Mentoring the Mentor

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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 Thursday of month) creating a round table discussion/exploration of the dynamics and details of a nutrition-based wholistic practice.
- Each participant chooses how to convey the notes and information to their world and community – no information squandering.
- Issues/problems/questions are considered a learning process for everyone, although individual’s remain anonymous.
- All questions, comments, case studies to be directed through email to SP rep who will compile and include in next teleconference (must be submitted 10 days prior).

Evoking the innate healing force -

Natural forces within us
Are the true healers.

Hippocrates, father of medicine 400 BC
7 – Cellular Vitality Pillar

- Protection of the cell
- Supporting membrane activity
- Promoting membrane electronic function
- Mitochondrial support and protection
- Promoting hydration
- Receptor site potency

Tests & Analysis
- Bio-impedance testing for cell hydration and cellular electronics
- Biophotonic Skin Carotenoid Scanner technology to determine tissue resilience

General Cell Support – Cellular Vitality (4), AC Carbamide (4)
Enzyme Support – Multizyme (4)
Trace Minerals (6)

Cellular Anatomy

- The cell is the microscopic component of the macroscopic organism – he building block
- Just as communities are comprised of people, so are humans comprised by cells
- The strength of the human depends on the health of the cell
- Working on people is always working on cells

<table>
<thead>
<tr>
<th>Cell Membrane</th>
<th>Outer layer: Made of cholesterol, phospholipid bilayer</th>
<th>Support, protection, respiration, interface of autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Membrane</td>
<td>Nuclear pore</td>
<td>Made of cholesterol, phospholipid bilayer structure</td>
</tr>
<tr>
<td>Nucleus</td>
<td>DNA, chromosomes</td>
<td>Controls cell activity and differentiation</td>
</tr>
<tr>
<td>Cytoplasm</td>
<td>Cell body, intermembrane space</td>
<td>Supports and protects organelle, while providing matrix and structure</td>
</tr>
<tr>
<td>Endoplasmic Reticulum</td>
<td>Network of vesicles and membranes acting as templates for cell activity, Organelle pattern of Golgi Apparatus</td>
<td>Location of cellular activity by constructing biological blocks and materials</td>
</tr>
<tr>
<td>Mitochondria</td>
<td>Small bodies free or attached to the ER</td>
<td>Produces specific proteins for cell activity</td>
</tr>
<tr>
<td>Nucleation</td>
<td>Vesicle shaped membranous structure with ribosomes</td>
<td>Produces energy for cell activity</td>
</tr>
<tr>
<td>Ribosomes</td>
<td>Protein synthesis: Small bodies free or attached to the Endoplasmic Reticulum</td>
<td>Produces specific proteins for cell activity</td>
</tr>
<tr>
<td>Lysosome</td>
<td>Lysosomal fluid-filled sac</td>
<td>Storage of food, waste, waste, waste materials</td>
</tr>
<tr>
<td>Cytoplasm</td>
<td>Lysosomal fluid-filled sac</td>
<td>Stores and digests smaller components and digest old cell parts</td>
</tr>
<tr>
<td>Golgi Apparatus</td>
<td>Membrane bound vesicle with membranes and complexes forming a sac</td>
<td>Synthesizes complex, create complex, store complex, digest complex</td>
</tr>
<tr>
<td>Nucleus</td>
<td>Nucleolus, nucleolar, or nucleolus</td>
<td>Makes chromosomes, contains DNA, for protein synthesis</td>
</tr>
</tbody>
</table>
Images of the cell

Cellular Activity

Cell Membrane Electronics

- Cells lack hands and arms, so the way they negotiate the environment and finding and accomplishing their needs is with electronic action
- The cell membrane has electronic charge to it allowing attraction and repulsion of other charged substances
- This is the very nature of life at the most reduced level
- To promote cellular electronics is to promote cellular agenda and health
- The ways this is done is through hydration principles and electronic support
- A&C Carbimide was selected by Royal Lee for its ability to repolarize the cell membrane, which in turn returns the cell to a right-relationship with the environment – Dose 2 bid – will help reduce extracellular hydrosis and promote membrane health
Carotenoid Antioxidant Dynamics

