Mentoring the Mentor

Stuart White, DC, DACBN, CCN
Whole Health Associates
1406 Vermont
Houston, Texas 77006
713/522-6336
stuartwhite@wholehealthassoc.com
www.wholehealthassoc.com
www.doctorofthefuture.org

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 holistic practice
- Each participant chooses how to convey the notes and information to their world and community – no information squandering

Learning wisdom -

Never seek a lesser moment!

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 we end up offering little hope at all.
- I propose another model that bolsters 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 she 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.

Seven Pillars
Unified Mechanisms of Health

Promoting Physiology

7 Pillars of Healing
7 Unified Mechanisms of Health

- Endocrine/Hormonal
- Glycemic Management
- pH Bioterrain
- Immuno-Inflammatory
- Circulatory Status
- Digestive Potency
- Cellular Vitality
Practice Aging -

Be glad of life, because it gives you the chance to love and to work and to play and to look up at the stars; to be satisfied with your possessions; to despise nothing in the world except falsehood and meanness, and to fear nothing except cowardice; to be governed by your admirations rather than your disgusts; to covet nothing that is your neighbor’s except his kindness of heart and gentleness of manners; to think seldom of your enemies, often of your friends … and to spend as much time as you can with body and with spirit. These are little guideposts on the footpath to peace.

Henry Van Dyke

Understanding Detoxification

Stuart White DC, DACBN
Lee Carroll B.Sc.
Topics

1. Liver detoxification
2. Cytoprotection and Nrf2/ARE
3. Gut flora dysbiosis

Detoxification:
“The efficient removal from the body of chemicals likely to effect tissues”

Source of Toxins in the Body

1. Environmental chemicals or contaminants
2. Food chemicals or contaminants
3. Drug therapy
4. Metabolism e.g. steroid hormones, bile acids
5. Endogenous toxins, i.e. abnormal metabolism, dysbiosis
Mentoring the Mentors

### Conditions Caused or Exacerbated by Toxin Overload

- Immune deficiency
- Neurological disorders
- Chronic inflammatory disorders
- Allergies
- Autoimmune disease
- Liver damage, kidney damage etc
- Leaky gut syndrome

### Ways in which the Body Deals with Toxins in Body Fluids

1. Storage in adipose tissue
2. Direct elimination via the kidneys, lungs etc without further processing
3. Elimination via the urine, bile etc after processing (biotransformation) by the liver

### Biotransformation of Toxins

- The aim of biotransformation is to render the toxin more easily excreted
- Reactions involved in the biotransformation of toxins by the liver can be divided into two distinct categories:
  - Phase I reactions
  - Phase II reactions
### Phase I Reactions
- Largely dependent on cytochrome P450 (CYP) enzymes
- Involves the generation of free radicals

### Phase II Reactions
- Process the by-products of phase I reactions
- Metabolites then excreted from the body

### Bioactivation
- Phase I reactions can result in the production of more toxic substances - bioactivation
- These more toxic substances can:
  - Be further metabolized by Phase II enzymes, which renders them harmless and increases excretion
  - Cause liver damage (hepatotoxicity)
  - Have a teratogenic effect
  - Lead to immunological reactions
  - Cause mutation by binding with DNA
**Influencing Detoxification Processes**

- In order to adequately process toxins there has to be a balance between Phase I and Phase II enzymes.
- If Phase II is overloaded or inefficient, toxic substances from Phase I metabolism will increase.
- This increases the risk of hepatotoxicity and tissue effects more broadly.

---

**The Nrf2/ARE Pathway**

- A new perspective on detoxification.
- A basic cellular survival mechanism.
- A primordial pathway, fundamental to all animals' cells, it describes a targeted approach to cytoprotection.
- The Nrf2/ARE pathway is a dynamic response induced by oxidative/chemical stress on the cell that is fundamentally new and novel.

