Mentoring the Mentor

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

Review - Explanation as hope

- The practitioner’s ability to explain health issues and therapeutic outcomes creates an inflation of understanding in the patient which feels like hope
- Today in the professional world there is so much avoidance of ‘giving false hope’ that often we end up offering little hope at all
- I propose another model that boosts hope and expectation and subsequently practices accountability as to whether the therapeutic endeavors are achieved or not
- As long as the hope that has been instilled is revisited and acknowledged as being accomplished or not, the betrayal of false hope can be avoided
- So as an example, if a practitioner was describing the potential for nutritional intervention through supplements and diet modification to improve the lipid profile, then s/he would need to revisit to success or failure of the experiment within a reasonable period of time
- Our community is starving for legitimate hope, as a starting place, as empowerment to begin, as an idea to act upon
- There is genius in hope
The Stress Model

- The HPTA is at the heart of the body’s ability to respond to the environment.
- Cortisol elevation is the result of Corticotrophin Releasing Hormone (CRH) arising from the parvocellular neurons of the paraventricular nucleus (PVN) - this is the ‘master’ stress hormone released in response to the perception of stress.
- Stressful stimuli are generalized as:
  - Physical – pain, trauma, infection, hypotension, exercise, hypoglycemia
  - Psychological – bereavement, fear, personal loss, anger (the perception that God is not in control – something is wrong)
- CRH is released into the portal circulation of the Median Eminence and is carried by venous blood to the corticotroph cells of the anterior pituitary where it binds to the cell surface receptors stimulating the release of Adrenocorticotropic Hormone (ACTH).
- ACTH reaches the adrenal cortex stimulating the synthesis of Cortisol (glucocorticoid) and also androgenic hormones like androstenedione and DHEA (both may convert to testosterone and DHT in peripheral tissues).

The Stress Model

- Cortisol maintains blood glucose during stressful ‘fight or flight’ challenges so that as more metabolic fuel is consumed a critical amount is maintained for brain function and to support the activated survival organs such as the heart, lungs, and skeletal muscle with renewable supply of fuel.
- Cortisol also participates with Aldosterone (mineralocorticoid) in driving sodium reabsorption from the renal tubules conserving electrolytes and water within the vasculature to provide blood and perfusion pressures to vital organs.
- Cortisol concentrations rise until it effects negative feedback on the CRH neurons and the pituitary corticotrophs to return blood levels to normal preventing prolonged elevations of CRH, ACTH and cortisol.
- Chronic stress and maladapted responses to stress alters this mechanism and causes long term cortisol dysregulation and even ‘cortisol resistance.’
Stuart White
Mentoring the Mentors
Sept. 23, 2015

Gut Brain Interface

The Bidirectional Gut-Brain Axis

70% of our immune cells reside in the GI tract.

- The development of the intestinal immune system is largely dependent upon exposure to microorganisms.
- The gut produces ¾ of the body’s neurotransmitters.
- The gut has greater metabolic activity than the liver.


- 70% of our immune cells reside in the GI tract.
- The development of the intestinal immune system is largely dependent upon exposure to microorganisms.
- The gut produces ¾ of the body’s neurotransmitters.
- The gut has greater metabolic activity than the liver.

Microbiota Regulate HPA-Axis Development

- Commensal microbiota regulate the development of the HPA axis.
- “The series of events in the gastrointestinal tract following postnatal microbial colonization can have a long-lasting impact on the neural processing of sensory information regarding the endocrine axis.”
- This concept, based on in vivo findings [in mice], provides evidence of a novel link between indigenous microorganisms and the nervous system and shows a new aspect of the brain-gut axis.

A Closer Look


Paracellular Transport


Transcellular Pathways
Mentoring the Mentors

The Gut in Action

Just the Right Balance

TJ Disassembly Resulting in Unremitting Immune Activation via Leaky Gut


Mentoring the Mentors

Leaky Gut’s One-Two Punch


Food Allergens

Determining Food Allergies
- Blood type sensitivities
- Most food allergies are delayed sensitivity reactions – difficult to objectively determine
- Elisa Act lymphocyte response assay Dr. Russell Jaffe Serammune 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, catarrhal, lymphatic congestion, aching)
- Basic 4 allergies that most complicate healing process – wheat (gluten), corn, soy, milk (casein)
  - Additionally suspect chocolate, peanuts, tomatoes, beef
### 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>Catarrhal, 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
- Irritation leading to infestation
- Infectious process
- Viron
- Gut lining
- Allergens
- Foreignness
- Immune response

### 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
Osteo-Immunology

- Inflammatory cytokines talk to the stem cells that cause them to differentiate into osteoclasts instead of osteoblasts.
- It is currently believed that this mechanism is dedicated to manage the excessive acids that result from inflammatory repair mechanisms – thus bone is broken down to liberate the calcium salts to provide for the larger inflammatory metabolic needs.
- Bone demineralization has now been associated with increased risk of heart disease.
Inflammation favors bone destruction

- There is a balance between anabolic and catabolic activities of bone tissue
- Inflammatory conditions result in the production of osteoclasts (cells that remove calcium from bone) ... the non-inflammatory conditions favor bone replacement by osteoblasts ... with aging the catabolic processes become exaggerated

