

PH PERQUE INTEGRATIVE HEALTH ACADEMY

WOMEN'S HEALTH CHALLENGES DURING PANDEMICS AND BEYOND | A PHYSIOLOGY BEFORE PHARMACOLOGY APPROACH

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ALKALINE WAY TO EVOKE HEALING | RUSSELL JAFFE MD, PhD, CCM

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CAUSES RATHER THAN CONSEQUENCES

Sustainable health...
We are what **we eat and drink, think and do**

Epigenetic health bank account... replenish or deplete by choices & habits

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START RESTORATIVE HEALING

Eat what you can digest, assimilate, and eliminate without immune burden.
Central to health and being well

- Homeostasis**
- Essential nutrients to meet individual needs**
- Detoxification competences**
- Reduce environmental toxin exposures**




4

STOP FIGHTING DISEASE START HEALING; IDENTIFY OPPORTUNITY

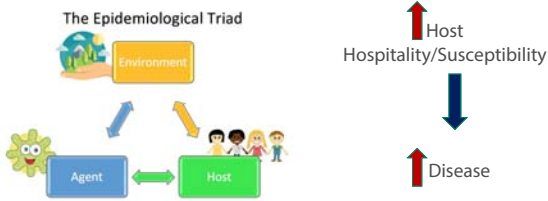
Immune system tolerance & delayed allergies

- ✓ **Inflammation is repair deficit**
- Correct individual nutrient deficits
- Personalize supplements & lifestyle –
- ✓ **Self Assessments**
- Safer toxin removal (3 phases)
- **Alkaline way of living:** Nature, Nurture, & Wholeness
- Remove obstacles to recovery;
- Evoke human **healing responses**



5

Host Hospitality/Susceptibility



The Epidemiological Triad

Environment


Agent

Host

Host Hospitality/Susceptibility

Disease

Engering A, Hogerwerf L, Slingenbergh J. Pathogen-host-environment interplay and disease emergence. Emerg Microbes Infect. 2013;2(2):45. https://www.cdc.gov/healthyschools/ham/teachers/documents/epi_1_triangle.pdf

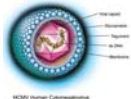



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INFECTIONS

- Lyme : Borrelia spread by ticks
- Epstein-Barr : infectious mononucleosis
- Cytomegalovirus (CMV): common herpes virus; 1 in 100 infected / 1 in 1000 affected
- HHV 6: mono, chronic fatigue

Dx via PCR assay/ viral culture/ serology

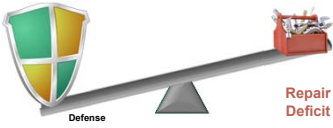
**Host Hospitality Matters –
Manifestation of disease increases with host immune status**

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- Janeway CA Jr. How the immune system protects the host from infection. *Microbes Infect.* 2001 Nov;3(13):1167-71.
- Pierre JV, Kuramamoto CA. Variation in *Candida albicans* EFG1 Expression Enables Host-Dependent Changes in Colonizing Fungal Populations. *mBio.* July 24, 2012; 3 (4) e00117-12

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OVERBURDENED IMMUNE SYSTEM



**Mitochondrial dysregulation affects innate immune responses
Immune dysfunction and disease emerge**

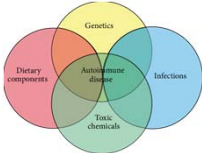
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- Yixin Chen Zhongyang ZhouWang Min. Mitochondria, Oxidative Stress and Innate Immunity. *Front. Physiol* 2018, 18 October
- Jaffe R. First Line Comprehensive Care: Part I. Chronic Autoimmune Disease Management by Causes Rather than Symptomatic Consequences. *Seminars in Integrative Medicine.* 2005 (Jan); 3 (2): 44-60.

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AUTOIMMUNITY MORE COMMON

- Affects 23-50+ million Americans; 80% women
- >100 diseases (ARDA)
- Autoimmunity or autoimmune disease



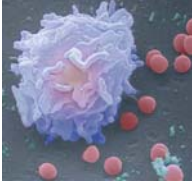
TOLERANCE LOST → SELF-ATTACK → TOLERANCE RESTORED

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- <https://www.womenshealth.gov/a-z-topics/autoimmune-diseases>
- Vojdani A, Pollard K, & Campbell, A. (2014). Environmental Triggers and Autoimmunity: Autoimmune diseases. 2014. 798029.

