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.

Hypothesis -

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

The greatest use of your time

Think New Thoughts
The camel’s back

We may either unburden the camel’s back thus preventing it from being fractured
Or we may strengthen the camel to carry more burden
This seminar is about doing both

All trophic and immune/inflammatory modulation is strengthening the camel
All antimicrobial devices unburden the camel’s back

Tropho-restorative nutrients and herbs strengthen the camel to carry and manage its burden of toxicity, infection, infestation and lifestyle

All antimicrobial efforts reduce the burden on the camel and reduce breaking the system

Real recovery and recovery of health supports both of these efforts sequentially, immediately upon initiation of therapy and chronically for the duration of therapy

Amplification protects (Aggressive)

Attenuation familiarizes (Permissive)

Unaware (Blind)

Protective Preventive Reactive Mitigated

Hyper (Aggressive)

Hypo (Permissive)
Immune Vigilance and Discretion

Amplification / Attenuation –

Thymosin produced by thymus cells mature the immune system to be moderate (not aggressive or permissive) in pattern recognition.

It turns up or down the volume.

Escalation / Familiarizing –

Interferon and cytokine expression shifts discretion/discernment.

Th1 increases intolerance, while Th2 (and Th17) shifts toward self consciousness and absorption.

Tools for Modulation -

Amplification

- Thymex 5 bid
- Golden Seal 2 bid
- Andrographis Complex 2 bid

Attenuation

- Lact Enz 2 qid
- Prosynbiotic 2 qid

Tools for Modulation -

Escalation

- Epimune 1 bid
- Echinacea Premium 2 bid
- Sesame Oil Perles 3 bid
- Spleen PMG/Spleen Dess

Familiarization

- Epimune 1 bid
- Echinacea Premium 2 bid
- Biost/Ostrophin PMG 3 bid
Thymex

Thymex supports the thymus gland with bovine thymus Cytosol™ extract, calcium, and magnesium. Supports a healthy thymus gland, the master gland of the immune system.
Can be used in combination with other immune support products.

Epimune

Epimune Complex supports specific aspects of immune activity and contains research-supported ingredients such as EpiCor® and maitake and turkey tail mushrooms. Supports healthy white blood cells.
Supports normal mucus secretion and nasal passages.
Helps support respiratory health year-round, especially during seasonal challenges.
Helps activate and balance a healthy immune system response function.

Sesame Seed Oil

Sesame Seed Oil contains essential fatty acids, as well as naturally occurring vitamin E. Provides antioxidants.
Supports healthy liver function.
Supports immune system function.
Cumulative Repair Deficit
This is the functional term that defines the inflammatory status of the body. Words describe ideas, and ideas are what direct us in our efforts – as clinicians when inflammation is named it is assumed that it should be reduced and blocked and that it is a bad thing – yet without the five stage inflammation process at work physiology falls into disrepair and the elaborate tissue based organism called the human body cannot be maintained and repaired.
In general inflammation should not be suppressed or reduced, but rather completed – when it is not completed by the end of the day it is called a cumulative repair deficit.
Most people over 40 carry a deficit of repair called silent or symptomatic inflammation.

Inflammation – Eat(en) up
It is not surprising that approximately 60 percent of the average diet’s calories come from sugar, flour and refined oils. The primary refined oils include corn, safflower, sunflower, cottonseed, and soybean oils, which contain an excessive amount of linoleic acid, an omega-6 fatty acid, which the body converts into arachidonic acid. Another 15 to 20 percent of calories come from over-fat animal products and 10 percent from dairy, which contains preformed arachidonic acid.
The issue of dietary arachidonic acid is important to understand. The arachidonic acid that we eat is converted by the body into prostaglandin E2 (PGE2), which causes pain and inflammation. In other words, we literally “eat” pain and inflammation for breakfast, lunch, dinner and snacks. Most patients have no idea that they over-eat pain and inflammation every day as dietary arachidonic acid. And most patients have no idea that the NSAIDs, aspirin and Tylenol® that many take every day then function to inhibit the conversion of dietary arachidonic acid into painful and inflaming PGE2.

Genes – On or Off
We are in the midst of the nutrigenomics era, wherein it has been discovered that environmental factors, including diet, can turn on or turn off specific genes.
It has been described as gene codes that may be up-regulated or down-regulated.
It is possible to do specific genomic studies that identify genetic predispositions in individual codes carried in the chromosomes.
This in turn may be predictive of certain cellular activities and metabolic tendencies an individual may have towards certain wellness or illness events.
Unified Mechanisms

As always there are some pathways that may be relevant not only to some people but to all, because of the high upstream nature of that genetic event.

