Hour 1, 2: Introduction to Lab Analysis

- Principles and philosophy of integrative primary care.
- Why Chiropractors and other health-care professionals can fill the gap of not only primary care, but quality, PREVENTION/WELLNESS oriented care.
  • What makes chiropractic unique is our respect for the body as self-healing, self-regulating system capable of restoring health if supported.
  • Why it is within our scope of practice and our RESPONSIBILITY to assess the whole patient, and render treatment and/or co-treatment effectively.
  • Not all musculoskeletal problems are musculoskeletal in nature
    ▪ Ex: Back pain can be chronic UTI, Prostate etc not DJD or sprain strain.
    ▪ Linking pain to overall inflammation and degeneration
  • Moving patients from a symptom based passive model to a proactive wellness oriented lifestyle
    ▪ Legislate broadly, practice as narrowly as you wish.
- ACA, CCE, and NIH view of chiropractors as primary care providers.
  • Difference between “portal of entry” providers and true, qualified PCP’s.
- Using Labs to Individualize Nutritional Treatment
- New Paradigm- emphasis on patient responsibility and holistic, evidence-based treatments including diet, lifestyle, exercise, meditation, supplementation.
- There are no cookie-cutter, one-size-fits-all protocols. Practitioners must be willing to understand physiology and be able to think critically and comprehensively when interpreting labs. There are many other seminars out there that will teach a this-for-that philosophy and tell you how to treat
“numbers”, not actual people. **Must have the knowledge and confidence to interpret labs and guide patients to health, wellness and vitality.**
- Scope of Practice for alternative practitioners. Can Chiropractor’s “diagnose.”
  A review of Texas and other states scope of practice laws. How to make **assessments** without diagnosing medical conditions.
- Board Certifications, Credentialing etc.
  - Importance of qualifications and training for chiropractors to be included in primary care. AACP, DABCI, DC-AP, IFM etc.
- Risk Management, informed consent etc.

- Case Study

- Why bother with blood tests anyway?
- No better tool for effective and efficient evaluation of human physiology
- Limitations - cost/benefit, false +/-, one piece of human physiology, *quantitative measurement not qualitative.*
- How to set up accounts with laboratories and discount clearinghouses
- In-office procedures for lab evaluation requisitions
- Understanding ranges:
  - Optimal (thriving), Impaired Function (surviving), Illness, Critical ranges
- How ranges are made by national labs
- Sensitivity vs. Specificity
- Accuracy vs. Precision
- Current lack of understanding of patterns and connecting dots within lab tests
- Tools for assisting interpretation
  - Manual worksheets
  - FHEval and other computer programs
  - Reference materials: lab manuals, articles, web resources

- **Diagnosis, assessments and comprehensive treatments for what you will see in 95% of your patients’ lab work. In other words, 95% of patients will have something identifiably abnormal in which holistic treatment would be indicated.**

-----------------------Break. -----------------------------

Hour 3,4,5: **Using the Comprehensive Wellness Exam**
- New patient intake (everything from screening new patients to scheduling to interpretations and assessments of patient conditions)
  - Importance of taking a thorough **History** and what to ask the patient.
  - Utilizing a modified “Functional Medicine” review of systems
- **Health questionnaires.** Examples will be given in the course textbook as well as resources for students to access their own. (FHeval.com, my own, N-compass etc.)
- Preliminary lab evaluations (Comp. Wellness Panel)
  - What to order on whom, given different case presentations and socio-economic consideration
- Components of Preliminary “Wellness Panel”
- Brief physiology of each blood marker, what it is and what it means. Ranges and differentials.
  - CBC w/diff
  - CMP
  - Lipid Panel
  - Thyroid Panel
  - U/A
  - Add-ons: GGT, HA1c, Mg, Iron panel, Hcys., CRP, C3/C4 complement factors

Hour 6-8: **Understanding Insulin Resistance: Functional Lab Assessment Treatment**

I. Statistics on cost and prevalence of IR and Diabetes

II. Multisystem effects of IR
   A. Definition of IR
      1. Physiopathology of IR
      2. Clinical presentation
      3. Comparison to Metabolic Syndrome
   B. List of diseases and disorders associated with IR
      1. Cardiovascular
      2. Endocrine
      3. Neurological
      4. Liver/Detoxification
      5. Immune
      6. G.I.
      7. Cellular Metabolism

III. Laboratory Findings
   A. Fasting Glucose
   B. Hemoglobin A1c
   C. Fructosamine
   D. Triglycerides
   E. Cholesterol / VAP sub-fractionation
   F. Insulin (fasting and Post prandial)
   G. Glucose Tolerance Test
   H. Inflammatory Markers
      1. CRP
      2. ESR
      3. Ferritin
   I. Homocysteine
   J. Uric Acid
   K. Enzymes: LDH, CK, Alkaline Phos.

IV. Treatment and Prevention of IR
   A. Three – legged stool treatment plan analogy
   B. Lifestyle Disease Requires Lifestyle Management
      1. Diet
a. Three principle diet  
b. Low glycemic  
c. High fiber  
d. Anti-inflammatory  
e. High antioxidants  
f. Building blocks for genetic repair and cell surface receptor repair with increased transcription  
g. Fasting / calorie restriction

2. Detoxification  
a. Chemicals  
b. Microbes  
c. Heavy Metals  
d. Upregulate Phase I / II

3. Exercise – 5 component  
a. Cardio  
b. Resistance Training (study showing effectiveness of combination training on Type 2 diabetics)  
c. Core  
d. Stretching  
e. Balance and Proprioception

4. Stress Reduction  
a. Relaxation Response  
b. 30 years of research  
c. Beyond the RR – Remembered Wellness

V. Nutritional Management (with extensive physiological mechanisms and research references for each)  
A. Magnesium  
B. Chromium  
C. Vanadium  
D. Zinc  
E. EFA  
F. CLA  
G. CoQ10  
H. ALA  
I. Biotin  
J. Herbal Remedies: berberis, cinnamon etc.  
K. Green Tea  
L. Vit. D  
M. Nutri-west combination products

VI. Multiple Case Studies

Hour 9-10: Addressing the Pervasive Challenges to Thyroid Health

I. Overview of “Functional Endocrinology”  
a. Feedback Mechanisms to  
b. Secretion to
c. Transportation to  
d. Receptor Function to  
e. Translation to  
f. Elimination  

II. Thyroid Physiology Review  
   a. Neuroendocrinology: H-P-T axis  
      i. Factors influencing TSH and thyroid Function  
   b. HPT and Adrenal influences  
   c. Thyroid physiology  
      i. T3 production  
      ii. T4 production  
      iii. Thyroglobulin and Transport  
      iv. Deiodinase enzymes  
   d. Physiological effect of thyroid hormones  
      i. Gene transcription  
      ii. Cardiovascular  
      iii. GI  
      iv. Homocysteine and Thyroid  
      v. Effects on other hormones  
   e. Altered physiology  
      i. Autoimmune  
      ii. Hypo and Hyper clinical presentation  

III. Thyroid Lab Evaluations  
   a. Comprehensive Blood Evaluations  
      i. TSH, T3, T4, SHBG, rT3, TP antibodies etc.  
      ii. Other lab signs of hypothyroid  
         1. Uric acid  
         2. Cholesterol  
         3. T.G.’s  
         4. Lp (a)  
         5. MCV/MCH  
         6. WBC’s immune  
         7. IR  
         8. LDH  
        10. ESR  
        11. UTI’s  
      iii. Case Study