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A Healthy Immune System...



No allergies...
tolerance

Neutralize
infections & allergens

Defends then repairs daily wear/tear

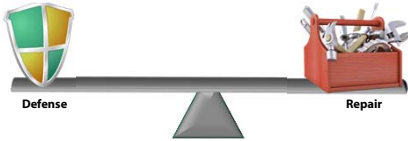
50 Bn Dendritic WBCs recycle 50 pathogens/cell

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Carneiro VA, Bezerra AC, Guimaraes MCM, Muniz-Junquera IM. Decreased phagocytic function in neutrophils and monocytes from peripheral blood in periodontal disease. *J Appl Oral Sci.* 2012 Sep-Oct; 20(8): 503-509.

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TOLERANT IMMUNE SYSTEM: FEW IF ANY



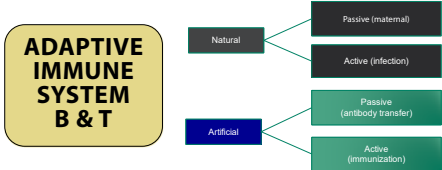
Defense **Repair**

Defends, Repairs & Deletes

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Adaptive Immune System: Back-Up



ADAPTIVE IMMUNE SYSTEM B & T

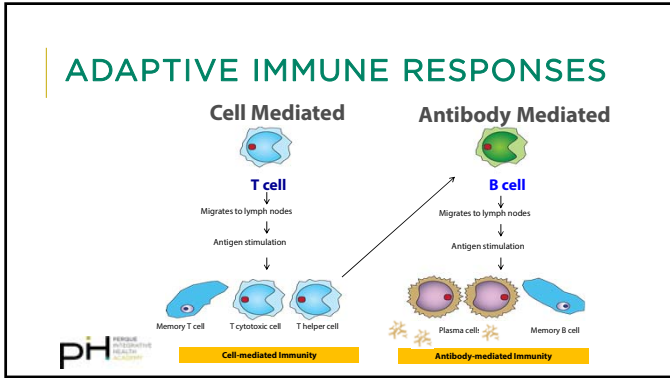
- Natural
 - Passive (maternal)
 - Active (infection)
- Artificial
 - Passive (antibody transfer)
 - Active (immunization)

Blood, Lymph & tissue circulation
Utilizes memory & antibody mechanisms: **specific**.

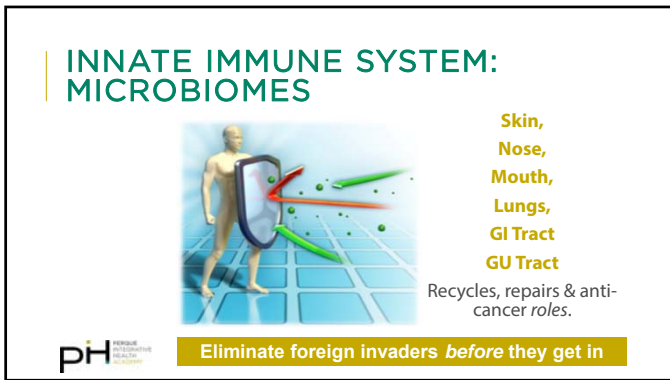
Attacks invaders that get inside

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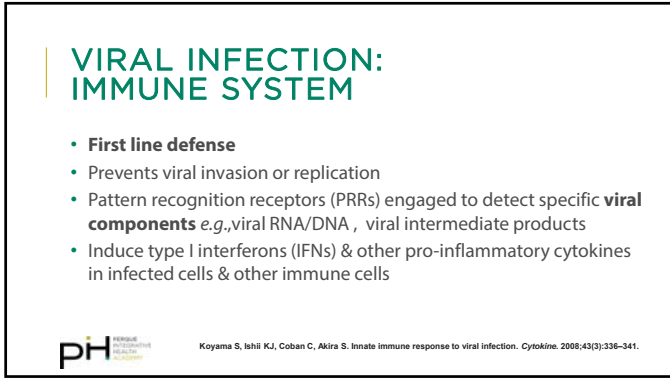
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VIRAL INFECTION ADAPTIVE IMMUNE RESPONSE

- Mobilized when **viral** replication outpaces innate defenses = **adaptive response**
- Antibodies and lymphocytes: humoral **response** or cell mediated **response**.
- Distinguish what is *foreign* from what is *self*

