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## **SELECTED OCCUPATIONAL HISTORY**

Clinical Director/Staff Chiropractor, Metro Chiropractic Centre, Maryland Heights, Missouri, 1995 – Present

Staff Chiropractor, Ballwin Chiropractic Centre, Ballwin, Missouri, 1991 - 1995

## **EDUCATION AND LICENSURE**

Doctor of Chiropractic, Licensed in the State of Missouri, License #5913, 1990 – Present

Doctorate of Chiropractic, Logan College of Chiropractic, Chesterfield, Missouri, 1990

Internship, Montgomery Clinic, Chesterfield, Missouri, 1989 – 1990

National Board of Chiropractic Examiners, Physiotherapy, 1990

National Board of Chiropractic Examiners, Part III, 1990

National Board of Chiropractic Examiners, Part II, 1990

National Board of Chiropractic Examiners, Part I, 1989

Bachelor of Arts in Biology, University of Missouri-Columbia, Columbia, Missouri, 1986

## **CERTIFICATIONS, QUALIFICATIONS AND DIPLOMATES**

Fellowship Candidate, Primary Spine Care, Academy of Chiropractic, 2025 - Present

## **SELECTED POST-GRADUATE EDUCATION**

2022 Trends in Spinal Healthcare, *Analyzing evidence-based spinal healthcare trends in both utilization and necessity and understanding the marketplace. The use of evidence-based demonstrative documentation in reporting treatment pathways in triaging spinal pathobiomechanics.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

MRI Spine Clinical Case Grand Rounds, *Clinical case review of MRI's including sagittal, axial, T1, T2, STIR, and proton density sequences. Identified will be the vertebrae, spinal cord, discs, nerve roots, thecal sac,*

*posterior longitudinal ligament, epidural veins, and fat saturation pulses. Pathology will include bulges, herniations, protrusions, extrusions, myelomalacia, cord edema, and Schmorl's nodes. Learn how to collaborate effectively with radiologists, neuroradiologists, and neurosurgeons on clinical findings.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Chiropractic vs. Physical Therapy vs. Medical Case Management and Outcomes, Analyzing evidence-based outcomes in triaging non-anatomical lesions. The analysis of neuro-biomechanical pathological lesions defines primary spinal lesions and removes the dogma of non-specific back pain. Managing collaborative relationships with medical primary providers and specialists in clinical practice.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*MSK Extremity Radiological Interpretation, Utilizing both MRI and x-ray in identifying via x-ray and advanced imaging extremity instabilities from ligamentous, osseous or neoplastic derangement.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Demonstrative Narrative and Evaluation and Management Report Writing, Effectively creating demonstrative medical-legal documentation and meeting the needs of the courts, and making your "4-Corner" (narrative) report to build your reputation as an evidence-based provider. The step-by-step minutiae of building a report, accomplishing report writing timely and effectively by understanding the regulatory and administrative rules. Learn how to educate the lawyer on bodily injury through evidence-based demonstrative reporting.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Ligament/Connective Tissue Physiology and Pathology, Master-Class in ligaments; anatomy, physiology, vascularization, neurological innervation, tissue repair and how they all relate to clinical practice. Ligament pathology correlates to the mechanisms of patho-neuro-biomechanical lesions (vertebral subluxation complex). Also, how ligaments play a critical role in the chiropractic spinal adjustment and in defining the chiropractic spinal adjustment mechanisms.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Stroke Evaluation and Risk Factors in the Chiropractic Practice, Diagnosing, triaging, and documenting headaches, migraines, and vascular incidents (stroke) in the primary provider's office. Imaging protocols based upon history and clinical presentation will be presented, along with analyzing imaging findings in determining etiology. There will be an extensive question and answer session following the instructional presentation.* PACE

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*Age-Dating Herniated Discs and Trauma, Age dating herniated discs and trauma are critical skills for an expert in spine. It combines the clinical skills of interpreting X-ray, MRI, and other imaging modalities with a clinician's understanding of joint pathology. This level of expertise is critical when collaborating with other physicians or working in the medical-legal environment as an expert. Age dating pathology is also central to creating a prognosis on your patient's recovery and must be evidence-based in rationale.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Clinical Grand Rounds in Spinal Biomechanics, Case reviews utilizing E/M, MRI, and x-ray mensuration report to conclude an accurate diagnosis, prognosis, and treatment plan. Common diagnosis requires interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Neurosurgical Grand Rounds, A clinical discussion of collaborating with neurosurgeons on spinal cord and spinal nerve root co-morbidities. Triaging cases with herniated, protruded, extruded, fragments discs and differentially diagnosing tethered cord, syringomyelia, traumatic Schmorl's Nodes, Myelomalacia, spinal cord edema, vacuum disc and other intra, and extra-dural lesions.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Primary Spine Care 18 - Spinal Biomechanics, Ligamentous Pathology and Treatment Planning. Understanding future trends in chiropractic and clinical record-keeping is essential for maintaining professional excellence and delivering high-quality patient care. As healthcare evolves with new technologies and reimbursement models, clinical documentation must adapt to remain effective and compliant. This module provides a structured, step-by-step guide to creating accurate clinical notes, covering their purpose, context, key elements, practical tips, and relevant legal considerations. Mastery of these skills supports both regulatory compliance and the highest standards of patient care.* Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025

*Primary Spine Care 18 - MRI Spine Interpretation provided instruction in the interpretation of MRI sequences, including sagittal, axial, T1, T2, STIR, and proton density. Trained students to accurately identify vertebrae, spinal cord, discs, nerve roots, thecal sac, posterior longitudinal ligament, epidural veins, and fat saturation*

*pulses. Emphasized recognition of common pathologies such as bulges, herniations, protrusions, extrusions, myelomalacia, cord edema, and Schmorl's nodes. Developed students' practical skills in applying MRI findings to clinical decision-making. Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025*

