

# PIH Academy

## Physiology First: Practical Applications Course Outline

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### Module 1: Interpreting Basic Lab Tests

- Functional vs. Standard Lab Ranges
  - What is meaningful, what is just noise.
  - Rationale for 8 Predictive Biomarker tests – overview
  - Functional vs conventional approach to management of: Hypertension, Hyperlipidemia,
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### Module 2: Evaluating Metabolic Function

Review of useful tests of metabolic function and the clinical management indicated.

- **Thyroid/Parathyroid**
  - **MALE/FEMALE HORMONES**
  - **ADRENAL HORMONE/HYPOTHALAMIC PITUITARY AXIS DYSFUNCTION**
  - **GLUCOSE REGULATION**
  - **Protocols for management of: Hypothyroidism, Hyperthyroidism, Insulin resistance, Sex Hormone Insufficiency/Imbalance, PCOS, Menopause/Perimenopause, Diabetes, Fatigue**
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### Module 3: Targeted Vitamin Supplementation

Methods of assessing need and plotting a course to repletion. A review of clinical understanding and the use of nutritional supplements.

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|--------------------------------------|--------------------|
| • <b>VITAMIN A/RETINOL</b>           | • <b>B12</b>       |
| • <b>VITAMIN B1/THIAMINE</b>         | • <b>FOLATE</b>    |
| • <b>VITAMIN B2/RIBOFLAVIN</b>       | • <b>VITAMIN C</b> |
| • <b>VITAMIN B3/NIACIN</b>           | • <b>VITAMIN D</b> |
| • <b>VITAMIN B5/PANTOTHENIC ACID</b> | • <b>VITAMIN K</b> |
| • <b>VITAMIN B6/PYRIDOXINE</b>       | • <b>VITAMIN E</b> |
| • <b>VITAMIN B7/BIOTIN</b>           |                    |
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## **Module 4: Targeted Mineral Supplementation**

Methods of assessing need and plotting a course to repletion. A review of clinical understanding and the use of nutritional supplements.

- Copper
  - Zinc
  - Selenium
  - Iodine
  - Calcium
  - Magnesium
  - Manganese
  - Phosphorous
  - Carnitine
  - Choline
  - CoQ10
  - Inositol
  - Taurine
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## **Module 5: Interpreting Specialty Lab Tests**

- Essential fatty acids
  - Oxidative Stress/Lipid Peroxidation/Glutathione
  - Autoimmune Markers
  - Allergy
  - GI Testing
  - Toxicology/Heavy Metals/Mold – Blood & Urine
  - Yeast/fungal markers
  - Infections (Lyme, Epstein-Barr, CMV, HHV 6)
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## **Module 6: Genomics**

- Review of most common tests
  - Actionable results vs myths and marketing spin
  - Focus on markers of epigenetic risk factors
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## **Module 7: Urine Tests**

- 1st morning pH
  - Standard urinalysis
  - Amino acids vs plasma amino acids: when should urine be ordered and when plasma
  - Inflammatory Markers of Repair Deficit
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## **Module 8: Wrap Up/Review**