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Alberts B, Johnson A, Lewis J, et al. Molecular Biology of the Cell. 4th edition. New York: Garland Science; 2002. Chapter 24, The Adaptive Immune System. <https://www.ncbi.nlm.nih.gov/books/NBK21072/>

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HYPERSENSITIVITY/ALLERGY TYPES

Immediate Allergies
Type I: Acute, RAST (IgE) Histaminic

Delayed Allergies
Type II: Reactive Antibody; B-Cell
Type III: Immune Complex; vasculitis
Type IV: T-Cell Mediated

Delayed/hidden allergies HARD to identify by history / serology

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ACUTE ALLERGY (IGE)

- On second (re) exposure to antigen (allergen)
- Ig E antibodies produced – antigen specific
- Mast cells sensitized to release inflammatory mediators
- Symptoms occur within seconds/minutes of exposure to antigen
- Examples: anaphylaxis, allergic rhinoconjunctivitis, allergic asthma

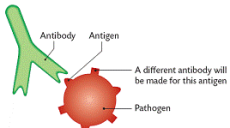
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Thomas C. King MD, PhD Inflammation, Inflammatory Mediators, and Immune-Mediated Disease, in Elsevier's Integrated Pathology, 2007 pages 21-57

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TYPE II: REACTIVE ANTIBODY

- Antibody, specific to antigen, binds to antigen
- Ab-Ag activates Complement
- Complement fixing, provocative IgG, IgM, IgA
- In vitro



Antibody, Antigen, Pathogen

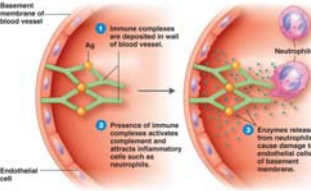
PH PERQUE INTEGRATIVE HEALTH ACADEMY

Brostoff J, Challacombe SJ, Food Allergy and Intolerance, Saunders Ltd., 2nd edition (2002)

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TYPE III: IMMUNE COMPLEX

Antibody-Antigen complexes provoke reactions
 Not Type I [IgE binds to mast cells]
 Form IC that damage blood vessels if not removed by liver



Basement membrane of blood vessel, Ag, Endothelial cell, Neutrophil

Immune Complex – Blood Vessel

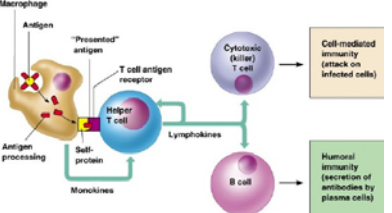
PH PERQUE INTEGRATIVE HEALTH ACADEMY

Brostoff J, Challacombe SJ, Food Allergy and Intolerance, Saunders Ltd., 2nd edition (2002)

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TYPE IV: T CELL MEDIATED

Macrophages engulf food allergens → T-cells and macrophages release cell-signaling interleukins → Start immune cascade leading to → Inflammation Repair Deficit



Macrophage, Antigen, "Presented" antigen, T cell antigen receptor, Antigen processing, Self-protein, Macrophage, Lymphokines, Cytotoxic (killer) T cell, Humoral immunity (secretion of antibodies by plasma cells)

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LEAKY GUT

75% immune system within gut: Peyer's patches

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- Mu Q, Kirby J, Reilly CM, Luo XM. Leaky Gut As a Danger Signal for Autoimmune Diseases. *Front Immunol.* 2017;8:598.
- D. Pagliari, A. Saviano, E. E. Newton, et al., "Gut Microbiota-Immune System Crosstalk and Pancreatic Disorders," *Mediators of Inflammation*, vol. 2018, Article ID 7946431, 13 pages

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Host Hospitality Matters

- Microbiome trains & informs host's **innate & adaptive** immune system
- Intestinal **dendritic cells** process & present antigen, maintain of tight junctions (avoid intestinal leaks)

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Zheng D, Lewinski T, Ellinav E. Interaction between microbiota and immunity in health and disease. 2020; *Cell Res* 30: 492-506

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GI TESTING

- Basic stool tests – occult blood, microscopic overview, stool culture, pH
- Comprehensive stool analyses
 - digestion: enzymes, fat/protein breakdown products
 - inflammation: markers e.g., sIgA, calprotectin
 - microbiome- presence of bacteria, yeast, mold, parasites
- Intestinal permeability – lactulose/mannitol absorption test
- SIBO : hydrogen breath test- gold standard??
- At home microbiome testing : microbiome sequencing –limited info- not too conclusive