The NF kappa beta gene activation has previously been observed as a gene code that may amplify inflammatory activity when engaged, and thus strategies have been developed to reduce and limit activation of this gene function.

It is well known that if the factors that reduce and limit NF kappa beta activation are employed downstream pro-inflammatory events may be effected.

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Figure 2. Translation of environmental trauma into biochemical inflammation. Note the self-perpetuating, "vicious cycle" where inflammatory mediators promote additional inflammation via activation of NF kappa beta. Adapted from Vasquez A. *Medical Orthopedics, a Complete Health Approach to Sports*. 2004

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Determining Food Allergies

Blood type sensitivities Eat for Your Blood Type, D'Amatto

Most food allergies are delayed sensitivity reactions – difficult to objectively determine

Elisa Act lymphocyte response assay by Russell Jaffe Seramunne Labs, Virginia, 800/525-7372

Elimination is the most accurate and labor intensive - 2 week elimination then reintroduce and watch for 4 days for reactions

Histaminic Reactions (rash, red eyes, serous secretions) vs. Immune Activity (fever, catarhal, lymphatic congestion, aching)

Basic 4 allergies that most complicate healing process – wheat (gluten), corn, soy, milk (casein)

Additionally suspect chocolate, pepper, melon, beet
### Food Allergies – Now & Later

<table>
<thead>
<tr>
<th>Immediate response within hours or next day</th>
<th>Delayed response onset 2-7 days later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histaminic</td>
<td>Immunological – viral, bacterial, parasitic</td>
</tr>
<tr>
<td>Red, burning eyes, serous secretions (clear)</td>
<td>Colds &amp; Flu – WBC mediated response</td>
</tr>
<tr>
<td>Tiredness, sleepiness</td>
<td>Achiness</td>
</tr>
<tr>
<td>Headaches</td>
<td>Catarhal, phlegm (colored)</td>
</tr>
<tr>
<td>Mood changes, irritability</td>
<td>Fever</td>
</tr>
<tr>
<td>Rashes, hives</td>
<td>Eczema</td>
</tr>
<tr>
<td>Nausea, cramps, diarrhea</td>
<td>Emesis</td>
</tr>
<tr>
<td>Loss mental accuity</td>
<td>Elevated C-reactive protein, SED rate, AA:EA ratio</td>
</tr>
</tbody>
</table>

### Allergic Events schematic

- Blood/lymph fluids
- Tissue/cell structures
- Irritation leading to infestation
- Viron
- Infections process
- Allergens
- Gut lining
- Gut lumen

### Generalization of allergen

- Milk allergy is primarily casein protein intolerance commonly seen in respiratory and atopic symptoms
- Wheat allergy is primarily a gluten protein intolerance commonly effecting GI symptoms and hyper tension & siderosis
- Corn allergy is primarily a zein protein intolerance commonly effecting neurological symptoms
- Soy allergy is more acquired and therefore can be unlearned commonly effecting acne rosacea and paranasal rashes
Neuro chemistry - Endorphins

Food allergens can create morphine-like endorphins that may modulate vascular supply to regional brain areas – this has been observed on pet scans
- Caseinomorphins derived from milk protein allergy
- Glutenomorphins derive from gluten allergy

This is the emerging biochemistry of how allergens can influence autism, ADHD, and neurological function

Just how much gluten is in Catalyn anyway?

Your average slice of whole wheat bread contains around 4.8 grams of gluten. Each tablet of Catalyn contains around 0.0125 mg of gluten – which means (drum roll) you would have to take around 384,000 Catalyn to equal the amount gluten in one slice of bread.

So, let’s think about this . . . if you took 6 Catalyn tablets a day for a year – that’s 360 days, that means it would take just over 175 years to get to the same amount of gluten as ONE slice of bread.

The smallest amount of gluten which has been shown by biopsy to cause damage to a celiac is 0.1 gram per day. This is approximately the amount of gluten contained in 1/48th of a slice of bread or 8000 Catalyn.


