



Mentoring the Mentor

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Eternal Truth

He who does not use his endeavors
to heal himself is brother to him
who commits suicide.

Proverbs 18:96

2

Mentor goals:

- To declare what is possible and establish a commitment to that possibility
- Address personal and professional barriers limiting the ability to serve
- Evolution of vision/mission/ethics that drive success
- Create immediate action steps to apply learning and growth

Construct the round table of applied trophologists

Mentoring the mentor:

- Who are the mentors? – Practitioners
- Who are we mentoring? – Patients and GAP
- What's the purpose? – Optimized life
- How does it work? – Whatever you learn you teach someone else (anyone else)
- Who's is included? – Self selection, you pick yourself

Mentoring the mentor:

- Each participant attends monthly teleconferences (1 hour in duration, 4th Wednesday of every 2nd month) creating a round table discussion/exploration of the dynamics and details of a nutrition-based holistic practice
- Each participant chooses how to convey the notes and information to their world and community – no information squandering

Review - Distinguish yourself

- It is more apparent why people are choosing alternative health care professionals who specialize in a functional approach
- No matter you specialty or technique you must distinguish yourself as an expert – people are just seeking to understand and they need you to do so
- Typically in the healthcare industry people are receiving shallow answers that leave them puzzled with the mystery of “Why is this happening to me?” and “What can I do about it?”
- Trends research over 10 years ago identified a number of factors essential to being successful in the nutritional field – one of those was establishing yourself as an expert

According to your DNA, from all recorded learning and adaptation, the number one cause of death is infection.

All effort shall be to survive that.

Research + Experience

You Will

Hypothesis -

The only reason why anything that ever was working, stops working is because of infection

N-Acetyl Cysteine

NAC: NAC is the precursor to glutathione and acts as potent antioxidant. NAC is an amino acid that is commonly used to support liver and gut health through the increase of intracellular glutathione.

Most abundant naturally sourced in garlic and cruciferous vegetables.

Vitamin D3

Vitamin D3 (cholecalciferol) is the natural form of Vitamin D and is metabolized into calcitriol, which is a steroid hormone that helps regulate a variety of genes through the vitamin D receptor.

The common synthetic for vitamin D2 (ergocalciferol) has a lower bioavailability compared to D3. All vitamin D2 is converted to the "active form" D3 for utilization.

Dosing varies from patient to patient. Suggested dosing is 5,000 IU daily equaling 150K per month.

Hypervitaminosis D is rare, but is technically possible with long term doses of 50,000+ IU's.

NHANES data from 2003-2006 shows that nearly 100% of Americans over the age of two are below the estimated average requirement.

The IOM has not set an upper limit for vitamin K intake, but adverse reactions have been shown with those who supplement vitamin K and are also on blood thinning medications.

Vitamin D3 with K2

Much research has been done recently on the beneficial combination of vitamin D3 and vitamin K2.

Both are structurally similar, fat soluble vitamins that work synergistically together to promote bone and cardiovascular health.

Vitamins K2 and D3 also work closely together with the mineral calcium.

While vitamin D has been long known to assist with calcium absorption, it is vitamin K, through its carboxylation of osteocalcin, which guides the calcium into the bone and prevents its absorption in the organs (arterial calcification).

Vitamin K2 also plays a beneficial role in cardiovascular health because of its ability to carboxylate Matrix GLA Protein, which is an inhibitor of circulatory arterial calcification.

Research has also shown that Vitamin K has the ability to decrease the activity of osteoclasts.

It is clear that research on the synergistic relationship between Vitamin D, Vitamin K and calcium has led to practitioners all over the world prescribing this combination.

Calcium – Immune Essential

The role of Calcium in Immunity is primarily to create the calcium shell phenomenon around immune targets making them visible to the immune/inflammatory mechanisms.

Vitamin F and its role in calcium metabolism.

Ionized Calcium

The ability of white blood cells to carry out their function is dependent on the available calcium in these cells.

Less than 2% of the body’s calcium is ionizable and responsible for immune, nerve, muscle functions.

98% is in the bones and teeth.