Science (2000) vol 288, 1504-1508

Immuno-inflammatory Influence

- Primary roles of the healthy immune system are:
  - Identify potentially injurious and infectious substances
  - Distinguish self antigens (non-threatening) from non-self (threatening)
  - Assess the potential level of threat posed by infectious, toxic, or non-self antigens
  - Mount a response that is appropriate to the level of threat
  - Repair any damage that ensues from adversarial encounters
- Too much response = inflammatory cascades
- Too little response = tolerance of danger
- WBC is optimal 6-8, outside optimal range may suggest acute or chronic immune burden, under 4 indicates bone marrow fatigue
Immune System – 2 Parts

- Generally recognized that there are 2 parts of the immune system
  - **Innate Immune System** – Inborn initial response to eliminate microbes and infections immediately or within hours – it is not in any locale or organ, it is in the WBC
    - Each cell is equipped with different mechanisms that allow it to attack and eliminate pathogens from the body demonstrating immune versatility
      - Non-specific defense against pathogens, activates the complement system of inflammatory response
      - Identifies self vs. non-self, complement system triggers inflammation and identifies foreign substances, and activates the adaptive immune system
    - **Innate Immune Cells include:**
      - Mast Cells
      - Natural Killer Cells
      - Phagocytes – Monocytes, Macrophages, Dendritic cells
      - Eosinophils
      - Neutrophils, Basophils
  - **Adaptive Acquired Immune System** – Learned response precisely addressing innate requiring 3–5 days for adaptive immune modulation to reach full activity and specific lymphocyte presence
    - Results in TH1 cellular phagocytosis or TH2 humoral antibodies
      - TH1 responds to living things (bacteria, fungus, virus)
      - TH2 responds to non-living things (and parasites) including food, pollens, bad fats, heavy metals

Common TH1 & Th2 Cytokines

- **TH1**
  - IL-12
  - IFN – gamma
  - TNF – alpha
  - IL-2
  - GM – CSF
- **TH2**
  - IL-4
  - IL-5
  - IL-10
  - IL-13
  - IL-1 and IL-6 (and others) can show both TH1 and Th2 influences

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

Immune Tolerance

“Don’t be so Reactive”

- If it weren’t for tolerance we would constantly fighting a war with the foreignness everywhere
- Complex feedback system developed through reactor and moderator substances activating and suppressing immune/inflammatory response creating an immune capacity of tolerance
- Net reactor chemistry x net moderator chemistry = immune tolerance
- Especially strategic to the autoimmune circumstance – goal is to reduce immune burden and promote immune tolerance and thus reduce immune reactivity
- Infections, infestations, toxicities, allergens, injuries, inoculations, etc. create a burden teasing out intolerance and excessive reactions

Immune mechanisms – schematic

- Reactor mediators activate acquired immune response
- Tolerance mechanisms moderating acquired immune activation
- Nuclear genetic code
- Cytoplasm
- Cell Membrane

Sequential Immune Up-Regulation

- Especially under the teeth, diverticulosis, severe infections near or in bone, body cavities like sinus, ears, pelvic, intestinal
- Sequential immune bolstering protocols for one month each at therapeutic dosage – “deep cleaning”
- Up regulate immune system gradually with graduated protocols addressing upstream events first and then downstream immune burdens (infections, infestations, toxicity)
- This reduces the requirement of reticuloendothelial tissues (lymph, spleen, bone marrow) to respond to the immune burden and this spares the immune system
- In turn this is an anti-aging strategy as it prolongs and vitalizes immunity – and liberates it to other more immediate needs
New Product Alert – Read All About It!

- Prebiotic Inulin released September, 2009
- This product is a non-digestible soluble fiber found in many plants and in this formulation is derived from Chicory root. It is a complex CHO that can be digested by many microflora providing them with energy thus enlivening the gut flora. It also increases the absorption of calcium and magnesium from the gut. It has also been determined to increase intestinal gene expression and cell differentiation allowing for more specialized intestinal function and activity.
- Gut Flora Complex:
  - Inulin from Chicory Root 4.5 gm
  - Calcium Lactate 200 mg
  - Magnesium Lactate 400 mg
Principles at work

- Sufficient clinical observation allows mechanisms to be revealed that will remove the idiopathic mystery of hypertension and return it to a simple physiological modulation and resultant augmentation in function, balance, tissue fortification and promotes healthy genetic expression
  - This allows the symptom resolution to occur as a result of system ‘mosaic’ change, and then 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

Sequential Intervention

- By giving hope through discussion of therapeutic rationale and then accountably determine if the therapy had efficacy it is possible to initiate activity that may assist a person to make the changes that result in healing
- Sequential intervention and accountable follow-up can show what has worked and what may still need to be employed
- Promote an understanding of intervention that creates evolutions in individual physiology and show the effect of that intervention
- Allow every condition to become a strategic consideration of possible etiology and therapeutic rationale – people are in search of experts – reveal yourself
- The comprehensive nature of nutritional therapy means there is always more physiology to optimize and support leaving an individual constantly refining as long as they wish to further improve their status
- If the practitioner is accountable s/he will be allowed to experiment with reasonable ideas

Change the world

It wants to