#### Primary Spine Care 18 - Connective Tissue and Biomechanical Pathology; Part 1

*This module covers the foundational principles of biomechanical lesions, starting with ligamentous pathology and extending to overall biomechanical dysfunction. Students will learn how ligament damage impacts spinal stability and joint function. The course explores the compensatory changes that develop into chronic biomechanical pathology. Emphasis is placed on the clinical relevance of these lesions for accurate diagnosis, effective treatment, and thorough documentation. Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025*

Primary Spine Care 18 - Connective Tissue and Biomechanical Pathology; Part 2 *This module examines the neurological impact of connective tissue injuries and biomechanical pathology. It highlights how structural damage can create effector organ dysfunction, leading to abnormal neurological signaling. The course traces the progression from localized tissue pathology to widespread central sensitization. Focus is placed on understanding the mechanisms that connect tissue injury to long-term neurological consequences. Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025*

Primary Spine Care 18 – Evidence-Based Age-Dating Herniated Discs, *This module develops the essential skill of “Evidence-Based” age-dating for herniated discs and spinal trauma. Students will learn to combine imaging interpretation from X-ray, MRI, and other modalities with clinical insights into joint pathology. Emphasis is placed on applying this expertise in collaborative medical and medical-legal contexts. The course also underscores the importance of evidence-based reasoning in establishing accurate patient prognoses. Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025*

Primary Spine Care 18 - Spinal Biomechanics, Ligamentous Pathology and Treatment Planning, *This module covers the diagnosis and management of ligament pathology in acute and chronic patients. It reviews the evidence-based physiology of ligament morphology, trauma mechanisms, and resulting compensatory spinal changes. A master-level analysis addresses ligament anatomy, vascularization, neurological innervation, and tissue repair, emphasizing clinical relevance. The course also explores how ligament pathology drives patho-neuro-biomechanical lesions and informs the mechanisms of chiropractic spinal adjustments. Academy of*

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Primary Spine Care 18 – Concussion mTBI-TBI and Stroke Triage, *This module focuses on the screening and diagnosis of brain injuries, from concussion and mild traumatic brain injury (mTBI) to severe TBI and stroke. It emphasizes recognizing key clinical signs to support timely and accurate assessment. Participants learn essential triage protocols to ensure patients receive appropriate care. The course also introduces evidence-based strategies for distinguishing between conditions and minimizing the risk of delayed or missed diagnoses.* Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025

Primary Spine Care 18 – Evidence on Making Non-Specific Back Pain Specific, *This course module provides an evidence-based framework for spinal diagnosis, focusing on accurate identification of specific pathologies rather than generalized labels like “non-specific back pain.” Clinicians are trained to integrate clinical assessment and imaging findings to establish definitive diagnoses. The module emphasizes collaborative management with medical specialists to improve patient outcomes. Participants learn to apply evidence-based reasoning to guide treatment decisions and strengthen interdisciplinary care.* Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025

Primary Spine Care 18 – Documentation Requirements that Support Necessary Long-Term Chiropractic Care and Foster Collaborative Relationships, *This course module outlines the documentation requirements essential for supporting long-term chiropractic care and fostering collaborative relationships. It provides an evidence-based framework for spinal diagnosis, emphasizing precise identification of specific pathologies over broad labels such as “non-specific back pain.” Clinicians are trained to synthesize clinical assessments with imaging findings to establish accurate and definitive diagnoses. The module highlights strategies for collaborative management with medical specialists to optimize patient outcomes. Participants learn to apply evidence-based reasoning to guide treatment decisions while enhancing interdisciplinary communication and care coordination.* Academy of Chiropractic Post-Doctoral Division, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Chiropractic and Health Sciences, Long Island, 2025

Primary Spine Care 17, Current and Future Trends in Documentation, *Evidence-Based demonstrative documentation for creating successful patient-centered collaborative care. Using "reputation building" through effective documentation to develop relationships with MD PCPs, MD Specialists, ERs, and Urgent Care Centers. Using demonstrative evidence will eradicate the Non-Specific Back Pain "Dogma," allowing chiropractic utilization to increase based on the evidence.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School

of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, MRI Spine Ancillary Tumor Detection and Advanced Imaging Stroke Detection, *Spinal imaging techniques to assess spinal structures and detect abnormalities. The sequences also identify ancillary findings such as renal, ovarian, extradural, and intradural tumors. Careful evaluation of spinal MRIs can reveal critical pathologies beyond musculoskeletal issues. Analyzing the morphology of the abdominal aorta to determine potential stroke risks.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, Analyzing Spinal Pathobiomechanics, *Identifying and diagnosing spinal segmental lesions in the facet, joint capsules involving ligamentous mechanoreceptors, and spinal proprioceptors. The central segmental motor control mechanism with upper motor neuron involvement with disparate efferent effects and demonstrative diagnostic tools to differentially diagnose the primary lesion. The statistical outcome of treating biomechanical spinal lesions.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, Spinal Biomechanical Pathology, *Identifying and diagnosing spinal segmental lesions in the facet, joint capsule involving ligamentous mechanoreceptors, and spinal proprioceptors. The central segmental motor control mechanism with upper motor neuron involvement with disparate efferent effects and demonstrative diagnostic tools to differentially diagnose the primary lesion. The statistical outcome of treating biomechanical spinal lesions.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, *Advanced Credential Reporting, creating a professional bio and CV, essential for establishing credibility in the medical-legal field. Incorporating outcome statistics from cases helps demonstrate your work's real-world impact, especially in the medical legal arena. Getting published in the National Institutes of Health (NIH) using research, peer review, and adherence to scientific standards and enhances your reputation by validating your work within the healthcare community and increasing your authority in the healthcare community field.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, Age-Dating Herniated Disc via MRI and X-Ray, *Utilizing the evidence in the literature to age-dating spinal herniated discs and trauma. Including interpreting X-rays, MRIs in T1, T2, STIR and Fat Saturation sequences, and other imaging alongside understanding the evidence of joint pathology. Being able to collaborate with physicians or as a medical-legal expert. Accurate age-dating helps establish a prognosis for patient recovery. The process must be grounded in evidence-based rationale to ensure reliability. Mastering this skill enhances both clinical decision-making and legal credibility.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo

Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, YEARCCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, Clinical Grand Rounds in Primary Spine Care, Clinical Grand Rounds for a case involve assessing disc, ligament, and spinal pathology. The process includes establishing a diagnosis, determining the prognosis, and developing a treatment plan. Special attention is given to conditions such as cord edema, myelomalacia, myelopathy, and tethered cords. Utilizing follow-up examinations as a step in crucial in refining the diagnosis and treatment approach. Adjustments to the treatment plan are made as new clinical findings emerge. This ensures that patient care remains dynamic and responsive to evolving spinal conditions. PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 14: Case Management and Documentation - Spinal Biomechanics in Clinical Practice, *The utilization of X-Ray digitization to diagnose spinal biomechanical pathology and analyzing trends in healthcare when triaging mechanical spine pain. The role of credentials in interprofessional collaboration.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Primary Spine Care 14: Case Management and Documentation - MRI Spine Sequence Acquisition and Interpretation, *The understanding and utilization of T1, T2, STIR, Proton Density, FSE, GRE imagine sequencing for conclusive diagnosing of fracture, tumor, infection, and disc pathology. Identifying herniation, protrusion, bulge, extrusion-migrated, and extrusion-fragments on MRI images.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Primary Spine Care 14: Case Management and Documentation - Spinal Disc Microanatomy, *The understanding of the human spinal discal elements; annulus, nucleus polyposis, cartilaginous end plates inclusive of the neurology, visualization, differentiation from the neonate to adults. The understanding of the etiology of Modic changes on MRI and how spinal biomechanics are altered.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Primary Spine Care 14: Case Management and Documentation - Interprofessional Collaboration on Mechanical Back Pain in Clinical Practice, *Triaging neurologically compromised cases in conjunction with positive MRI images, and collaboratively managing cases with neurosurgeons in clinical practice. Post-operative management of spinal cases through full recovery.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School

of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Primary Spine Care 14: Case Management and Documentation - Spinal Biomechanical Engineering Analytic, *The analytics of spinal biomechanical engineering utilizing X-Ray digitizing for Alteration of Motion Segment Integrity and biomechanical pathology. Determining laxity of ligaments in connective tissue pathology and the long-term negative sequels of the pathology.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Primary Spine Care 14: Case Management and Documentation - Demonstrative Reporting of MRI Spinal Disc Pathology, *The diagnosis, and reporting of spinal disc bulges, herniations, protrusions, extrusions, and fragments. Reporting varices, Modic 1, 2, and 3, posterior longitudinal, interspinous, and intertransverse ligament. Reporting the ligamentum Flavum and epidural fat as a space-occupying lesion.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

2023 Demonstrative Documentation Requirements, *Analyzing the requirements in anatomical diagnostic imagery to communicate spinal pathology. Integrating technology, clinical findings, and advanced graphic tools to communicate a diagnostic conclusion.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Spine Advanced Clinical Case Grand Rounds, *Clinical case review of MRI including intra and extra-dural findings inclusive of the disc and vascular anatomical lesions. Differentially diagnosing central cord lesions, and spinal cord vascular lesions in both acute trauma and degenerative presentations.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Non-Specific Spine Pain, Chiropractic and Outcomes, *Analyzing neuro-biomechanical pathological lesions define primary spinal lesions and removes the dogma of non-specific back pain. Creating evidence-based demonstrative documentation in the creation of treatment plans.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Spinal Tumor MRI Interpretation, *Diagnosing and documenting: Ependymoma, Astrocytoma, Hemangioblastoma, Lipoma, Meningioma, Neurofibroma, Schwannoma, Myxopapillary Ependymoma.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Demonstrative Narrative and Evaluation and Management Report Writing, *Clinical record-keeping, why write clinical notes, the importance of context, what to include in a clinical note, tips for better clinical documentation, basic legal considerations, open clinical notes, and how to keep documentation efficient.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Age-Dating Ligament/Connective Tissue Physiology and Pathology, *Utilizing pain patterns, the high signal in the annulus, high signal outside the annulus, Modic changes, disc height, vacuum disc, sclerosis, Phirrman rating, facet edema, and previous MRIs to determine the chronicity of pathology., Master-Class in ligaments; anatomy, physiology, vascularization, neurological innervation, tissue repair, and how they all relate to clinical practice. Ligament pathology correlating to the mechanisms of patho-neuro-biomechanical lesions (vertebral subluxation complex). Also, how ligaments play a critical role in the chiropractic spinal adjustment and in defining the chiropractic spinal adjustment mechanisms.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Clinical Grand Rounds in Biomechanics, Digitizing, and Advanced Imaging: *Case reviews concluding and accurate diagnosis, prognosis, and treatment plan utilizing evidence-based instrumentation and algorithms. Using demonstrative reporting of case findings to collaborate with co-treating physicians.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Medical-Legal Documentation: *A documentation discussion on meeting the requirements of the courts, carriers, and licensure boards in complete and accurate reporting. Ensuring the diagnosis, prognosis, and treatment plan are demonstratively documented.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Pathobiomechanics and Documentation, *CPT Coding Guidelines for Initial and Established Patients with particular attention paid to Patient History, Review of Systems, Social and Family History, Physical Examination, and Medical Decision making. Specific differences in coding levels and required elements for a 99202-99203-99204-99205.* PACE Approved for the Federation of Chiropractic Licensing Boards ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Using Documentation and Ethical Relationships, *Pathways to improve coordination of care, and interprofessional communication with collaborating physicians. Maintaining ethical relationships in the medical-legal community through documentation and communication of demonstrable diagnosis, prognosis and treatment plans.* PACE Approved for the Federation of Chiropractic Licensing Boards ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical

Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Spinal Biomechanical Engineering Clinical Application, *History of clinical biomechanics with an emphasis on the diagnosis and management of spine pain of mechanical/functional origin. Evidence-based symptomatic vs. asymptomatic parameters using peer-reviewed medical index literature. Computerized mensuration analysis of spinal biomechanical pathology. Comparison of demonstrable spinal biomechanical failure on imaging to clinical evaluation and physical examination.* PACE Approved for the Federation of Chiropractic Licensing Boards ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Spinal Biomechanical Engineering Clinical Grand Rounds, *Case reviews utilizing E/M, MRI, and x-ray mensuration report to conclude an accurate diagnosis, prognosis, and treatment plan. Common diagnosis requires interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods.* PACE Approved for the Federation of Chiropractic Licensing Boards ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Stroke Anatomy and Physiology: Brain Vascular Anatomy, *The anatomy and physiology of the brain and how blood perfusion affects brain function. A detailed analysis of the blood supply to the brain and the physiology of ischemia.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Stroke Anatomy and Physiology: Stroke Types and Blood Flow, *Various types of stroke identifying ischemia, hypoperfusion, infarct and penumbra zones and emboli. Cardiac etiologies and clinical features as precursors to stroke with associated paradoxical emboli and thrombotic etiologies. Historical and co-morbidities that have etiology instroke inclusive of diabetes, coagulopathy, acquired and hereditary deficiencies.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Stroke Principles of Treatment an Overview for the Primary Care Provider, *Stroke type and treatments performed by vascular specialists. The goals of treatment with the physiology of the infarct and penumbra zones and the role of immediate triage in the primary care setting. Detailing the complications of stroke and future care in chiropractic, primary care or manual medicine clinical setting.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Clinical Evaluation and Protocols for Identifying Stroke Risk, *The neurological history and examination for identifying stroke risks with a focus on supra and infratentorial regions, upper and lower motor lesions, cranial nerve signs, spinal cord pathology, motor and sensory pathology and gait abnormalities. Examining genetic and*

family histories along with dissection risk factors. Stroke orthopedic testing and clinical guidelines pertaining to triage for the primary care provider. PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

MRI Spinal Anatomy, *Protocols and Disc Pathology, Normal anatomy of axial and sagittal views utilizing T1, T2, gradient and STIR sequences of imaging. Degeneration and annular fissures of discs in both trauma and non-trauma patients and the biochemical properties of joints in age dating pathology. Disc bulges from degenerative and sequela to osseous issues, herniation pathology and protrusion, extrusion, migrated and sequestered variations. Clinical scenarios as sequela to disc and pre-existing pathologies.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

MRI Spine Interpretation, *Herniated, bulged, extruded, protruded, sequestered and degenerative discs. The morphology of a pathological disc vs. normal morphology and the sequences required including T1, T2 and STIR for all spinal regions. Modic 1-2-3 changes detailed and the traumatic relationship.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

MRI History and Physics, *Magnetic fields, T1 and T2 relaxations, nuclear spins, phase encoding, spin echo, T1 and T2 contrast, magnetic properties of metals and the historical perspective of the creation of NMR and MRI.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Spinal Anatomy and Protocols, *Normal anatomy of axial and sagittal views utilizing T1, T2, 3D gradient and STIR sequences of imaging. Standardized and desired protocols in views and sequencing of MRI examinations to create an accurate diagnosis in MRI.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Disc Pathology and Spinal Stenosis, *MRI interpretation of bulged, herniated, protruded, extruded, sequestered and fragmented disc pathologies in etiology and neurological sequelae in relationship to the spinal cord and spinal nerve roots.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Spinal Pathology, *MRI interpretation of bone, intradural, extradural, cord and neural sleeve lesions. Tuberculosis, drop lesions, metastasis, ependymoma, schwannoma and numerous other spinal related tumors and lesions.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership

with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Methodology of Analysis, *MRI interpretation sequencing of the cervical, thoracic and lumbar spine inclusive of T1, T2, STIR and 3D gradient studies to ensure the accurate diagnosis of the region visualized.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Clinical Application, *The clinical application of the results of space occupying lesions. Disc and tumor pathologies and clinical indications of manual and adjustive therapies in the patient with spinal nerve root and spinal cord insults as sequelae.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Protocols Clinical Necessity, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequellae, including bulge, herniation, protrusion, extrusion and sequestration.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Interpretation of Lumbar Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrates, Schmorl's nodes and herniations. Central canal and cauda equina compromise interpretation with management.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Interpretation of Lumbar Herniations, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrates, Schmorl's nodes and herniations. Morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Central canal and cauda equina compromise interpretation with management.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Interpretation of Cervical Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of cervical degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrates, Schmorl's nodes and herniations. Spinal cord and canal compromise interpretation with management.* PACE Approved for The Federation of Chiropractic Licensing

Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Interpretation of Cervical Herniations, *MRI slices, views, T1, T2, STIR Axial, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrates, Schmorl's nodes and herniations. morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Spinal cord and canal compromise interpretation with management.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