PH PERQUE INTEGRATIVE HEALTH ACADEMY

- D'Angelo F, Felley C, Frossard J-L. Calprotectin in Daily Practice: Where Do We Stand in 2017? *Digestion* 2017;95:293-301
- Ghoshal UC. How to interpret hydrogen breath tests. *J Neurogastroenterol Motil.* 2011;17(3):312-317
- Staley C, Kaiser T, Khoruts A. Clinician guide to microbiome testing. *Dig Dis Sci.* 2018, Dec;63(12):3167-3177

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GI TRANSIT TIME MEASUREMENT

Activated Charcoal
6-12 caps (1.5-3 grams charcoal)
+ 8 oz water *between* meals

<150 lbs: 6 caps
150 – 200 lbs: 8 caps
200- 250 lbs: 10 caps
>250 lbs: 12 caps


Goal: 12-18 hours intake to excretion


Average: ≥ 36-96++ hours

- toxin reabsorb
- drain metabolism
- ↑ chronic GI or systemic illness
- TMAO, parasites, yeast

Short: <10 hours

- malnutrition
- malabsorption





Kim ER, Rhee DP, et al. **PH** Interpret a Functional or Mobility Test. *J Neurogastroenterol Motil*. 2012; 18(1): 94-99

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MICROBIOME ESSENTIALS

Prebiotic fibers:
40-100 g/day; 80:20:soluble:insoluble

Probiotic bugs:
- 40-100 billion CFU/day; live, multi strain, dairy free medium

- Lactobacillus and Bifidus strains – implant in upper and lower GI, proven beneficial
- Saccharomyces boulardii – supportive studies fewer

Symbiotics: Recycled Glutamine
1.5-6 g/day taken on rising, before bed &/or exercise

- Gibson GR, Roberford MB. Dietary modulation of the human colonic microbiota. Introducing the concept of prebiotics. *J Nutr* 1996;125:1403–1412.
- Xue H, Suft AJ, Wischmeyer PE. Glutamine therapy improves outcome of in vitro and in vivo experimental colitis models. *J Parenter Enteral Nutr*. 2011 Mar;35(2):188-197.
- Corbat MA. A gastroenterologist's guide to probiotics. *Clin Gastroenterol Hepatol*. 2012;10(9):960–968.

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ULCERATIVE COLITIS – CASE REPORT

History:
32-year-old, Female, Dx proctitis in 2014 with help of colonoscopy

Dietary modifications did not stop rectal bleeding
Repeat colonoscopy 8 months later – Dx Ulcerative colitis

Initial therapy:

- Lialda, 6 MP and Asacol
- Dairy and grain free diet + vegan for 6 months
- Patch test for nickel – positive, C reactive protein: 239 mg/L in June 2016

Persistent GI pain. Diet mostly consisting of bread, chicken and eggs

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ULCERATIVE COLITIS - CASE REPORT


Therapeutic interventions:
LRA tests: 7 reactions: Strong:
 Iceberg lettuce and Parsley

Moderate: Peanut, Tomato, Butter (COW DAIRY group), Dill and Garbanzo bean.

Implementation:
Substitute immune burden (Strong for 6 mo; Mod for 3 mo)
 Alkalinizing diet + probiotics and recycled glutamine

6 months later:
 Minimal pain, reduction in meds
 Lower inflammation : CRP - 2.6 mg/L


1 year later:
 No pain, no meds
 1st morning urine pH consistently between 6.5-7.5




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EVIDENCE OF TOXIC EATING: 50+% HAVE

- Obesity
- Distress
- Metabolic syndrome
- Chronic pathogen
- Repair deficit = Inflammation



Sears ME, Genks SJ. Environmental Determinants of Chronic Disease and Medical Approaches: Recognition, Avoidance, Supportive Therapy, and Detoxification. J Environ Public Health. 2012; 2012: 356736.