Primary Inflammatory Foods

There are 14 primary inflammatory foods:
- To reduce these for five days is to dramatically reduce the inflammatory amplitude systematically – remarkable changes seen in 1-2 days – then re-introduction protocol can determine the actual offending food(s)
  - Milk
  - Corn
  - Gluten
  - Soy
  - Nuts
  - Beer
  - Yeast
  - Peanuts
  - Beef
  - Tomato
  - Chocolate
  - Rice
  - Sesame
  - Peas
  - Eggs
  - Sugar
Cytokines – Immune Messages

Immune response results in the release of cytokines meant to direct local and distant immune function
These cytokine messenger molecules also drive HPA status and thus determine global brain status
Cytokines subsequently cause the release of WBC inflammatory mediators to direct the inflammatory process of repair
Therefore immune status and activity determine HPA/brain settings
Hypervigilant or depressed immune states reflect in brain states

Cytokines – Immune Messages

The HPA Axis is the conductor of homeostatic symphony
This system additionally intertwines with virtually every aspect of physiology through the production of CRH and ACTH – indeed resistive and “hard-to-treat” conditions all share the described cytokine cascade disturbance
The take away is that any chronic perturbation to one element of the system will ripple through other components of the web
Persistent stressors without relief continuously stimulate the CRH-ACTH-cortisol axis resulting in high levels of cortisol and some neuronal disruption and death in the negative feedback loop (hippocampus and hypothalamus)
This may lead to depression and behavioral disturbance

Cytokines – Immune Messages

So the immune modulation and unburdening is required to achieve HPA and endocrine balance
The concept of immune sparing and unburdening is essential to any long term concept of HPA integrity
The sequential immune up-regulation is the avenue to HPA strength and health
The HPA axis will not completely balance and limbic health will not be achieved without immune and cytokine support
Pattern Recognition Receptors (PRRs)

- PRRs are involved in innate immune recognition and responses.
- PRRs recognize components of micro-organisms that are not found on the host → PAMPs (pathogen-associated molecular patterns)
- PRRs are found on the cell membrane and also within the cell
- Toll-like receptors (TLRs) are the most common class of PRRs and each recognizes a distinct bacterial, fungal or viral molecular pattern

PRR

Activation of the Toll-like receptors communicates the outside to the cytoplasm and then through the nuclear membrane in a similar fashion to the inner DNA.

These are like transformer step down conveyances of the outer world to the inner.
Immune signaling is primarily activated through a host of receptors called pattern recognition receptors (PRR).

The first PRR discovered was the Toll-like receptor found in 1998. Since then there have been ten Toll-like receptors discovered.

C-type lectin receptors (CLR) are similar detecting helminths, fungi, mycobacteria—Dectin-1 is a CLR that responds to pathogenic and immunomodulating fungi. Retinoic acid-inducible gene 1 (RIG-1) recognizes viral RNA and signals viral response. Nucleotide-binding and oligomerization domain (NOD) can see PAMP and DAMP and regulate inflammatory response.

When one or more PRRs recognize an antigen a cascade of intracellular signaling results in cytokine up-regulation of the NF-kB inflammatory mechanism.

PRR recognition directs the naïve Th0 maturation.

A class of NOD-like receptors (NLR) produce complexes called inflammasomes.

When one or more PRRs recognize an antigen a cascade of intracellular signaling results in cytokine up-regulation of the NF-kB inflammatory mechanism.
Inflammasome – Master Sargent

Typical inflammasome is comprised of 7 molecules which facilitate pyroptosis and programmed cell death.

It is currently known to be triggered by LDL particles, high glucose, cholesterol crystals and certain fatty acids – this is the critical modulator of low-level inflammation of cardiac disease.

Target of low level inflammation

Bioactive plant compounds EGCG, luteolin, quercitin, chrysin have been shown to inhibit downstream signaling by PRR activation thus dampening inflammatory amplification.

Curcumin and Feverfew have been shown to inhibit signaling from NLR.

Prepare for a new class of herbal and nutrient tools driven by the now visible mechanisms and the confidence to support them.

Modulating PRRs

A key to supporting immune function is modulation of the PRR.

A number of phytochemicals have already been shown to affect PRR function and signaling.

PRR activation requires dimer formation (homodimers and heterodimers)

Recent studies show curcumin, sulforaphane and cinnamaldehyde are able to reduce PRR dimerization and reduce TLR signaling.
Immunosenescence

Immunosenescence – described as a loss of immune reserve and a loss of immune discretion at the same time.

Some immune features decline while others increase (antibody production and inflammatory upregulation).

These changes increase susceptibility to infectious disease, poor immunization response, cancers, autoimmune dysregulation.

Increased inflammation is called ‘inflamaging’.