MRI Interpretation of Degenerative Spine and Disc Disease with Overlapping Traumatic Insult to Both Spine and Disc, *MRI slices, views, T1, T2, STIR Axial, FFE, FSE and sagittal images in the interpretation of degenerative spondylolisthesis, spinal canal stenosis, Modic type 3 changes, central herniations, extrusions, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective.* PACE Approved for The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Anatomy and Physiology of Electrodiagnostics: An in-depth review of basic neuroanatomy and physiology dermatomes and myotomes to both the upper and lower extremities and the neurophysiology of axons and dendrites along with the myelin and function of saltatory for conduction. The sodium and potassium pump's function in action potentials. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Nerve Conduction Velocity (NCV) Part 1: Nerve conduction velocity testing, the equipment required and the specifics of motor and sensory testing. This section covers the motor and sensory NCV procedures and interpretation including latency, amplitude (CMAP) physiology and interpretation including the understanding of the various nuances of the wave forms. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Nerve Conduction Velocity (NCV) Part 2: Compound motor action potentials (CMAP) and sensory nerve action potentials (SNAP) testing and interpretation including the analysis and diagnosis of the wave forms. It also covers compressive neuropathies of the median, ulnar and posterior tibial nerves; known as carpal tunnel, cubital tunnel and tarsal tunnel syndromes. This section offers interpretation algorithms to help understand the

neurodiagnostic conclusions. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Needle Electromyogram (EMG) Studies: The EMG process, inclusive of how the test is performed and the steps required in planning and electromyographic study. This covers the spontaneous activity of motor unit action potential, positive sharp waves and fibrillations. The insertional activity (both normal and abnormal), recruitment activity in a broad polyphasic presentation and satellite potentials. This covers the diagnosing of patterns of motor unit abnormalities including neuropathic demyelinated neuropathies along with acute myopathic neuropathies. This section also covers the rules of false positive and false negative results. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Overview of EMG and NCV Procedures, Results, Diagnoses and Documentation. The clinical incorporation of electrodiagnostic studies as part of a care plan where neuropathology is suspected. It also covers how to use electrodiagnostics in a collaborative environment between the chiropractor as the primary spine care provider and the surgeon, when clinically indicated. This section covers sample cases and health conclude and accurate treatment plans based upon electro-neurodiagnostic findings when clinically indicated. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Traumatic Brain Injury and Concussion Overview: *This section is an in-depth overview of traumatic brain injury in concussion. It discusses that all brain injuries are traumatic and dispels the myth of a “mild traumatic brain injury.” Also, this covers triage protocols and the potential sequela of patients with traumatic brain injuries.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Head Trauma and Traumatic Brain Injury Part 1: *This section discusses gross traumatic brain injuries from trauma and significant bleeding with both epidural and subdural hematomas. There is numerous case studies reviewed inclusive of neurosurgical intervention and postsurgical outcomes.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Head Trauma and Traumatic Brain Injury Part 2: *This section continues with multiple case studies of gross traumatic brain injuries from trauma requiring neurosurgical intervention and also discusses recovery sequela based upon the significance of brain trauma. This module also concludes with concussion protocols in*

*traumatic brain injury short of demonstrable bleeding on advanced imaging.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Concussion And Electroencephalogram Testing: This section covers concussion etiology and cognitive sequela where gross bleeding has not been identified on advanced imaging. It discusses the significance of electroencephalogram testing in determining brain function and pathology (if present). This module also covers the understanding of waveforms in electroencephalogram testing in both normal and abnormal scenarios.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Concussion And Electroencephalogram Testing Pathological Results: This module covers amplitude, conduction and conduction delays as sequela to traumatic brain injury to diagnose concussion and traumatic brain injury in the absence of gross bleeding and advanced imaging. This section covers electroencephalograms and event-related potentials which measures the brain response that is a direct result of specific sensory or motor events. It is a stereotype electrophysiological response to a stimulus and provides a noninvasive means of evaluating brain function. In this module multiple case studies are discussed with ensuing triage protocols pending the results.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Orthopedic Testing: Principles, Clinical Application and Triage, Integration of orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Orthopedic Testing: Cervical Spine, Integration of cervical orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

*Orthopedic Testing: Cervical Spine, Integration of cervical orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of

Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Orthopedic Testing: Lumbar Spine, *Integration of lumbar orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Orthopedic Testing: Clinical Grand Rounds, how to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process. How to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process. PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Neurology of Ligament Pathology- Normal Morphology and Tissue Damage, *Connective tissue morphology, embryology and wound repair as sequelae to trauma. Full components of strain-sprain models and permanency implications with wound repair and osseous aberration with aberrant structural integrity.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Neurology of Ligament Pathology- Spinal Biomechanics and Disc Pathology, *Disc pathology as sequella to trauma; herniation, extrusion, protrusion, sequestration and how the spinal unit as one system creates homeostasis to balance the pathology.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Neurology of Ligament Pathology- Neurological Innervation, *The peripheral and central innervation of the disc and spinal ligaments of the dorsal root ganglion, spinal thalamic tracts, periaqueductal gray areas innervating the Thalamus and multiple regions of the brain. The efferent neurological distribution to disparate areas of the spine to create homeostasis until tetanus ensues creating osseous changes under the effect of Wolff's Law.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Triage and Connective Tissue Injuries and Wound Repair, *Triaging the injured and differentially diagnosing both the primary and secondary complaints. Connective tissue injuries and wound*