Inflammation, erroneously called infection, is the biochemical repair mechanism, which requires increased ionized calcium (Ca++) for two reasons:

1 The matrix or ground substance being laid down in the repair or replacement of cells requires Ca++ for the reticular network (basic or foundation lattice-work of connective tissue).

2 *The ability of phagocytes (special white blood cells that engulf foreign matter in the body) to carry out phagocytosis is dependent upon available Ca++ in the cytoplasm of the phagocytic leucocyte.* The Role of Calcium in Immunity. by: Dr. Jeff Prystupa

Calcium Shell Phenomenon

Ionized calcium tracks down and identifies the pathogen by the “calcium wave” creating the Calcium Shell Phenomenon.

(this is predicated by the action of vitamin D which loads the blood with the ionized calcium)

Immune Vigilance

“The single greatest predictor of the survival of an infection is the blood level of ionized calcium.”

Mark Anderson, Back to School for Doctors 2004

“Ionized Hypocalcemia has been associated with increased mortality and disease severity.”

American Family Physician

Sugar, Calcium and Immunity

The over consumption of sugar and refined carbohydrates is detrimental to immune health.

Dr. Royal Lee has emphasized that sugar (and all of its chemical cousins) depletes the body’s reserves of available calcium.

It destroys the vital bicarbonate of calcium (ionized calcium), our protector against viruses.

Royal Lee

Excess sugar depresses immunity

Studies have shown that downing 75 to 100 grams of a sugar solution (about 20 teaspoons of sugar, or the amount that is contained in two average 12-ounce sodas) can suppress the body's immune responses. Simple sugars, including glucose, table sugar, fructose, and honey caused a fifty- percent drop in the ability of white blood cells to engulf bacteria.

The immune suppression was most noticeable two hours post-ingestion, but the effect was still evident five hours after ingestion. This research has practical implications, especially for teens and college students who tend to overdose on sodas containing caffeine and sugar while studying for exams or during periods of stress. Stress also suppresses immunity, so these sugar-users are setting themselves up to get sick at a time when they need to be well.

Study published in Men's Health Magazine

Sugar - Immune Suppression

- Sugar can cost you more than your teeth. At an average consumption rate of over 150lbs. per person per year, sugar takes the cake, cell mediated immunity is depressed by 50% for 120 minutes after sugar ingestion (75 grams).
- Mechanism of action: Glucose competes with absorption of Vitamin C and Calcium into the cell.

Bernstein, J., et al, Depression of lymphocyte transformation following oral glucose ingestion, Am. J. Clin. Nutr., 30:613, 1977.

Royal Lee on Calcium Chemistry

It is this calcium bicarbonate that is essential in the blood stream to prevent our children from becoming susceptible to polio, colds and diseases of childhood which produce fevers. In fact, calcium bicarbonate deficiency alone can cause a child to have recurrent fever, a fever which disappears at once on the administration of calcium lactate or calcium gluconate (which form calcium bicarbonate after absorption).

Such calcium deficiency fevers are common in children during the ages of rapid bone growth, especially where the youngster is getting too much of such cereal foods as oatmeal and processed dry cereals, without enough hard water calcium. The phosphorus of the cereal is out of proportion to the calcium bicarbonate intake.

Spring or well water is the best for drinking, preferably a hard water containing calcium bicarbonate (the kind that leaves a calcium deposit in the teakettle.) This kind of calcium is completely assimilated, and builds bone by combining with the organic phosphorus found in cereals and lecithin in natural fats.

Let's Live Magazine, Dr. Royal Lee, 1958

Fever

Fever is a mechanism of immune amplification arbitrated by the HPA axis.

The muscles around bones become warm in order to leach ionized calcium from the bones and free calcium where it is needed to activate white blood cells.

The increase in body temperature increases the enzymatic rate of reaction which augments immune and liver functions.

Pediatrics (66:1009-1012, December 1981)
Establishes that febrile convulsions in children do not injure the central nervous system (brain and spinal cord).

"Febrile convulsions," which mean muscle twitching from fever , are really "hypocalcemic tetany," muscle twitching resulting from low blood calcium.

These muscle twitching's do not cause brain damage and do not lead to epilepsy.