Factors determining rate of immune decline:
- High cortisol to DHEA ratio
- HGH reduction
- Thyroid decline
- Antioxidant depletion
- Immune burdening
- Stress
- Sleep loss of quality/quantity
- Diet (Elevated HgA1C)
- Exercise reduction

The cannabinoid receptors are further divided into 2 main subtypes, known as CB1 and CB2.

CB1 receptors are mostly found in the brain.

CB2 receptors are mostly found in the immune system.

The Human Endocannabinoid System

CB1 receptors are mostly found in the brain and brain:

CB2 receptors are mostly found in the peripheral organs, especially immune cells.
Disease as a mosaic pattern

- Most imbalances and diseases are not a single event distortion
- There are multiple factors combing to create an outcome, which also helps describe the resistance to getting sick and to getting well
- Idiopathic Hypertension is a good example of this mosaic pattern
- Proper clinical management can reveal the underlying events contributing to this physiological modulation, and reinforces why the practitioner is essential in the investigative process of finding these

The following is a suggested sequential consideration of factors contributing to hypertension:

- CB1 receptors are mostly in the peripheral organs especially cells associated with the immune system.
Principles at work

- Sufficient clinical observation allows mechanisms to be revealed that will remove the idiopathic mystery of hypertension and return it to physiological modulation and resultant function in balance, tissue fortification and promoter healthy genetic expression
- This allows the symptom resolution to occur as a result of system ‘mosaic’ change, making of course the downstream events occur
- The longing in the public is for this sort of detective work to find the cause and make the correction – increasingly food is seen as medicine and people are asking more and more for what foods will change their health patterns

Hemp Oil Complex™ is a unique formulation of ingredients, combined to provide a 3–in–1 benefit for the whole body – supporting the endocannabinoid system, inflammation response resolution pathways, and endogenous antioxidant pathways. Supports the endocannabinoid system*

- Supports the body’s natural inflammatory response function
- Ingredients that provide antioxidant activity
- Non-genetically engineered hemp
- Gluten free
- Combination of natural omega-3 fatty acids, including DHA, DPA and EPA
- Calamari oil certified sustainable from the independent nonprofit group Friend of the Sea®

Hemp Oil Complex™ is a combination of well-balanced polyunsaturated fatty acids (PUFAs, omega-3 oil) delivering essential fatty acids needed for the formation of specialized lipid mediators for a healthy immune response. Hemp oil and omega-3 oil may support the resolution phase of the inflammatory process by providing PUFAs which are known to be precursors to endocannabinoids. Additionally, Brassica (TrueBroc®) is an important phytonutrient providing antioxidant support by activating the Nrf2/ARE pathways.

Supplement Facts

Serving Size: 2 Softgels Servings per Container: 30
Amount per Serving % Daily Value

- Calories 5 <1%*
- Total Fat 1 g 3%*
- Cholesterol 10 mg 3%
- Magnesium 45 mg 11%
- Glucoraphanin 5 mg 1
- DHA 130 mg 1
- EPA 55 mg 1
- Omega-3 230 mg 1
- Omega-6 60 mg 1

*Percent Daily Values are based on a 2,000 calorie diet.
†Daily Value not established.

Other Ingredients: Gelatin, glycerine, water, dimagnesium malate, and beeswax.

TrueBroc® is protected by trademarks and patents of Brassica Protection Products LLC; www.brassica.com/p
Why support the endocannabinoid system? The endocannabinoid system (ECS) is gaining attention in the public eye for its role in contributing to an individual’s overall health and well-being by supporting the body’s physiological homeostasis. The ECS regulates nearly every metabolic process in the body. A well-balanced ECS encourages favorable conditions in the body system, impeding the body’s ability to manage metabolic stress and may support overall health and well-being.

Supporting Systemic Balance Through Nutrition
Physiological manifestations like stress, and poor diet may negatively impact other systems in the body via specific cellular processes. Nutrition plays an important role in preserving various systemic and metabolic functions by supplying the appropriate dietary needs to the body system. The nutrient signaling pathways are coupled to cellular processes, and the cross-talk between the two is critical in maintaining a well-balanced systemic function of the body. The systemic imbalance may occur under circumstances such as stress, and fatigue, which may trigger inflammatory responses in the body, and inflammation may cause unwanted health conditions. It has been shown that various dietary components may support key resolution pathways to inflammation, energy balance and metabolism via the ECS. Nutrients that may support healthy inflammatory response include omega-3 fatty acids, and antioxidants, from a whole food matrix in the form of phytonutrients.

Learning wisdom -

Anything can cause anything!
Anything can effect anything!
Everything relates to everything!
Research + Experience

You Will

Change the world
It wants to