strongly to Alzheimer's and Parkinson's disease and to the ageing process overall.

There are three major groups of antioxidants and all three need supplementing to be assured of optimum intake levels. Type I: Endogenous antioxidants including: o CoQ10 o Alpha Lipoic acid o Glutathione Type II: Phyto-antioxidants including:

- Flavonoids, such as those in green tea and green vegetables
- Carotenoids such as lycopene from tomatoes and Beta-carotene from carrots
- You should find Phyto-antioxidants; Carotenoid Complex; and Proanthocyanadins

Type III: Vitamin antioxidants including:

- Vitamin C
- Vitamin E

Probiotics and Bowel Health

Probiotics are products containing living beneficial bacteria, which 'colonize' the entire lining of our intestine

The amazing potential benefits that the bacteria living in our intestine have on our well-being are only just beginning to be understood by scientists, and includes the following.

- They enable the entire digestion and absorption functions of the intestine to operate efficiently
- They protect us from challenge and infections by potential pathogens
- They continuously prime and condition our immune system to function properly, from the day we are born throughout our entire life
- They can help protect us from allergy and intolerance and can reduce the symptoms in existing sufferers.

In most old traditional civilizations, a major part of the diet was the consumption of fermented foods, such as fermented milks and vegetables. This provided a regular intake of the 'Probiotics' types of bacteria and gave the associated benefits outlined above. However, most modern diets are devoid of "live" fermented foods, and hence the 'essence of these foods, i.e. the beneficial probiotic bacteria, must be supplemented.

Other often important supplements of bowel health are:

- Freeze-dried garlic: to kill the bad bugs
- Digestive enzymes with Hydrochloric acid

Immune Modulation

Modulating the immune system starts with Bowel health, the largest immune organ. Modulation means having an aggressive immune system, available for pathogens and foreign cells to be destroyed (i.e. cancer); but also turning off and not hyper-reacting to commonly occurring foods, your-self (autoimmune) environmental organisms and chemicals. Immune modulation is a balance between removing toxins and over reacting.

Science has discovered immune modulating nutraceuticals that affect the immune system by boosting its activity when needed or reducing its over reactions. Integrative Medicine understands that many of us suffer from chronic infections and a healthy immune system is critical to health and well being.

Transfer factors are highly effective immune messaging system made up of small peptide chains consisting of 44 amino acids, They are designed by nature to transfer critical immune information. They were discovered as the effective agent in Colostrum, the "first" milk.

Transfer factors are made up of three separate fractions that balance the immune system for a more effective immune response, The three fractions are the INDUCER, ANTIGEN SPECIFIC and SUPPRESSOR fractions. The inducer fraction provides a basic training to get the immune system into shape, the antigen specific fraction functions like a set of "wanted" posters that help identify critical features of the infectious enemy. Finally, the suppressor fraction is able to recognize the enemy's defeat and then calm the immune system back to a normal level

IV. Sulfur supplements

- MSM
- Redoxyl

V. Amino Acids

- Goat whey
- Imu-plus
- Immu-cal
- JProtein powders

Nutritional Principles

I Nutritional intake: Adequate vs Optimal

- Deficiency— RDA ----- Adequate-----Optimal-----Toxicity
- Genomics and the environment -> gene expression
- Toxicity: Heavy metal, toxic chemical, infectious
- Metabolic burden: wellness, maintenance, healing, repair, active or chronic degenerative disease
- Oxidative Load
- Biochemical patterning: weak or damaged organs, chronic nutritional deficiencies or needs
- Stress - all types
- Load on the metabolic (hormonal) system: adrenal, thyroid
- Digestive competence: digestive enzymes (HCl), absorption, bacteria (good and bad), waste elimination: feed, weed and seed
- Biochemical individuality; time and circumstance dependent:
- If not optimal nutrition - degree of rate limiting biochemical reactions
- Internal milieu — alkaline/acid-^ enzyme function changes

II. Food preparation: increase consumption of raw and uncooked:

- Enzymes and foods
- Nutrition enhanced
- Whole foods - complete nutritional factors vs processed foods
- Organic vs non: higher vitamin and minerals; less toxins for the overworked liver
- Juicing - enhancing the nutrient density
- Foods harvested when ripened vs non
- Herbs

HI. Supplementation

Supplementation vs nutrition from food only

Maintenance vs therapeutics 5 pillars (for maintenance)

- general vitamin and mineral
- antioxidants
- probiotics
- EFA
- Immune modulation

Supplement types:

High - pharmacologic dosage Moderate complexes

Low dose - condensed foods Issues: herbs, assay, binders and fillers, contaminants Companies and formulations Oral, liposomal