Vitamin F and Tissue Calcium

A deficiency in the vitamin F Complex (the fatty acid group known to carry vitamin F activity) was found to increased susceptibility to malaria infection, and blood fractions rich in this F complex inhibit malaria multiplication.

These effects of stimulating resistance to infective agents by vitamin F are in all probability the effect of the diffusible form of calcium that F promotes.

It is used as a synergist of Vitamin D to insure delivery of calcium to bones, teeth, muscle, nerve, or phagocytes in a form that is diffusible - probably as calcium bicarbonate.

Uses of Vitamin F according to Dr Lee:
Vitamin News pp.275-278 October 1949

Butterfat is one good source of vitamin F.

The baby fed on prepared baby foods which have the butterfat removed, and oleo or refined vegetable oil supplied in its place, is the best subject for vitamin F deficiency.

Practically all present day baby foods are of this kind.

Vitamin F and Calcium Metabolism


Essential Fats:

Deficiencies or imbalances of essential fats alter the balance of calcium. Eating a mixture of essential fats helps improve the use of calcium by the body. Cells retain calcium better; they are less likely to lose it through leaky membranes. Also, the kidney works more effectively reabsorbing calcium.

Dr Siguel 1/15/2000 EssentialFats.com

The Vitamin C Story

Ascorbic Acid is NOT Vitamin C!



Now, in dealing with a food product, such as vitamin C, what possible necessity is there for throwing away the associated factors of the natural vitamin complex? Let us not lose the important anti-infective therapy of vitamin C simply because we employ the chemically purified ascorbic acid rather than the natural complex. Oct. 1941

Vitamin News;
December 1948

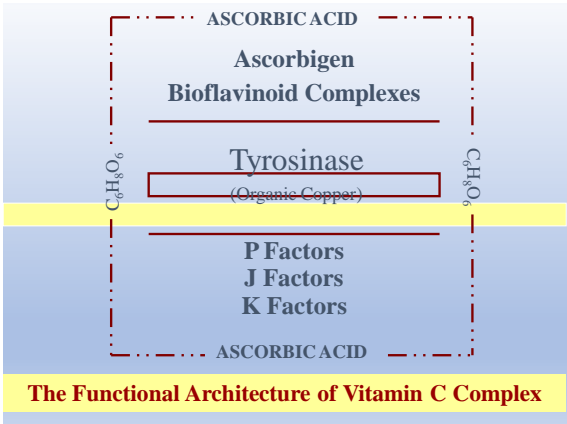
Ascorbic Acid - It Can't Hurt-Or Can It?

1. High dose **Ascorbic Acid** can speed up the process of hardening of the arteries. This was published in an Associated Press release (3-3-2000) from an epidemiological study presented at the American Heart Association.

2. **Cancer thrives on glucose and ascorbic acid.** Studies from the Memorial Sloan-Kettering Cancer Center showed that tumors do better in a high ascorbic acid environment..


3. **Ascorbic acid** is excreted via the kidneys in 24 hours. (European Journal of Clinical Nutrition, 1990 June;44(6):447-60).

4. Five hundred mgs. of **ascorbic acid** daily can damage genetic material (DNA). (New York Times, April 8, 1998- quoting the journal Nature of the same month).



Dr. A. Szent-Györgyi

"Oxidation"



Williams and Wilkins, Baltimore, 1939. Pages 73-74.

I am talking in such detail about this substance [ascorbic acid] because of a small accident that happened to us at that time. I had a letter from an Austrian colleague who was suffering from a severe hemorrhagic diathesis (vascular type). He wanted to try ascorbic acid in his condition. Possessing at that time no sufficient quantities of crystalline ascorbic acid, I sent him a preparation of paprika that contained much ascorbic acid and the man was cured by it. Later with my friend, St. Rusznyak, we tried to produce the same therapeutic effect in similar conditions with pure ascorbic acid but we obtained no response. It was evident that the action of paprika was due to some other substance present in this plant..."