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ENVIRONMENTAL CHEMICALS

Waste antioxidants, minerals and cofactors

Formaldehyde – furniture, nail/hair products


Phthalates, Parabens, propylene glycol
 cosmetics, perfumes, plastics

Petroleum byproducts
 Styrofoam, plastics, mineral oil, vaseline

Sulfites & Nitrites/Nitrates
 wine, salad dressings, trail mixes, deli meats

Glyphosate (GMO), Organophosphates
 50% of the killing agents in chemical pesticides

<http://enmedicine.medscape.com/article/1175139-overview?e%3D%3E/>



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TOXIC MINERALS

Bioremediation, Diarrhea, vomiting, heart disease, diabetes, allergy, cancer (liver, colon, lung, bone), birth defects, kidney-liver-nerve system damage

Jan AT, Azam M, Siddiqui K, Ali A, Choi I, Han QM. Heavy Metals and Human Health: Mechanistic Insight into Toxicity and Counter Defense System of Antioxidants. *Int J Mol Sci* 2015;16(12):29592–29630.

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FUNCTIONAL DETOXIFICATION NEED

2000 v 1900: Industrial chemicals >15-fold (↑1500%)

All pregnant women (US) exposed to 43+ xenotoxins
What to do? ? ?

- Board of Governors of the Federal Reserve System. Industrial capacity and capacity utilization. G-17 (419). Washington, DC: Board of Governors of the Federal Reserve System; 2013. <http://www.federalreserve.gov/>
- Woodruff TJ, Zota AR, Schwartz JM. Environmental chemicals in pregnant women in the United States: NHANES 2003-2004. *Environ Health Perspect* 2011;119:878–85

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ACTION: METABOLOMIC, MICROBIOMIC

Identify Immune Burdens

Substitute for reactive substances... not just foods

Look at additives, preservatives, colors, chemicals & toxic minerals

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Toxic Metals Links to Ill Health How to...

Determine chronic illness toxic mineral links

Improve treatment success:

Assess body burdens (by d-pen provocation)

Practice **safer detoxification... physiology first**

Mitigate adverse effects of toxic metals

Be valued for experience & results



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TOXIC METALS LINKS TO ILL HEALTH

Determine Chronic Illness Links to...

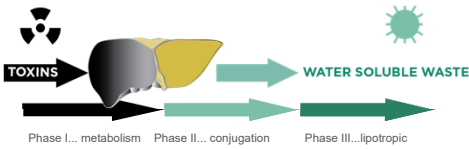
- **Mercury...** annual toll documented by *National Academy of Sciences, ATSDR & EPA:*
 - >60,000 US newborn's neurodevelopment impaired
 - Faroe Islands + others confirm; Seychelles not
 - ~20% of population has CNS ± renal damage
 - Bioaccumulation / bio-concentration from 200,000 to 10,000,000 fold
 - At 1 ppm there are 20,000 Hg molecules/cell



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STOP FIGHTING DISEASE START RESTORATIVE DETOXIFICATION

Safer toxin removal (3 phases)




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BIODETOX SUPER FOODS

Garlic, ginger, onions, broccoli sprouts, eggs

GGOBE

Sulforaphane, IP6, minerals



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Jaffe, R. Diabetes as an Immune Dysfunction Syndrome. In: Watson RR, Preedy VR, Eds. Bioactive Food as Dietary Interventions for Diabetes. Academic Press, 2013, 41-52.

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INTEGRATIVE DETOX ASSESSMENTS

Epigenetic Personal detox tests (urine):

1. d-Glucaric acid [Ur]
2. Mercapturic acid [Ur]
3. Sulfate [Ur]
4. Hippurate [Ur]
5. d-penicillamine provocation [24^h Ur]

Essential & toxic min

Stephen B. Edelson. Autism: Xenobiotic Influences. *Toxicol Ind Health*, September 1998 vol. 14 no. 4, 553-563. Inhibition of mercapturic acid pathway-mediated disposal of 4-hydroxycyclohexyl causes complete and sustained remission of human cancer xenografts in nude mice. *Indian J Experimental Biology* Vol. 46, Nov 2011, 817-825

Jaffe R. HSC d-penicillamine Protocol. 87.05.

Esteller M. *Lancet Oncol*, 2005; 4: 365-372

Jaffe R. *Int Clin Nutr Rev*, 1990; 10: 265-266

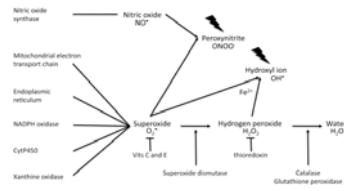
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OXIDATIVE STRESS

↑ Reactive oxygen species (ROS)

- Mitochondrial dysfunction
- Aging, Chronic disease
- Pro-oxidant- Antioxidant imbalance
- Shortened telomeres



Inflammation = Repair Depair Deficit

Burton GJ, Jauriau E. Oxidative stress. *Best Pract Res Clin Obstet Gynaecol*. 2011;25(3):287-299.