---

![Diagram of the Nrf2/ARE pathway]

- Endogenous & Exogenous Stress Signals
  - Keap1 → Nrf2
  - Cytoplasm → Nucleus
  - Maf → Nrf2
  - ARE
  - Extension of Longevity & Health Span
  - Detoxification
  - Cytoprotective enzymes
Functions of the Nrf2/ARE Pathway

- Nrf2 is expressed in all tissues, but levels vary, with higher levels in key detoxifying organs: the liver and kidneys
- Activation of Nrf2 activates more than 200 genes
- Nrf2 activation enhances DNA repair, heme metabolism, efflux transport of toxins and glutathione synthesis
- It activates detoxification, stabilizes proteins, strengthens cellular integrity and reduces the inflammatory response

Key antioxidant enzymes are induced, including catalase, superoxide dismutase (SOD), thioredoxin, peroxiredoxin, sulfiredoxin, ferritin, metallothionein and haem oxygenase 1 (HO-1)

Key phase II enzymes are also induced, including glutathione S-transferases (GSTs) and NAD(P)H: quinone oxidoreductase 1 (NQO1)

Maher J, Yamamoto M. Toxicol Appl Pharmacol 2010; 244(1): 4-15
Itoh K, Mimura J, Yamamoto M. Antioxid Redox Signal 2010; 13(11): 1665-1678

Nrf2/ARE in Health and Disease Prevention

- Involvements of Nrf2/ARE in maintaining health and preventing disease:
  - Healthy aging and longevity
  - Protection against radiation
  - Benefits in diseases involving oxidative damage and inflammation
What is Gut Flora?

- A large, diverse and dynamic population of microorganisms
- Native bacteria are acquired during birth and during the first and second years of life
- Transient bacteria are continuously being ingested from the environment via:
  - Food
  - Water
  - Probiotics

Guarner F. Digestion 2006; 73(Suppl 1): 5-12

Distribution of Gut Flora

- The stomach and duodenum have very low numbers around $10^3$ cfu per g of contents
- There is a progressive increase along the jejunum and ileum from $10^3 \rightarrow 10^7$ cfu/g
- The large intestine contains around $10^{13-14}$ cfu/g

$10^{14} = 100,000,000,000,000$

Bacteria ‘R’ US

Only one out of every ten cells in our body is human!

Gut Flora Diversity

- Up to 40,000 different species of bacteria found across the human gut
- Every person has a pattern of predominant and subdominant species that is unique to them
- Some bacterial strains are unique to each person

1. Frank DN, Pace NR Gastrointestinal microbiology enters the metagenomics era. Curr Opin Gastroenterol 2008; 24: 4-10

Harmful pathogenic effects

Bacterial

Subbacteria

Potential for:
- Translocation
- Putrefaction
- Production of toxins

Health-promoting effects

Potential for:
- Lower gas production
- Short chain fatty acids
- Immunostimulation
- Antitumour activity

Guarner F. Digestion 2006; 73(Suppl 1): 5-12
### 3 Functions of Gut Flora

**Metabolic functions:**
- Fermentation of nondigestible carbohydrates which promotes the growth of the microflora and the production of short chain fatty acids (SCFA)
- Salvage of dietary energy
- Enhanced absorption of mineral ions e.g. calcium, magnesium and iron

Guarner F. *Digestion* 2006; 73(Suppl 1): 5-12

---

**Metabolic functions:**
- Production of some vitamins, e.g. K, B₅, B₇, B₉, B₁₂
- Synthesis of amino acids from ammonia or urea
- Control of colonic pH
- Metabolism and enterohepatic circulation of xenobiotics

Guarner F. *Digestion* 2006; 73(Suppl 1): 5-12

---

**Protective functions:**
- Provide a barrier effect that prevents the invasion of pathogens and by the excretion of antimicrobial substances

**Trophic functions:**
- Control of epithelial cell proliferation and differentiation
- Immune system development and regulation

Guarner F. *Digestion* 2006; 73(Suppl 1): 5-12
Mentoring the Mentors

What is Dysbiosis?

- Metchnikoff (1907) was the first proponent of probiotics. Described dysbiosis as altered pathogenic bacteria in the gut.
- The state of disordered microbial ecology that causes disease.
- A breakdown in the balance between protective versus harmful intestinal bacteria.


Common Causes of Dysbiosis

- Diet including excessive protein, excess refined carbohydrates, lack of fiber, excess fat, sulfur
- Antibiotics
- Stress
- Decreased immune status (especially low SIgA)
- Decreased gut motility and poor digestive function
- Low hydrochloric acid production
- Intestinal infection and infestation
- Altered intestinal pH


Diseases Linked to Dysbiosis

Autoimmune Diseases
- Crohn's disease
- Ulcerative colitis
- Rheumatoid arthritis
- Ankylosing spondylitis
- Chronic active hepatitis
Diseases Linked to Dysbiosis

Gut Disorders
- Irritable bowel syndrome (IBS)
- Flatulent dyspepsia
- Certain types of food sensitivities
- Chronic diarrhea and constipation
- Gastrointestinal infections

Diseases Linked to Dysbiosis

Other Disorders
- Allergies such as asthma and hay fever
- Poor immunity
- Chronic skin disorders
- Insulin Resistance and Diabetes
- Neuropsychiatric problems especially autism??
- Obesity?? Depression??

