

# **Biologic Concepts of the Vertebral Subluxation**

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Dr. James Demetrious achieved his doctorate at New York Chiropractic College in 1986. He is a board certified Chiropractic Orthopedist and Fellow of the Academy of Chiropractic Orthopedists. He is a Board member of the Academy of Chiropractic Orthopedists and editor of the Journal of the Academy of Chiropractic Orthopedists. Dr. Demetrious has authored peer-reviewed journal articles that have appeared in JMPT, JNMS, JACA and JACO. He hopes to support the chiropractic profession through post-graduate lectures that heavily reference current peer-reviewed research while drawing from the experience of clinical practice of over twenty four years.

## **Course Description**

Using mainstream, peer-reviewed medical and chiropractic research, Dr. Demetrious portrays a physiologic and biologic rationale that defines issues related to the vertebral subluxation. Course attendees will receive an advanced perspective through meticulously referenced literature that is corroborated with relevant clinical cases. Upon completion of the course, attendees will have a stronger understanding of chiropractic that will hopefully elevate them to higher levels of excellence in practice. The ultimate goal of the course is to enable chiropractors to help more patients and their families through improved outcomes.

## **Saturday – 7:00 AM - 7:30PM**

### **Registration - 6:30 AM**

### **Lecture - 7:00-8:30AM:**

- Introduction and overview of course material:
  - Biologic and physiologic tenets related to the vertebral subluxation.
  - Using the best available medical literature that defines spinal integrity.
  - Utilization of advanced diagnostic imaging to assess the physiologic parameters of the vertebral subluxation.
- Validating chiropractic via advanced diagnostic testing:
  - MRI:
    - Basic MRI Physics:
      - Understanding T1 and T2 weighted images:
        - Hypo-intense and Hyper-intense tissue values
    - Contraindications / Indications:
      - Specificity/Sensitivity Issues
  - Functional MRI
  - Reviewing the value and utility of X-Ray, CT and Bone Scintigraphy

### **Break- 8:30-8:45AM**

## **Lecture- 8:45 -10:15 AM**

- Reviewing normal anatomy and physiologic states:
  - Developing, “MRI Vision”
  - Diffusion Rates
  - Disk Nutrition
  - Disc Mechanobiology
  - Zygapophyseal Joints
    - Capsular / Facet microanatomy
    - Capsular Neurology
    - Hydrostatic Pressure / Drainage Phenomena
  - Central Canal / Foraminal Issues

## **Break – 10:15-10:30 AM**

## **Lecture – 10:30-12:00 Noon**

- Evaluating pathophysiology through MRI while defining the chiropractic subluxation and subluxation degenerative sequelae:
  - IVD – Rim Lesions
  - Ligament / Tendon Trauma - Sprain/Strain on MRI
  - Modic classifications
  - High-Intensity Zone
  - Reviewing How Connective Tissues Heal:
    - Review of Salter’s premises related to tendon, ligament and cartilage response to injury and movement.
- Review disk herniation nomenclature from American Society of Neuroradiologists
  - Contrast enhanced Gadolinium studies

## **Break – 12:00-12:30 PM**

## **Lecture – 12:30-2:00 PM:**

- Subluxation Degeneration:
  - The “Spinal Charcot Scenario”
- Basic Neurophysiologic Response to Injury Review:
  - Reviewing the Seddon/Sunderland classification system
  - Neurologic or vascular impairment?:
    - The Nerve Root Compartment Syndrome
    - Spinal Artery Atherosclerosis
- Compressive Neuropathies:
  - Axoplasmic Flow
  - Double Crush Phenomena
  - The Nerve Root Compartment Syndrome

## **Break – 2:00- 2:15 PM**

## **Lecture – 2:15 – 3:45 PM:**

- Case Management:
  - Cervical Spine

**Break – 3:45 – 4:00 PM**

**Lecture – 4:00 – 5:30 PM:**

- Thoracic Spine
- Lumbar Spine

**Break – 6:00 – 6:15PM**

**Lecture – 6:15 – 7:15PM**

- Reviewing the adverse effect of invasive medical protocols:
  - Transforaminal injections, facet blocks and epidural injections
  - Surgical Approaches
  - Failed Surgery Syndrome:
    - Causes of failure
    - A chiropractic/rehabilitative approach
    - Post-surgical MRI findings

**Conclusions – 7:15 – 7:30PM:**

- Summary
- Questions

**Adjournment – 7:30PM**