*repair morphology focusing on the aberrant tissue replacement and permanency prognosis potential.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Ligament Anatomy and Injury Research and Spinal Kinematics, *Spinal ligamentous anatomy and research focusing on wound repair; future negative sequelae of abnormal tissue replacement and the resultant aberrant kinematics and spinal biomechanics of the spine.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Spinal Biomechanics, Central Nervous System and Spinal Disc Nomenclature, *The application of spinal biomechanical engineering models in trauma and the negative sequelae it has on the central nervous system inclusive of the lateral horn, periaqueductal grey matter, thalamus and cortices involvement.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Biomechanics of Traumatic Disc Bulge and Age Dating Herniated Disc Pathology, *The biomechanics of traumatic disc bulges as sequelae from trauma and the comorbidity of ligamentous pathology. Age-dating spinal disc pathology in accordance with Wolff's Law.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Clinical Grand Rounds, *The review of case histories of mechanical spine pathology and biomechanical failures inclusive of case histories, clinical findings and x-ray and advanced imaging studies. Assessing comorbidities in the triage and prognosis of the injured.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Trauma Pathology, Research Perspectives, *The review of current literature standards in spinal trauma pathology and documentation review of biomechanical failure, ligamentous failure and age-dating disc pathology.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Impairment Rating, *The understanding and utilization of the protocols and parameters of the AMA Guide to the Evaluation of Permanent Impairment 6th Edition. Spine, neurological sequelae, migraine, sexual dysfunction, sleep and arousal disorders, station and gait disorders and consciousness are detailed for impairment rating.*

*Herniated discs, radiculopathy, fracture, dislocation and functional loss are also detailed in relation to impairment ratings.* PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2025

Spinal Biomechanical Engineering: Cartesian System, *The Cartesian Coordinate System from history to the application in the human body. Explanation of the x, y and z axes in both translation and rotations (thetas) and how they are applicable to human biomechanics.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering: Cervical Pathobiomechanics, *Spinal biomechanical engineering of the cervical and upper thoracic spine. This includes the normal and pathobiomechanical movement of both the anterior and posterior motor units and normal function and relationship of the intrinsic musculature to those motor units. Nomenclature in reporting normal and pathobiomechanical findings of the spine.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering: Lumbar Pathobiomechanics, *Spinal biomechanical engineering of the lumbar spine. This includes the normal and pathobiomechanical movement of both the anterior and posterior motor units and normal function and relationship of the intrinsic musculature to those motor units. Nomenclature in reporting normal and pathobiomechanical findings of the spine.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanics in Trauma, *To utilize whiplash associated disorders in various vectors of impact and whiplash mechanisms in determining pathobiomechanics. To clinically correlate annular tears, disc herniations, fractures, ligament pathology and spinal segmental instability as sequellae to pathobiomechanics from trauma. The utilization of digital motion x-ray in diagnosing normal versus abnormal facet motion along with case studies to understand the clinical application.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering & Organizational Analysis, *Integrating spinal biomechanics and pathobiomechanics through digitized analysis. The comparison of organized versus disorganized compensation with regional and global compensation. Correlation of the vestibular, ocular and proprioceptive neurological integration in the righting reflex as evidenced in imaging. Digital and numerical algorithms in analyzing a spine.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of

Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering: Cervical Digital Analysis, *Digitizing and analyzing the cervical spine in neutral, flexion and extension views to diagnose pathobiomechanics. This includes alteration of motion segment integrity (AMOSI) in both angular and translational movements. Ligament instability/failure/pathology are identified all using numerical values and models. Review of case studies to analyze pathobiomechanics using a computerized/numerical algorithm.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering: Lumbar Digital Analysis, *Digitalizing and analyzing the lumbar spine images to diagnose pathobiomechanics. This includes anterior and posterior vertebral body elements in rotational analysis with neutral, left and right lateral bending in conjunction with gate analysis. Ligament instability/failure/pathology is identified all using numerical values and models. Review of case studies for analysis of pathobiomechanics using a computerized/numerical algorithm along with corrective guidelines.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Spinal Biomechanical Engineering: Full Spine Digital Analysis, *Digitalizing and analyzing the full spine images to diagnose pathobiomechanics as sequellae to trauma in relation to ligamentous failure and disc and vertebral pathology as sequellae. This includes anterior and posterior vertebral body elements in rotational analysis with neutral, left and right lateral bending in conjunction with gate analysis. Ligament instability/failure/pathology is identified all using numerical values and models. Review of case studies for analysis of pathobiomechanics using a computerized/numerical algorithm along with corrective guidelines.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2025

Neurodiagnostics, Imaging Protocols and Pathology of the Trauma Patient, *An in-depth understanding of the protocols in triaging and reporting the clinical findings of the trauma patient. Maintaining ethical relationships with the medical-legal community.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Diagnostics, Risk Factors, Clinical Presentation and Triaging the Trauma Patient, *An extensive understanding of the injured with clinically coordinating the history, physical findings and when to integrate neurodiagnostics. An understanding on how to utilize emergency room records in creating an accurate diagnosis and the significance of "risk factors" in spinal injury.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Crash Dynamics and Its Relationship to Causality, *An extensive understanding of the physics involved in the transference of energy from the bullet car to the target car. This includes G's of force, newtons, gravity, energy, skid marks, crumple zones, spring factors, event data recorder and the graphing of the movement of the vehicle before, during and after the crash. Determining the clinical correlation of forces and bodily injury.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