Ryan P, Barnes, Elise Couqueret, Patricia L, Oprea. The impact of oxidative DNA damage and stress on telomere homeostasis. *Mechanisms of Ageing and Development* 2019; 177: 37-45


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Universal Antioxidant

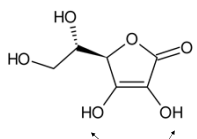
- L-Ascorbate 100% reduced & buffered
- Repairs & renews *better*
- Universal maternal antioxidant

• Abdolshahzad H, Eghtesadi S, Nouromohammadi I, Khadem-Ansari M, Nejad-Gashti H, Esmailzadeh A. Effect of vitamin C supplementation on oxidative stress and lipid profiles in hemodialysis patients. *Int J Vitam Nutr Res* 2009 Sep;79(5-6):281-7.
 • Ryan MJ, Dudash HJ, Docherty M, Geronilla KB, Baker BA, Hoff GG, Culp RG, Alway SE. Vitamin E and C supplementation reduces oxidative stress, improves antioxidant enzymes and positive muscle work in chronically loaded muscles of aged rats. *Exp Gerontol* 2010 Nov; 45(11):852-65.
 • England S, Sielaff S. The biochemical functions of ascorbic acid. *Annu Rev Nutr*. 1986;6:365-406
 • Jaffe R, Brown S. Acid-Alkaline balance and its Effect on Bone Health. *Int J Integrative Med*. 2000; 2 (6): 7-18.



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ASCORBATE: TOXIC MINERAL DETOX




Toxic Mineral ++

1 gm ascorbate =
 1,000 mg =
 1,000,000 mcg;
 ~0.01% can bind ToxMin =
 1,000 mcg ascorbate
 binds ~0.1 µmol ToxMin =
~ 10 mcg ToxMin / gm Asc

**Daily ToxMin exposure =
 ~ 2 gm ascorbate/day to
 safely protect & excrete**





http://www.nal.usda.gov/fnic/DRIDRI/Vitamin_C95-185_150.pdf




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1ST AM UR PH AS PREDICTIVE BIOMARKER

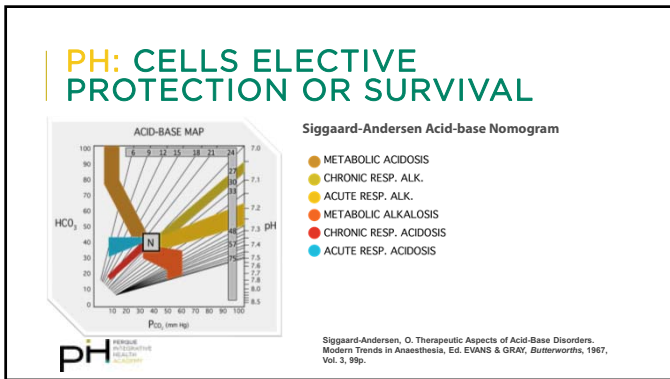
- Status: cell acids & minerals
- Enzyme catalysts pH sensitive
- Protein efficiency >90+% or <10%
- Mg⁺⁺ forgotten electrolyte
- Mg uptake enhanced w/ Choline Citrate: 440-880+ mg/d elemental Mg⁺⁺

Jaffe R. The Alkaline Way in Digestive Health. In: Watson RR, Preedy VR, Eds. Bioactive Food as Dietary Interventions in Liver and Gastrointestinal Disease. Academic Press, 2013, 1-21.