References for Previous slides

Crohn’s Disease
- Rashid T, Ebringer A. Autoimmune Dis 2012; 2012 : 539-582
- Kavakci 1 et al. Semin Immunol 2011; 23(2): 136-145
- Hölässä K et al. J Autoimmun 2009; 32(3-4): 172-177
- Blaser M. Nature 2011; 476(7361): 393-394
- Plantinga TS et al. Curr Opin Pharmacol 2012 [Epub ahead of print]

Rheumatoid Arthritis
- de Almeida DE et al. FEBS Lett 2011; 585(23): 3619-3626
- Frederik GS. Nature 2003; 423(6937): 356-361
References for Previous slides

Antkylosing Spondylitis
Rashid T, Borme A. Autoimmune Die 2012; 2012: 537-28
Pollen R et al. J Autoimmun 2010; 32(3-4): 172-177

Lateral Collateral
Burke DA, Assem A, BMJ 1988; 287: 102

Irritable Bowel Syndrome

References for Previous slides

Hepatitis

Allergy, Atopic Dermatitis
Schaller C. Curr Opin Allergy Clin Immunol 2016; 8(1): 518-422
Ond C, Drexler K. Curr Opin Allergy Clin Immunol 2010; 21(5): 594-800

Gut Disorders
Kaur R, Chen C-C, Luther J and Kao JY. Intestinal dysbiosis in inflammatory bowel disease Gut Microbes 2:4, 211-216; July/August 2011
Guarner F. Digestion 2006; 73(Suppl 1): 5-12

Immunity
Ho Y-M, Wu Y, The role of gut microbiota in immune homeostasis and autoimmunity Gut Microbes 2:4, 4-10, January/February 2012

Metabolic

Neuropsychiatric
Spring Cleaning

- Support normal liver detoxification function
- Support the body’s normal cytoprotective mechanisms
- Promote healthy and balanced gastrointestinal flora

Spring Cleaning Products

- LivCo®
- ChelaCo
- Cruciferous Complete™
- Gut Flora Balance Program
  - Gut Flora Complex
  - Prebiotic Inulin
  - ProSynbiotic
  - Vitanox®
Liver Detoxification Processes

- Herbs that support Phase I without having a similar effect on Phase II are generally not desirable
- Should aim at supporting both Phase I and Phase II simultaneously
- There is still much that we do not understand with regard to liver detoxification mechanisms and substances that influence them
- An approach involving the buffer of "chemical complexity" is desirable

LivCo

Schisandra fruit 6:1 ext 167 mg from *Schisandra chinensis* fruit 1.0 g
Rosemary leaf 5:1 ext 100 mg from *Rosmarinus officinalis* leaf 500 mg
Milk Thistle seed 70:1 ext 30 mg from *Silybum marianum* seed 2.1 g containing flavanolignans calc. as silybin 24 mg

Suggested use: 1 tablet 3 - 4 times daily

LivCo

- Aid in the elimination of toxins and cleanse the liver
- Support healthy liver function and tissue integrity
- Protect liver tissue by supporting normal cellular defenses
- Provide antioxidant activity
- Support and maintain cellular health
- Stimulate the biosynthesis of protein and liver glycogen
- Support digestive health
- Ease the effects of everyday tension and stress
Rosemary

- Rosemary contains the antioxidant activity molecules carnosol and carnosic acid
- Both of these are now understood to be potent primers of the Nrf2/ARE pathway
- For example both compounds have demonstrated potential neuro-supportive activity mediated by this pathway, which reflects on its traditional use for memory\(^1,2\)
- Recently a single 750 mg dose of Rosemary herb improved speed of memory and alertness in healthy older adults\(^3\)

---

Milk Thistle

- Milk Thistle is the most important of all the liver herbs
- Supports normal liver function and normal liver repair processes
- Stabilizes hepatic cell membranes
- Supports normal hepatic and portal blood flow
- Its powerful antioxidant action helps protect the liver from the damaging effects of free radicals, generated by toxins and our own body processes