- Carotenoids are a category of antioxidants, responsible for the red, orange, yellow we see in fruits and vegetables.
- Non-carotenoid antioxidants rely on carotenoids to defend and replenish themselves so that cell-protective work can continue.
- Interpretatively high levels of carotenoids suggest high level of cellular defense ergo antioxidant status.
- This can help assess the functional status that varies in stressful conditions, lifestyle choices like sun exposure, smoking, dietary dynamics, pollution, etc. — thus supplement augmentation can directly respond to functional needs instead of treating everyone the same regardless of stress on the body.

Carotenoid Assessment

- Biophotonic Scanning devices can derive a Skin Carotenoid Score (SCS) giving evidence of carotenoid antioxidant activity.
- Based on optical method known as Resonance Raman Spectroscopy which has been employed for many years.
- Scanning measures carotenoid levels at the surface of human skin using optical signals which yield a SCS.
- Scanners produce a narrow beam of light that is blue only (473 nanometers wavelength only) — when this wavelength encounters a carotenoid the wavelength shifts to 510 nm and turns green.
- Quantifying these green photons can yield a score which can be compared to other studies and define a range of tissue activity.
Biophotonic Scanners

WHAT DO YOUR RESULTS MEAN?

Product Alert – Read All About It!

HerbaVital released April, 2010 is a unique combination of factors to reduce the physiologic decline known as aging, but also acts as a hormetic influence to up-regulate stress responsibility and therefore survival status. This is cocktail of daily herbal constituents that can universally support the declining stress response that is so essential to wellness and vitality. It is a strategy in a formula for daily minimizing of the underlying process of aging. This product takes the assessment out of the picture for the clinician and addresses the common background issues at work universally in the patient.

HerbaVital:

1. Japanese Knot Weed root extract 100:1 80 mg providing 36 mg of natural resveretrol
2. Milk Thistle seed 5:1 50 mg providing 48 mg of silybin
3. Korean Ginseng root 5:1 50 mg
4. Masson Pine bark 100:1 50 mg providing 37.5 mg proanthocyanidins
5. Ginkgo Leaf 50:1 30 mg

Product Alert – Read All About It!

Vitanox is a unique combination of herbs to provide strong antioxidant protection, and now we discover also acts to up-regulate Nrf2 gene activity and subsequent survival compound status increase, including glutathione synthesis. This is cocktail of daily herbal constituents that can universally support the overloaded detoxification and inflammatory mechanisms. It is a strategy in a formula for daily minimizing of the underlying process of aging and degeneration. This product was introduced by Kerry Bone based on widespread agreement about the merits of these herbs, before and correctly predicting the emerging research around Nrf2 gene activation.

Vitanox tablet:

1. Rosemary leaf extract 5:1 200 mg providing carnosol and rosmarinic acid
2. Green Tea leaf extract 25:1 166.7 mg providing 83.35 mg of catechins
3. Turmeric rhizome extract 25:1 80 mg providing 70.4 mg curcumonoids
4. Grape Seed extract 120:1 50 mg providing 42.5 mg procyanidins
Cruciferous Complete is a combination of kale and brussel sprouts to protect against free radicals and now also is shown to up-regulate Nrf2 gene activity and subsequent survival compound status increase, including glutathione synthesis. This nutrient supports Phase I & II detoxification pathways, promoting reduction of toxic load in the body and well as supports repair mechanisms involving the eye. It contains a myriad of nutrients including vitamins B6, C, K, calcium, copper, potassium, and dietary fiber. It also contains carotenoids, which include beta-carotene and lutein which help quench free radical ROS effects and retinal repair activity.

Cruciferous Complete capsule:
- Vitamin K 4 mcg
- Potassium 10 mg
- Kale 300 mg
- Brussel Sprouts 300 mg

Cellular Vitality released March, 2010 is a formula designed to enhance and invigorate cellular health and repair mechanisms, so it also acts on a macroscopic level to promote repair and cleansing and vitality. Reading the ingredients help us to expect clinical outcomes, and although this formula is new to the scene a functional practitioner may understand what vectors of physiology will be influenced. In general this as another anti aging product that can reduce the decline of multiple systems over time. So clinicians using this product have observed response in skin quality, energy levels, and stress adaptation.

