

# **Lumbar Spine: An Evidence Based Approach**

## **Utilizing Advanced Diagnostic Imaging and Rehabilitative Protocols to Improve Outcomes**

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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 national Academy of Chiropractic Orthopedists and serves as managing editor of the Journal of the Academy of Chiropractic Orthopedists. Dr. Demetrious has authored peer-reviewed journal articles that have appeared in Chiropractic and Osteopathy, JMPT, JNMS, JACA and JACO. His clinical interests include defining the chiropractic premise, using advanced diagnostic imaging and improving clinical outcomes. He hopes to support the chiropractic profession through post-graduate lectures that heavily reference current peer-reviewed research while drawing from clinical practice of over twenty four years.

### **Course Description**

Dr. James Demetrious provides an evidenced-based course related to the lumbar spine that heavily references current peer-reviewed research. He provides advanced training in MRI and CT that defines normal imaging anatomy and validates the vertebral subluxation. Dr. Demetrious provides substantiated clinical perspectives, actual cases and indications for chiropractic care. Physicians attending this course will gain a diagnostic and therapeutic acumen that can improve patient compliance and referrals. The goal of the course is to enable chiropractors to help more patients and their families through improved outcomes.

- Correlating Findings:
  - Instructive Case Review
  
- 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
    - Reviewing normal anatomy and physiologic states:
      - Developing, "MRI Vision"
      - Diffusion Rates:
        - Disk Nutrition
      - Hydrostatic Pressures
  
  - Reviewing disk herniation nomenclature from American Society of Neuroradiologists

- Evaluating pathophysiology through MRI while defining the chiropractic subluxation and subluxation degenerative changes:
        - Modic classifications
        - The Hypo-intense Disc
        - High-Intensity Zone
        - Paraspinal muscle atrophy
        - Contrast enhanced Gadolinium studies
      - Functional MRI
    - Reviewing how Connective Tissues heal:
      - Review of Salter's premises related to tendon, ligament and cartilage response to injury and movement.
  - Subluxation Degeneration:
    - Kirkaldy-Willis
    - Haldeman
    - The "Spinal Charcot Scenario"
  - Providing sound approaches to clinical decision-making:
    - Taking a Sherlock Holmesian approach to gathering clinical evidence
  - Contraindications to chiropractic care:
    - Relative
    - Absolute
    - Concomitant health issues that require further evaluation.
- Review of Randomized Controlled Trials related to Chiropractic Safety
- Grand Rounds and Clinical Pearls:
  - Instructive cases:
    - Trauma:
      - Disc and Ligament Tears
    - Fracture:
      - Thoraco-lumbar Column system:
        - Vertebroplasty
        - Clinically undetected
        - Osteoporosis
        - Stress Fracture
      - Epidural Hematomas
    - Cancer:
      - Primary:
        - Osteoid Osteoma
      - Metastatic Disease:
        - Breast
        - Kidney
          - Case Review
        - Prostate
    - Arterio-venous malformations
    - Muscle Spindles and Trigger Points:
      - Multifidus
      - Quadratus Lumborum Syndrome

- Gluteus medius and minimus
- Spinal Decompression
  - Review
  - Pertinent Literature
  - Patient Selection Criteria
  - Therapeutic Approaches
- Proprioception and providing functional rehabilitative approaches:
  - Chiropractic approaches
  - Manual therapies
  - Axial traction
  - Neuromuscular Re-education
  - Exercise rehabilitation- “Gaining stability through unstable platforms”:
    - Core Muscles:
      - Local Movers
      - Global Movers
    - Exercise balls, Swiss discs, Airex Mats and wobble boards
    - McKenzie/William’s...Flexion v. Extension
    - Activated-Isolated techniques
    - Functional training
- Writing a case report:
  - Case Selection
  - Preparation / Research / Write it!
  - Demonstrative Conclusions
- Providing therapeutic approaches to difficult chiropractic cases:
  - Reviewing the effect of invasive medical protocols:
    - Transforaminal injections, facet blocks and epidural injections
    - Surgical Approaches
    - Failed Back Surgery Syndrome:
      - Causes of failure
      - A chiropractic/rehabilitative approach
      - Post-surgical MRI findings
      - Peridural Fibrosis

## Adjournment