---

\(^1\) Kosaka K et al. J Biochem 2010; 147(1): 73-81
ChelaCo

Hawthorn herb flowering tops 3:1 ext 100 mg from *Crataegus monogyna* herb flowering tops 300 mg Containing vitexin-2-rhamnoside 2.0 mg

Milk Thistle fruit 70:1 ext 100 mg from *Silybum marianum* fruit 7.0 g Containing flavanolignans calc. as silybin 80 mg

Garlic (*Allium sativum*) bulb powder 100 mg Containing alliin 2.0 mg

Suggested Use: 1 tablet 2 - 3 times daily with meals

---

ChelaCo

- Encourage the healthy function of the organs of elimination (particularly the normal flushing of toxins from the tissues)
- Support the body’s natural defenses against environmental insult
- Help maintain healthy blood and tissues
- Protect liver tissue by supporting normal cellular defenses
- Provide antioxidant activity

---

Cruciferous Vegetables

- Research demonstrates that cruciferous vegetables, such as kale and Brussels sprouts, contain important phytonutrients that help protect against free radicals, the highly unstable molecules that can damage cells and genetic material
Cruciferous Complete

Each capsule contains:
- Kale 300 mg
- Brussels sprouts 300 mg
- Vitamin K 4 mcg
- Potassium 10 mg

Suggested Use: 2 capsules per day

- Supports healthy liver function
- A source of vitamin K, which supports calcium absorption, blood clotting, and healthy liver function
- Provides antioxidant activity

GI Flora Balance Program

- Gut Flora Complex
- Prebiotic Inulin
- ProSynbiotic
- Vitanox
**Gut Flora Complex**

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

Suggested Use:  3 - 6 enteric capsules per day

---

**The Rationale**

- The GI Flora Balance program is a holistic approach which cleanses at the same time as promoting balance between native bacterial colonies  
- Microbial ecology moves toward a healthy balance  
- Prebiotics are essential to this process  
- Consider Prebiotic Inulin as a “Colonic Nutrient”  
- GI flora need specific colonic nutrients (soluble fiber) which may be deficient in the diet  
- Appropriate and individualized dietary advice is important for successful outcomes

---

**The Rationale**

- Probiotics have a valuable role to play  
- Probiotics used alone are beneficial however we need to recognize the limitations  
- Probiotics are transient. Probiotics do not cleanse  
- Probiotic foods contain lactic acid. Lactic acid is cleansing  
- ProSynbiotic is a unique combination of probiotic organisms and colonic nutrients (soluble fiber)
GI Flora Balance Protocol

Every day for 6 weeks
- Gut Flora Complex, 1 capsule twice per day
- Prebiotic Inulin, 1 teaspoon twice per day
- Both taken at the same time
As required include:
- Vitanox, 2 to 3 tablets per day
- ProSynbiotic, 3 capsules per day
  (At a different time to the Gut Flora Complex. Separate by at least 2 hours.)

GI Flora Balance Program Benefits
- Promotes healthy and balanced intestinal flora
- Cleanse the lower gastrointestinal tract
- Maintains a healthy GI environment
- Useful as an adjunctive treatment for gastrointestinal challenges
- Support healthy digestion, improve nutrient absorption
- Support healthy immune system function
- Maintains healthy skin
- Promote vitality and stamina

Spring Cleaning Program

Every day for 6 weeks
- LivCo, 2 tablets twice daily
- Cruciferous Complete, 1 capsule twice daily
- Gut Flora Balance Program
- ChelaCo, 1 tablet 2 - 3 times daily with meals if required
Acknowledgements

Special thanks to
Professor Kerry Bone

Principles at work

- Detoxification is vital to age-related decline and longevity objectives
- The high density effect of research creates more and more commitment to this lifestyle as a sound way to live life and reduce morbidity
- Every patient must be engaged in sequential and recurrent detoxification events to reduce the toxic burden associated with health status

Primary Products

- Sequential detox:
  - Livco
  - Livton
  - Betacol
  - Vitanox
  - A F Betafood, Choline, Collinsonia
  - Nrf2 support to increase sirtuin and glutathione
  - Herbavital
  - Vitanox
  - Cruciferous
- Gut Flora Reboot:
  - Gut Flora Complex
  - Prebiotic
  - Zymex II, Multizyme, Wormwood
  - Zymex
  - Cataplex AC
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 glycemic management and show the effect of corrective management.
- 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