- Ribonucleic Acid providing triphosphates and DNA synthesis
- B Vitamins (1,2,3,6,8,12, etc) assisting in stress response and homocysteine management
- Berry Seeds providing antioxidants
- Bromelain to reducing platelet clumping and promote vascular permeability
- Coenzyme Q10 for mitochondrial function
- Cordyceps a mushroom powder for kidney, heart and lung support
- American Ginseng an adaptogen to provide adrenal and immune modulation

Our healing mission

Every person, all the events of your life are there because you have drawn them there. What you choose to do with them is up to you.

Richard Bach
Brain Health
Enhancing Function

The Brain/Body Relationship

Biochemistry of mood alteration

- Stress can deplete neurotransmitter stores faster than they can be created resulting in deficiency – too much stress, breaking the horse’s back
- Dietary imbalance can reduce the ability to produce neurotransmitter stores and result in depletion – unable to keep up with demand
- Our role is to systematically support the individual to a more abundant state biochemically and thus to a greater degree of choice and autonomy – less at the mercy of the biochemical mood

Target pleasure and reward

- Various neurological systems contribute to the behavioral drive for pleasure and reward – this can lead to the onset of craving
- Of primary focus are the neurotransmitter pathways involving dopamine, glutamate, acetylcholine and serotonin (Ciccocioppo, 1999)
- In addition a peptide called cholecystokinin (CCK) can signal satiety and a state of fullness, and reduces drug cravings by altering specific actions in the central nervous system
- Recent evidence suggests that overeating may be compensatory for a reward deficiency, resulting from hypoactive dopaminergic activity in the brain (Reinholz at al, 2008)
Target pleasure and reward

- Some conditions, genetic predisposition and overstimulation resulting in downregulation of dopaminergic stores can lead to deficiency and subsequent ‘chase the reward’ behaviors
- Dopamine is vital to reward and motivation
- The brain regions associated with cravings include the Nucleus Accumbens (NAc), Ventral Tegmental Area (VTA), and neostriatum (Clay at al, 2008)
- Drugs such as opioids, alcohol, cocaine, and amphetamines elicit intense dopaminergic pleasure signals in the brain
- Gambling and risk taking can also increase dopaminergic pathways activity (Iancu at al, 2008)
- Food also stimulates dopaminergic pleasure centers (Epstein & Leddy, 2006)

Upon initial exposure to a rewarding stimulus there is an increase in dopaminergic signaling from the VTA to the NAc

In addition the NAc has dense acetylcholine projections that can mediate dopamine release

Because of this relationship between acetylcholine and dopamine research suggests brains acetylcholine can prevent reward seeking behaviors and cravings

The brain learns association between a environmental cues and cravings

This occurs because dopamine activity in the NAc promotes glutamate signaling to the prefrontal cortex which learns how to behave to obtain a pleasurable response

XC – Transport System

The xc-transport system (Knackstedt et al, 2009) is a regulated cystine/glutamate antipporter mechanism that effects compulsive and urge-driven behavior

The mechanism exchanges extracellular cystine for intracellular glutamate, which is the primary source of extracellular glutamate in the NAc

Extracellular glutamate differs from synaptic glutamate by acting on autoreceptors found in the presynaptic neuron, acting as a negative feedback loop to prevent excessive glutamate release and subsequent hyper excitatory states

Over time drug use can reduce the xc-transport efficiency resulting in decreased extracellular glutamate and increased synaptic glutamate contributing to increased cravings and drug use perpetuity

To effect this mechanism is to reduce cravings and discomfort around addiction – this is a unified mechanism of involvement for all addictive mechanics
Promoting Dopamine

The biosynthetic pathway and metabolism of catecholamines:

- Tyrosine converts to L-DOPA (3,4-dihydroxyphenylalanine)
- Then converts to Dopamine
- Which is hydroxylated to Norepinephrine
- Then further methylated to Epinephrine