Dr. Linus Pauling


He was a strong advocate of ascorbic acid being used as a nutritional supplement as well as a pharmacological agent in the treatment of acute infectious diseases and malignant degenerative states. In the book, *New Dynamics of Preventive Medicine*, 1974, Dr. Pauling is quoted as to the truth of what ascorbic acid is--contrary to what most people believe. He writes:

"It is worthwhile to take pure crystalline ascorbic acid. It is made from glucose (corn sugar). *[Cooking corn sugar with sulfuric acid]* What is called rose hips vitamin C is the same pure crystalline ascorbic acid with a pinch of rose hips powder added. It is almost impossible to buy ascorbic acid from a natural source. The rose hip and aserolebarus ascorbic acid is out of the same barrel from Hoffman-LaRoche as the others, but with a pinch of rose hip powder."

Royal Lee was very clear about it -

- Vitamin C was said to be standardizable in terms of "Ascorbic Acid". After its discoverer received the Nobel Prize for his work, he found that IT LACKS THE ANTIHEMORRHAGIC FACTOR, the deficiency of which is the REAL CAUSE OF SCURVY.
- The natural vitamin complexes contain the various closely related principles that are normally found together in foods. The more we study those complexes, the more complex they appear. That is why synthetic and chemically purified "Vitamins" are really not vitamins at all. They are only fragments of vitamins, just as the vegetable fiber in hay is a fragment of the carbohydrate complex. Vitamin News 1938.

MONDAY, MAY 19, 1997




Incidence of drug-resistant bacteria soars since '94

By Anita Manning
USA TODAY

Common bacteria that cause illnesses ranging from bronchitis to pneumonia to middle-ear infections are nearly four times more likely to be highly resistant to penicillin now than in 1994, scientists report today. Results of a national study show drug-resistant *Streptococcus pneumoniae* is on "a steadily increasing curve," says Buffalo pharmacologist Charles Ballou, who will present the findings to the American Lung Association and American Thoracic Society. One or two new drugs work against the bacteria, and others are in development. But there will be a time "in the not too distant future where... our options for treatment will be drastically reduced," he says. Resistant forms got a foothold in the USA in 1989, creeping "into day-care centers and hospitals, spreading through the community," Ballou says. Even more troubling, he says, is that a growing percentage of the bacteria are also immune to other antibiotics. One reason for the trend, he says, is overuse and misuse of antibiotics. "When you've got a crying baby who's sick... we have conditioned ourselves to expect an antibiotic. But in many cases (the illness) is caused by a virus, and antibiotics won't help. Yet if we don't get one, we feel shortchanged." Examination of 15,000 samples from 194 labs found 18.5% were highly resistant to penicillin, up from 3.2% in 1994. Scientists also found regional differences with some degree of penicillin resistance in: 41% of the samples from the Southeastern USA, 32.8% from the Midwest, 25.7% from the Northeast, 23.2% from the Far West. More analysis is needed to account for the regional differences, Ballou says.

May 19, 1997



HEALTH

May 31, 1997

New staph bacteria antibiotic resistant

Newsday

Japanese doctors have reported that a newly discovered strain of *Staphylococcus aureus* — which causes a staph infection — has shown itself for the first time to be resistant to the antibiotic vancomycin at normal treatment levels. Scientists found the new strain in an infant boy after he underwent heart surgery. Samples were sent to the U.S. Centres for Disease Control and Prevention for analysis. Other drugs aided the boy's recovery. Staph infections can kill patients already seriously ill from other causes. Infections can develop at the site where an IV or catheter is inserted. They also can attack a healthy person who might become infected through a foot wound, for example. Physicians say the Japanese case demonstrated that *Staphylococcus aureus* had developed an "intermediate" resistance to vancomycin — meaning the antibiotic could still be effective in higher than normal doses. Dr. William Jarvis, acting director of the CDC hospital infections program, said vancomycin has not yet been ineffective against staph infections in North America.

Each year, 60,000 people die in US hospitals from infections that they did not have when they entered.

(CNN January 25, 1998: Revenge of the Microbes)

A Canadian hospital reported that almost 50% of the women undergoing caesarian sections developed post-surgical infections.

Henderson E and Love EJ, *Journal of Hospital Infection*, April 1995;29:245-255.