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URINE >6° REST

Excess acid wears you out

Too Acidic (<6.5)

Healthy Repair / Restore Zone

Healthy pH (6.5-7.5)

Catabolic illness tears you down

Too Alkaline (>7.5)

Predictive Goal Value = pH 6.5 – 7.5

Jaffe R, Mani J. Clinical Evidence in Favor of Specific Polyphenolics. In: Watson RR, Preedy VR & Zibadi S, Eds. Polyphenols in Human Health and Disease, Academic Press, 2013: 695-705

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MAGNESIUM: METAL DETOX

- Healthy detoxification and effective removal of toxins out of the body, Phase 1 detox pathway
- Magnesium needed for adequate glutathione
- Deficiency can cause Pb and Cd accumulation

¹²
Mg
Magnesium
24.305

<https://holisticprimarycare.net/topics/prevention-practices-pearls/three-safe-simple-ways-to-detox/>
Kozielec T, Salska A, Karakiewicz B. The influence of magnesium supplementation on concentrations of chosen bioelements and toxic metals in adult human hair. Magnesium and chosen bioelements in hair. Magnes Res. 2004 Sep;17(3):183-188. .

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FOOD, MIND, MOOD, COMMUNION

Avoid foods that promote anxiety

- **Processed** meat
- **Fried food**,
- **Refined** cereals,
- **Sugars:** Candy, pastries, sauces, dressings, coating
- **Hard to digest:** Meat, fish, cow dairy, damaged fats



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• Murphy M, Mercer JG. Diet-regulated anxiety. *Int J Endocrinol.* 2013;2013:701967. 52

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NOURISHING FOOD FOR THE MIND

Whole foods promote equanimity...
Alkaline Way to sustainability!

Diet Examples:

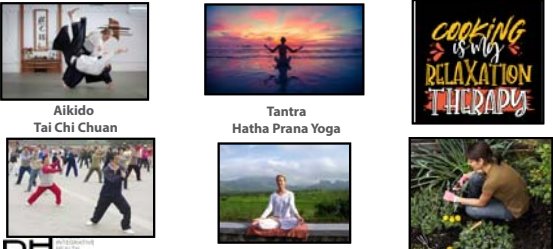
- Sattvic
- MIND
- Paleo
- Mediterranean
- Japanese



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PHYSICAL ACTIVITY AND THE MIND



Aikido
Tai Chi Chuan

Tantra
Hatha Prana Yoga

COOKING
is why
RELAXATION
THERAPY

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NEUROCHEMICAL HARMONY

Active Meditation improves function of:

- Oxytocin, Acetylcholine
- Dopamine
- Norepinephrine, Flight, Fight or **Fortitude**
- Tryptophan, Serotonin, Melatonin



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- Krishnakumar D, Hamblin MR, Lakshmanan S. Meditation and Yoga can Modulate Brain Mechanisms that affect Behavior and Anxiety-A Modern Scientific Perception. *Ann Sci*. 2015;2(1):13-19.
- Nagendra RP, Maruthai N, Kutty BM. Meditation and its regulatory role on sleep. *Front Neurol*. 2012;3:54.
- Knytt P, Opitz B. Meditation experience predicts negative reinforcement learning and is associated with attenuated FRN amplitude. *Cogn Affect Behav Neurosci* 19, 268–282 (2019)


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NEUROCHEMICAL HARMONY

Dichromatic Lights

- 150-watt, PAR38 dichro lights
- Reaches pineal gland via retina
- GREEN Harmonizes; calms pineal gland
- Promotes restorative sleep
- Improves digestion, biotdetox & pressure
- Better sleep, concentration, perception



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- Klotsche C. Color Medicine: The secrets of color/vibrational healing, Light Tech Pub, 1993

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REDUCE RISKS, BOOST IMMUNE DEFENSE & REPAIR, AND STAY HEALTHIER

<p>Hydration 1st morning urine pH Restorative sleep Digest, assimilate, and eliminate without immune burden Air quality</p>	<ul style="list-style-type: none"> • Buffered ascorbate • Magnesium + Choline Citrate • Zinc • Polyphenols: Quercetin dihydrate + LMW OPC • Vitamin D3: Goal range:50-80 ng/ml • Liver/detox support
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- <https://www.youtube.com/watch?v=eXFHlwX5s>
- <https://medium.com/@amorylovin/dont-just-avoid-the-virus-defeat-it-by-strengthening-your-immunity-df850239132d>

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PHYSIOLOGY BEFORE PHARMACOLOGY

Autonomic dysregulation *afflictive*
[Joy in Living: The Alkaline Way](#) solution...
 Biodetox with Asc+, GGOBE, PPS
 Hydrate
 Eat, drink, think, do
 Learned relaxation response, optimism
 Meaningful work




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ALKALINE WAY TO EVOKE HEALING | RUSSELL JAFFE MD, PhD, CCN

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