Promoting Dopamine

- Epigallocatechin gallate (EGCG) from Green Tea Extract supports norepinephrine and dopamine (Hurst et al, 2009)
- L-DOPA (L-3,4-dihydroxyphenyalanine) increases dopamine (Palhagen et al, 2005)
- L-Tyrosine or N-Acetyl Tyrosine (1 – 1.5 mg/day) can increase dopamine and norepinephrine resulting in depression, lethargy, focus issues, negativity
- L-Phenylalanine (400 mgs tid on empty stomach) reduces moodiness and irritability (Pohle-Krauza et al, 2008)
- Coleus Forte (1 bid) supplies forskolin to increase cAMP and supports catecholamine function (Henderson et al, 2005)
Promoting Serotonin

- Serotonin starvation is a virtual epidemic in USA with estimates at 80% of adults suffering from this
- It is so vital to our emotional processing that it is our primary defense against anxiety and depression
- Tryptophan is primary found in high protein food (turkey, beef, pork, dairy, chicken, eggs) – modern foods are dwindling in tryptophan due to animal diets of corn instead of grasses – vegetarian is at greater risk of serotonin depletion

Promoting Serotonin

- L-Tryptophan can promote serotonin levels
- L-5-Hydroxytryptophan (L5-HTP) increases the production of serotonin (Amer et al, 2004)
- Folic Acid/B12 (2 bid) and folate deficiency has been associated with depression, apathy and impaired concentration – folic acid is factor in rate limited enzyme hydroxylase in dopamine and serotonin synthesis

Serotonin/ Dopamine Dynamics

- A crash course in neurotransmitter chemistry reveals that there is a balancing mechanism between serotonin and dopamine in the brain
- When serotonin rises dopamine becomes less effective
- When dopamine rises serotonin becomes less effective
- Too much serotonin, or too little dopamine results in “I don’t care” attitudes
- Too much dopamine, or too little serotonin results in becoming obsessive, moody and inflexible
- This is why nutritional support to the neurotransmitter production is preferred to drug therapy as it is less likely to induce imbalance
Promoting Acetylcholine

- Gingko Biloba Forte (1-2 bid) promotes blood flow to the brain and subsequent activity
- Tuna Omega (2 bid) contributes DHA and EPA to reduce inflammation and promote brain function
- Huperzine A (HupA), a traditional Chinese herbal medicine, increases acetylcholine by inhibiting the acetylcholine degrading enzyme called ACHe this increasing synaptic acetylcholine (Zhao & Tang, 2002)
- Carnitine in the form of acetylcarnitine has been shown to raise brain acetylcholine levels by promoting choline acetyltransferase (also inhibits mitochondrial dysfunction through antioxidant effects)

Promoting Glutamate balance

- Glutamate is the principal excitatory neurotransmitter in the brain
- Magnesium reduces endogenous glutamate levels thus reducing neuronal excitability
- N-Acetyl Cysteine reduces synaptic glutamate (LaRowe et al, 2006)
- Tuna Omega (2 bid) reduces glutamate release by limiting release of membrane bound arachidonic acid – it also modulates sodium and calcium channels in excitable tissue, inhibition of phospholipase activity (similar to lithium)
- Melatonin has been shown to reduce and inhibit the hyperdopaminergic state associated with psychotic disorders – it promotes secretion of adenosine which acts as a potent inhibitor of glutamate and dopamine

Promoting Cholecystokinin (CCK)

- CCK, like other peptides of gastrin, secretin, and motilin, originate in the digestive system and act as neuromodulators that send hunger/satiety signals to the brain via the vagus nerve (Dockray, 2009)
- In the brain CCK is co-released with dopamine in the Nucleus Accumbens and acts as a pleasure/reward signal
- L-Phenylalanine increase CCK (Pohle-Krauza et al, 2008)
- A F Betafood (5 bid) causes bile formation and subsequent healthy peristaltic stimulation resulting in CCK secretion
- Livton (2 bid) is also a cholagogue promoting similarly CCK secretion
Promoting GABA
- Pyridoxine (B6) promotes GABA directly by acting as the key cofactor in decarboxylation of glutamate into GABA (principal inhibiting neurotransmitter in the brain) – always take with entire B complex to avoid B6 toxicity
- GABA is the principal inhibiting neurotransmitter in the brain – so it all about slowing things down and cooling the brain
- Pyridoxine deficient states are found with low levels of GABA in the cerebrospinal fluid