MRI, Bone Scan and X-Ray Protocols, Physiology and Indications for the Trauma Patient, *MRI interpretation, physiology, history and clinical indications, bone scan interpretation, physiology and clinical indications, x-ray clinical indications for the trauma patient.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Neurodiagnostic Testing Protocols, Physiology and Indications for the Trauma Patient, *Electromyography (EMG), Nerve Conduction Velocity (NCV), Somato Sensory Evoked Potential (SSEP), Visual Evoked Potential (VEP), Brain Stem Auditory Evoked Potential (BAER) and Visual-Electronystagmography (V-ENG) interpretation, protocols and clinical indications for the trauma patient.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Documentation and Reporting for the Trauma Victim, *Understanding the necessity for accurate documentation and diagnosis utilizing the ICD-9 and the CPT to accurately describe the injury through diagnosis. Understanding and utilizing state regulations on reimbursement issues pertaining to healthcare.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Documenting Clinically Correlated Bodily Injury to Causality, *Understanding the necessity for accurate documentation, diagnosis and clinical correlation to the injury when reporting injuries in the medical-legal community. Documenting the kinesiopathology, myopathology, neuropathology, and pathophysiology in both a functional and structural paradigm.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, *An overview of the evaluation and management process inclusive of utilizing electronic medical records to conclude evidenced-based conclusions with the utilization of macros. The importance of adhering to an academic standard and considering co-morbidities.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, Concluding a chief complaint, history and what needs to be considered in a physical examination. *This covers in dept the required elements for chief complaint, history of present illness, review of systems, and past, family, and/or social history. This module also covers the following components of a physical examination: observation, palpation, percussion, and auscultation.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, Coding and Spinal Examination: *Detailing 99202-99205 and 99212-99215 inclusive of required elements for compliant billing. It reviews the elements for an extensive review of systems, cervical and lumbar anatomy and basic testing. The course also covers the basics of vertebra-basilar circulation orthopedic assessment.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, Neurological Evaluation: *Reviewing complete motor and sensory evaluation inclusive of reflex arcs with an explanation of Wexler Scales in both the upper and lower extremities. The course breaks down testing for upper and lower motor neuron lesions along with upper and lower extremity motor and sensory testing examinations.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, Documenting Visit Encounters: *Forensically detailing the S.O.A.P. note process for visit encounters and discussing the necessity for clinically correlating symptoms, clinical findings and diagnosis with the area(s) treated. It also details how to modify treatment plans, diagnosis, document collaborative care and introduce test findings between evaluations.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Evaluation and Management, Case Management and Treatment Orders: *This module discusses how to document a clinically determined treatment plan inclusive of both manual and adjunctive therapies. It discusses how to document both short-term and long-term goals as well as referring out for collaborative care and/or diagnostic testing. It also includes how to prognose your patient and determine when MMI (Maximum Medical Improvement) has been attained.* PACE Approved for the Federation of Chiropractic Licensing Board, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 16, Trends in Triage and Diagnosing Spinal Pathology, *Diagnosing and demonstrative reporting of the spinal cord, nerve root, thecal sac, disc recurrent meningeal nerve, myelomalacia, myelopathy, fracture, chemical radiculitis, and connective tissue pathologies, and osseous compression of nociceptors. Collaborative care with medical specialists on spinal pathology and medical-legal reporting requirements.* ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024

Primary Spine Care 16, MRI Spine Interpretation, *Identifying and diagnosing spinal disc pathologies: bulged,*

*herniated, protruded, extruded-comminuted, extruded-sequestered. MRI sequence protocols: T1, T1 fat saturation, T2, T2 fat saturation, STIR, proton density, fast spin echo, echo gradient, coronal, sagittal and axial. Triage of disc pathologies and collaborative care. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024*

*Primary Spine Care 16, Spinal Biomechanical Pathology, Identifying and diagnosing spinal segmental lesions in the facet, joint capsule involving ligamentous mechanoreceptors, and spinal proprioceptors. The central segmental motor control mechanism with upper motor neuron involvement with disparate efferent effects and demonstrative diagnostic tools to differentially diagnose the primary lesion. The statistical outcome of treating biomechanical spinal lesions. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024*

*Primary Spine Care 16, Differentially Diagnosing Arthritides on X-ray and MRI, Identifying and diagnosing Osteoarthritis in hand, wrist, elbow, shoulder, foot, ankle, knees, hips on X-ray. Identifying and diagnosis erosive arthritis and Rheumatoid Arthritis on X-ray, MRI imaging, and ultrasound MRI in the hand, elbow, knee, and spine, Psoriatic and Lupus/Jaccoud Arthritis in the hand. Crystallin Arthropathy of the hand, Gout in the feet and spine, and Calcium Pyrophosphate Dihydrate Deposition Disease (CPPD) of the hand. Diagnosing of ankylosing spondylitis of the spine was also identified. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024*

*Primary Spine Care 16, Incidental Tumors and Pathology Visualized on MRI Spine Images, Identifying and diagnosing Schwannoma's, Adenoma's, Fibroid Leiomyomas and Uterine Sarcoma's, Renal Cell Tumors, Renal Cysts, and Aortic Aneurysms. The physics of T1, T1 fat saturation, T2, T2 fat saturation, STIR, proton density, fast spin echo, echo gradient, coronal, sagittal, and axial. CT Hounsfield units and diagnosing tumors. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024*

*Primary Spine Care 16, Documentation, Diagnosis and Reporting on Medical-Legal Trauma Cases, Determining and documenting the history of proximate cause, how to demonstratively document pain, weakness, and numbness using evidence-based protocols. The demonstrative documentation of MRI spine pathology and being able to differentially diagnose previous vs current pathology in prognosing permanencies. The clinical correlation of causality, demonstrative bodily injury, and persistent functional losses using emotional intelligence. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024*

*Primary Spine Care 16, Spinal Disc Morphology, and Chronicity of Disc Pathology, Spinal disc morphology of lamellar tracts and fiber orientation, the non-uniformity of discal zones with the chemical content of each. How Proteoglycans and Aggrecans are integral in disc hydration and age-dating pathology. Understanding the vascularization of the osseous endplate, cartilaginous end-plate, and disc from birth through puberty is essential to accurately diagnosing disc pathology. Being able to relate disc herniations to end-plate fractures with central*

*herniation and clinically correlating it to chronic back pain.* ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024

*MRI Spine Interpretation and Spinal Biomechanics, Bulging, herniated, protruded, and extruded disc contemporary nomenclature, analysis, and differential diagnosis. Connective tissue physiology and pathology with aberrant biomechanical permanent sequelae,* Texas Chiropractic College, Academy of Chiropractic, Melville NY, 2017