Antimicrobial Activity of Selected Essential Oils

| Micro-organism | Mean Growth % | |
|---|--|--------------------------|
| | Origanum vulgare (essential oil) | Anise (essential oil) |
| Candida albicans | 0 | 29 |
| Candida glabrata | 0 | 0 |
| Enterococcus faecalis | 0 | 6 |
| Escherichia coli | 0 | 0 |
| Klebsiella pneumonia | 0 | 0.3 |
| Salmonella spp. (serotype: Monschau) | 0 | 0 |

Oregano Essential Oil

Oregano oil demonstrated growth inhibitory activity towards human pathogens including *Candida albicans* when tested *in vitro*¹

Phenolic compounds: carvacrol and thymol are important for such activity¹

Oral administration of Oregano oil for 30 days had a success rate of 80% *in vivo* for systemic candidiasis²

1. Hammer KA et al. J Appl Microbiol 1999; 86(6): 985-990

2. Menezer V et al. Mol Cell Biochem 2001; 228(1-2): 111-117

Oregano Oil Clinical Trial

14 adults tested positive for enteric parasites: *Blastocystis hominis*, *Entamoeba hartmanni* and *Endolimax nana*

Dose: emulsified oil of *Origanum vulgare* (200 mg, three times per day) with meals for 6 weeks

Parasites could no longer be detected in 10 patients, 7 of these patients reported a reduction of symptoms

Parasite scores decreased for the other three patients followed up

Forde M et al. Phytother Res 2000; 14(3): 213-214. PMID 10815089

Phellodendron and Berberine

Chinese herb *Phellodendron amurense* is a rich source of berberine

Berberine has broad antimicrobial activity and exhibits poor absorption from the gut

Active against bacteria, fungi and protozoa

Most of any administered dose will remain in the gut, having an effect on these organisms
Berberine also inhibits pathogenic bacterial adherence

Bone KM, Mills SY. Principles and Practice of Phytotherapy: Modern Herbal Medicine. 2nd Edition, Elsevier, UK, 2013 pp 309-416

Sarsaparilla: A Traditional Lead

A traditional depurative herb also used for syphilis in many cultures.

Name *Smilax syphilitica* was used for one species (now *S. longifolia*)

Is also now suggested for the Herxheimer reaction



Felter HW, Lloyd JU. King's American Dispensatory. ed 18, rev 3. First published 1905, Portland, 1983, reprinted Eclectic Medical Publications

Is There a Herbal Antibiotic?

NO - Bacteriostatic versus bactericidal
In vitro versus *in vivo*

On surfaces, in the gut, via the urine

Need to reinforce with co-prescribing:
immune herbs, efflux pump inhibitors

What About Biofilms?

Bacteria and fungi can form biofilms on body surfaces.

Need direct access to counter biofilm defenses

Anti-adhesive: Cranberry, tannin herbs

Disrupt quorum sensing: Garlic, Oregano oil, tannin herbs

Antibacterial herbs/oils: as in previous slides

Fiber (if colon), probiotics

Gut Flora Complex



- Anise (*Pimpinella anisum*) fruit essential oil 125 mg
- Andrographis ariel parts 10:1 extract from *Andrographis paniculata* ariel parts 1.0 g 100 mg
- Containing andrographolide 10 mg
- Phellodendron stem bark 20:1 extract from *Phellodendron amurense* stem bark 1.6 g 80 mg
- Containing berberine 36 mg
- Oregano (*Origanum vulgare*) leaf essential oil 75 mg

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The Importance of Co-prescribing Immune Herbs

Stealth immune herbs:

- Echinacea root
- Astragalus
- Eleuthero (viruses mainly)
- Andrographis (protozoa and helminths, mainly)

Selecting Key Combinations

- Chronic viruses:** Licorice, Thuja, St John’s Wort, Echinacea root, Astragalus, Eleuthero
- Protozoa:** Myrrh, *A. annua*, Phellodendron, Oregano oil, Andrographis, Garlic
- Helminths:** Myrrh, Wormwood, Stemona, Cloves, *A. annua*, Garlic, Andrographis
- Bacteria:** Myrrh, Phellodendron, Oregano oil, Garlic, Sage, Echinacea root, Astragalus
- Fungi:** Phellodendron, Oregano oil, Anise oil, Garlic, Echinacea root

The greatest use of your time

Think New Thoughts