Promoting cAMP
- cAMP is like gold to the brain because of its activation of protein kinase A that phosphorylates and increases the antiapoptotic factor BCL-2 – this in turn inhibits the opening of the membrane preventing the release of the ‘death driving’ cysteine proteases involved in programmed cell death
- This initiates a what is regarded as a prolife signaling cascade
- L-Phenylalanine increases CCK and catecholamine synthesis in the brain and is associated with pleasure/reward responses
- Lipoic Acid (tid) can promote cAMP release
- Also cAMP is promoted with low calorie lifestyles, low glycemic diets

Promoting Melatonin
- Melatonin is a downstream synthesis to serotonin, and as such adequate serotonin levels are vital to ensure melatonin production
- This is why serotonin deficiency leads to insomnia, and if there are bottlenecks in the pathway hormone replacement of melatonin can be directly employed
- Melatonin should always be encouraged endogenously, rather that exogenously supplied as it will promote build up of brown adipose tissue over time
- Melatonin can reduce excessive glutamate and hyper excitability and the dopamine blockade potential in autism and schizophrenia
There are five brain systems that are most intimately involved with behavior:

1. **Deep Limbic System** at the center of the brain is the bonding and mood control center – imbalanced people struggle with moodiness and negativity.

2. **Basal Ganglia** are large structures deep within the brain controlling the body’s idling speed – imbalance here results in anxiety, panic, fearfulness, and conflict avoidance – or if underactive the struggle will involve concentration and fine motor control.

3. **Prefrontal Cortex** at the front tip of the brain is the supervisor helping to keep focus, make plans, control impulses, make good/bad choices – under activity results in limited supervision, attention span, focus, organization and follow through.

4. **Cingulate** runs longitudinally through the middle of the frontal lobes and is the ‘gear shifter’, allowing to shift attention from thought to thought and between behaviors – when overactive people get stuck in loops of thoughts or behavior resulting in rigidity, worry and over-focused behavior.

5. **Temporal Lobes** are involved with memory, understanding language, facial recognition and temper control – these problems tend to be temper attacks, rapid mood shifts, memory or learning problems – optimization may result in inner peace.
Key to Five Brain Systems Checklist

- Deep Limbic System –
- Basal Ganglia System –
- Cingulate Nucleus –
- Prefrontal Cortex –
- Temporal Lobes –
An Algorhythm for Brain Function:

The following algorhythm is offered as a sequential way to explore the many different faces of brain performance, ultimately to leave no stone unturned accomplishing profound and permanent healing evolution for those who choose

Brain Management Sequence

1. Lab assessment of neuroendocrine status
2. Braverman Assessment tool
3. Five Brain Assessment
4. Phase II Diet and Protein Support
5. Immune Bolstering
6. Limbic Reinforcement
7. Metabolic Syndrome Management
8. Symplex M/F Hypothalmex BCSO
9. Allergen removal
10. Treat metabolic syndrome – use Berberine
11. Phase II diet 4 – 10 lbs weight loss per month
12. Assess for primary neurotransmitter reinforcement
13. Balance as indicated
There is no finish line …

Cultivation of the soul implies a lifelong husbanding of raw materials.

Thomas Moore

Sequential Intervention

- By documenting and observing the signs of tissue function and brain performance it is possible to modulate activity and attest to improvement in both of these considerations.
- Sequential intervention and accountable follow-up can show what has worked and what may still need to be employed.
- To the global paradigm of human nutritional support cellular vitality and brain health become essential considerations.
- Use the brain management sequence to modulate brain performance to the degree that is needed to optimize expression.
- Use Bio-impedence Analysis and Biophotonic Carotenoid Scanning to determine cellular defenses.
- 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.

Change the world

It wants to