*Contemporary Literature in Spinal Biomechanics, Normal vs. pathological biomechanical spinal motion both in a single motor unit, and coupling actions. An interdisciplinary approach to mechanical spine issues and evidenced-based care paths,* Texas Chiropractic College, Academy of Chiropractic, Melville NY, 2017

*Documentation of Spinal Trauma, Interdisciplinary approaches in documentation of spinal related injuries inclusive of connective tissue disorders, and biomechanical failure. Clinically correlating history, imaging, advanced imaging, and clinical findings to conclude an accurate diagnosis, prognosis, and treatment plan,* Texas Chiropractic College, Academy of Chiropractic, Melville NY, 2017

*Contemporary Literature of the Chiropractic Spinal Adjustment, The bio-neuro-mechanical scientific foundation of the spinal lesion and the neurological pathways, both in the lower and upper motor neuron pathways. The autonomic sequella of the vertebral subluxation and the effects of the correction and maintenance of those lesions,* Texas Chiropractic College, Academy of Chiropractic, Melville NY, 2017

*Accident Reconstruction: Terms, Concepts and Definitions, The forces in physics that prevail in accidents to cause bodily injury. Quantifying the force coefficients of vehicle mass and force vectors that can be translated to the occupant and subsequently cause serious injury.* University of Bridgeport College of Chiropractic, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2013

*Accident Reconstruction: Causality, Bodily Injury, Negative Acceleration Forces, Crumple Zones and Critical Documentation, Factors that cause negative acceleration to zero and the subsequent forces created for the vehicle that get translated to the occupant. Understanding critical documentation of hospitals, ambulance reports, doctors and the legal profession in reconstructing an accident.* University of Bridgeport College of Chiropractic, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2013

*Accident Reconstruction: Skid Marks, Time, Distance, Velocity, Speed Formulas and Road Surfaces, The mathematical calculations necessary utilizing time, distance, speed, coefficients of friction and acceleration in reconstructing an accident. The application of the critical documentation acquired from an accident site.* University of Bridgeport College of Chiropractic, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2013

*Accident Reconstruction: Research, Causality and Bodily Injury, Delta V issues correlated to injury and mortality, side impact crashes and severity of injuries, event data recorder reports correlated to injury, frontal impact kinematics, crash injury metrics with many variables and inquiries related to head restraints.* University of Bridgeport College of Chiropractic, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2013

Drop Table and Leg Length Inequality, *The science and art of spine, posture, and lower extremity disorders. The total permutations of abnormal posture using formulas from probability theory delineated and a literature review on postural displacements as they correlate to patient conditions provided. The details of objective postural assessment and measurement reviewed.* Chiropractic BioPhysics, St. Louis, MO, 2008

Xray and Posture Protocols and Analysis, *Frequency and duration topics for establishing a logical treatment plan for chiropractic patients. Two types of structural based models for chiropractic assessment, interventions and outcomes. The first is a set of average and ideal alignment values for the upright spinal column and the second is an optimum static equilibrium upright postural model.* Chiropractic BioPhysics, Dallas, TX, 2006

Neurology, Posture and Systemic Health, *A current education in posture related to systemic health and types of mechanoreceptors and proprioceptors. Relationship between abnormal posture and visceral dysfunction (Type O disorders). Nerve interference theory based upon deformation of proprioceptors and mechanical receptors from abnormal tissue loading in abnormal posture.* Chiropractic BioPhysics, Kansas City, MO, 2004

Biomechanics of Spine and Posture, *Review of types of loading of spinal biomechanics and stress and strain evaluations of spinal tissues during each type of spinal loading. Mechanisms of injury to the spine.* Chiropractic BioPhysics, Hayward, CA, 2004

Instrument Adjusting and Upper Cervical Analysis, *The science and art of upper cervical spinal disorders with application to instrument adjusting for full spine postural subluxations and joint fixations. How posture displacement influences the upper cervical spine as well as normal joint kinematics and instability analysis of the upper cervical spine.* Chiropractic BioPhysics, Greenville, SC, 2003

Cervical Rehabilitation, *The science and art of cervical spine disorders. Detailed literature reviews covering the crisis of cervical disorders in patient populations, the role of spinal manipulative therapy and structural correction of sagittal cervical lordosis.* Chiropractic BioPhysics, Costa Mesa, CA, 2001

Lumbar Rehabilitation, *The science and art of lumbo-pelvic disorders. Detailed literature reviews covering the crisis of lumbar disorders in patient populations, the role of spinal manipulative therapy and structural correction of sagittal lumbar lordosis.* Chiropractic BioPhysics, Chicago, IL, 2001

## **SELECTED TEACHING/INSTRUCTING/LECTURING/CONSULTING**

Guest Lecturer, Practical Applications in Clinical Practice, Logan College of Chiropractic, Chesterfield, Missouri, 2005 - Present

## **SELECTED PUBLICATIONS**

Elder, R. (2013, April). Verifying Persistent Inflammation in Chronic Whiplash Associated Disorder Patients- A Review. *American Academy of Legal Professionals*

## **SELECTED MEMBERSHIPS**

Academy of Chiropractic, Member, 2012 – Present

Missouri State Chiropractic Association, Member, 1991 – Present

International Chiropractic Association, Member, 1991 - Present

### **SELECTED HONORS AND AWARDS**

Clinical Master, Ulan Nutritional Systems, 2008

Distinguished Fellows Chiropractic BioPhysics, 2006

### **SELECTED COMMUNITY SERVICE**

Boy Scouts Troop 301, Quartermaster, Webster Groves, MO, 2012 – Present

Hope Church, Head-Greeting/Security Committee, Bellefontaine, MO, 2008 – Present

Maryland Heights Chamber of Commerce, Member, Location, 1995 – 2001

West County Chamber of Commerce, Board Member, Location, 1991 - 1995