- Digestive aids:
 - HCl, Bile salts
 - Digestive enzymes: animal vs plant

IV. End point cellular utilization of nutrition: multiple steps

- Intake
- Digestion
- Absorption
- Transportation
- Cellular assimilation
 - Toxic competition
 - Increased demands: metabolic, injury, stress, disease, infection...
- Allergy: 1. Traditional: immune complex IgE, A, G, M; cellular immunity 2. oral tolerance (ability of the mucosal immune system (GALT) to effectively down regulate the systemic immune system; 3. ANS exaggerated response to food, vitamin, mineral, nutrition
- Biological terrain: acid - alkaline; enzymatic function
- ANS control: blood flow to the tissue/ organ

V. Compromised barriers: chronic diseases - enhanced toxicity and degeneration; must fix causes the loss of nutritional reserves; these tissues are usually highly dynamic and metabolically active tissues, with high nutritional needs

Skin

GI mucosa: mucosa, GALT

Cellular membrane

Blood -brain

Extra cellular spaces

Respiratory epithelium and MALT

Endothelium

VI. Human function is a complex web of interrelated systems; the nutrition is also a web
Functional brain Hypothalamus-Limbic—Metabolic (adrenal, thyroid, sex, insulin) -----Gastrointestinal ----- immune ----- cardiovascular-----
musculoskeletal----- detox and maintenance organs (kidney, liver, spleen)-----

Primary function is defense, maintaining the internal milieu (vegetative) then reproductive

VII. Integrative principle - the body is self healing if given the right nutrition, detox and support;

VII. Neuro-endocrine imbalance

- All chronic disease
- _ The stress response: psycho-neuro immuno- endocrine
- Stress response mediated by hormones (hypothalamus, pituitary, adrenal) and neurological - sympathetic and parasympathetic
- Normal physiology vs Stress physiology - Stress designed to be short not chronic
Adrenal gland chronic up-regulation: adaptive—^maladaptive (survival)
Phase I: Cortisol up, DHEA up; glandular compensation Phase II
Cortisol up- normal, DHEA normal -low; gland loosing
compensation Phase III fatigue - Cortisol down, DHEA down
- Chronic state of hyper-vigilance and the result of the patterning (chronic adrenal up-regulation)
 - o Often starting at birth/ in utero - mother utilizes the fetus cortisol-> gland hypertrophy, at birth mom - post-partum depression, baby - hyper-vigilance with increased levels of Cortisol
- Physiological causes of adrenal gland up-regulation:
 - o Chronic pain/ infection/inflammation
 - o Glycemic control (blood sugar)
 - o Hyper-vigilance (Stress) sympathetic overload; flight, fight, escape
Including: biochemical/nutritional stress; Heavy metal toxicity
Toxic chemical; Noxious energies, Allergies
Structural stress: TMJ, leg length, pelvic rotation,
Psycho-emotional stress; Prolonged exertion Sleep disturbance; Dys-oxygenosis

Bowel/ liver/ blood disorder Noise and other environmental • The some of the effects of chronic Cortisol and hyper-vigilance (fight, flight, escape):

- o Sensory system turned up
- o Store energy for impending famine - adipose deposits in patterns
- o GI mucosa atrophy
- o Hyper-coagulation -increased chronic infection
- o Sleep disturbed - unable to physiologically heal (growth hormone), psychologically down load (memory) o Self medicate to reduce the Cortisol burden: thrill, extreme sport, create stress around - fight with spouse..., last minute/pull it off- endorphin release reduces Cortisol; bile regurgitation

o Affects every system:

Cardiovascular: CVD, high blood pressure, stroke

Musculoskeletal: spasms, fibromyalgia, pain, muscle wasting

Connective tissues: Rheumatoid...

Pulmonary: asthma, allergies

Immune: suppression, autoimmune

Gastrointestinal: IBS, diarrhea, colitis, ulcer, nausea and vomiting

Genitourinary: impotence, frigidity, diuresis (water retention)

Skin: eczema, acne

Endocrine: diabetes (insulin resistance), fatigue, metabolic disorder, growth and repair

Central nervous system: depression, insomnia

Nutrient depletion:

Magnesium and potassium-urinary loss

Glutamine - converts to alanine and glucose (gluconeogenesis); enterocyte (GI mucosa healing), neurotransmitter (GABA) Carnitine - increase rate of lipolysis in stress VitC, Zn, Co Q 10 - hypermetabolism o Other implications: o Obesity o

Diabetes - stress response -> raise serum glucose causing hyper-

insulinemia and insulin resistance o CVD - Syndrome X with elevation of blood lipids; high blood pressure o Infectious disease - immune system is down regulated o GI disturbance - leaky gut o Hypothyroidism - Cortisol reduces TSH production of T4 and conversion

of T4->T3 (Wilson's) o Poor wound healing; Impaired detoxification o

Osteoporosis; Growth failure; Infertility o Chronic fatigue; Modulation of gene expression Must fix the adrenal gland to heal the musculoskeletal system/ connective tissues

VIII. The diet pyramid

Intuitive diet Metabolic type, genetic diet Special diets: Zone, Atkins, LA shape, low fat, alkaline, cleansing, hypoglycemic, rotation, high carb low fat...