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## EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of Massachusetts, License # CHF6573, 2023-

Doctor of Chiropractic, Licensed in the State of Massachusetts, License # 458, 1977-

Doctorate of Chiropractic, Cleveland Chiropractic College, Kansas City, Missouri, 1977

Internship, Cleveland Chiropractic College Outpatient Facility, Kansas City, Missouri, 1976 - 1977

National Board of Chiropractic Examiners, Part I, 1977

National Board of Chiropractic Examiners, Part II, 1977

Bachelor of Arts in Chemistry/Economics, Park College, Parkville, Missouri, 1972

Fellow in Clinical Acupuncture, Cleveland Chiropractic College, Kansas City, Missouri, 1981

## SELECTED POST-GRADUATE EDUCATION, CERTIFICATIONS AND DIPLOMATES

Medical-Legal Insurance Documentation: Colossus of the Courtroom, *Medical-Legal-Insurance Documentation; Accurate and compliant documentation of history and clinical findings, inclusive of functional losses. loss of activities of daily living, duties under duress and permanent loss of enjoyment of life. Prognosing static vs stable care, gaps in care both in the onset and middle of passive care with a focus on detailed diagnosing. The integration of chiropractic academia, the court system and the insurance reimbursers' requirements for complete documentation.* Certification in Medical-Legal-Insurance Documentation:Colossus of the Courtroom, Cleveland University-Kansas City, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2024

Required Elements for Reimbursement, *Required Elements for Reimbursement; Diagnosing Active, Sequella, and Subsequent encounter codes for connective pathology. The documentation elements required for 99202,99203,99204, and 99205. Developing ethical financial relationships for reimbursement in the medical-legal community and the documentation required. Using laws, regulations and case law in contemporary practice to manage cases.* Academy of Chiropractic Post-Doctoral Division., Cleveland University, Kansas City, College of Chiropractic., Long Island, New York, 2024

Trauma Qualification - Imaging:, *This advanced qualification integrates graduate-level medical and chiropractic education to provide comprehensive expertise in triaging injured patients. Training begins with a strong foundation in patient history-taking, clinical examination, and basic imaging, equipping practitioners with the essential tools to effectively assess and diagnose trauma cases. Advanced imaging modules focus on mastering MRI spine interpretation, enabling practitioners to identify and differentiate conditions such as herniated, bulged, protruded, and extruded discs with precision.* Certification in Trauma Qualification - Imaging., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Long Island, New York, 2024

Trauma Qualification - Spinal Biomechanics., *A significant emphasis is placed on spinal biomechanics and the management of non-anatomical pathology, offering an in-depth understanding of complex spinal conditions. This qualification also includes accident engineering principles, which assist in analyzing the mechanisms of injury to improve clinical outcomes. Advanced case management protocols are a central theme, ensuring practitioners can design and implement effective, evidence-based treatment plans.* Certification in Trauma Qualification - Spinal Biomechanics., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Long Island, New York, 2024

Trauma Qualification - Comorbidity Triaging., *Specialized topics such as electrodiagnostics, connective tissue pathology, and stroke diagnosis in a primary care setting are covered comprehensively. These advanced diagnostic skills prepare practitioners to manage a wide range of trauma-related conditions. This advanced qualification underscores a detailed understanding of trauma and its complex presentation in clinical practice.* Certification in Trauma Qualification - Comorbidity Triaging., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic., Long Island, New York, 2024

Primary Spine Care 15:Advanced MRI and X-ray Documentation, *Interpreting and utilizing X-ray and MRI findings in creating demonstrative documentation. Advanced identification of spinal disc lesions, herniations, bulges, protrusion, extrusions, and fragmentations through computer graphics. Identification and demonstrative documentation of vertebral motor unit pathology and reporting demonstratively using computer graphics.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15:Advanced MRI Interpretation in Clinical Practice, *Utilization of thin slices acquisitions with T2 Fat suppressed, STIR, proton, density, T1 and T2 sequencing for advanced identification of spinal disc lesions, herniations, bulges, protrusion, extrusion, and fragmentations. Better visualization of intradural and extradural lesions, neoplasms, and infections.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Ethics in Clinical Practice, *Ethical, collaborative relationships with medical PCPs and specialists using advanced documentation and accurate reporting of imaging and advanced imaging. Creating a collegial relationship when conflicts arise in concluding accurate diagnosis to allow consensus and the evidence to determine final diagnosis.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Spinal CAT Scan Interpretation, *Understanding the utilization of CAT Scan slicing and the reformatting when using bone and soft tissue windows. Correlating MRI to CAT Scan when either creates an unclear conclusion to render a complete image of the morphology of the indeterminate pathology. Understanding the physics of CAT Scan and the radiation levels with different types of CAT Scan technology.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Connective Tissue/Strain Sprain Pathology, *Understanding the morphology and physiology of connective tissue at the cellular and extra-cellular levels in building a foundation to understanding the function and interaction of ligaments, tendons, muscle, and bones, Identifying connective tissue pathology and the repair process with a foundation of r permanent aberrant sequella.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Advanced Spinal Biomechanical Engineering , *Understanding the concepts of normal vs. pathological movement of vertebral motor units in accurately concluding diagnosis on biomechanical pathology when considering excessive motion. An evidence-based approach to determining translation, angular deviation and rotations beyond pathobiomechanical limitations in the spine.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Trends in Spinal Care, *An evidence-based approach to concluding accurate diagnosis, prognosis, and treatment plan, Eradicating the non-specific back pain dogma utilizing X-ray digitizing based on literature standards, Creating treatment plans with identifying the primary spinal lesions using evidence-based tools.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Primary Spine Care 15; Documentation in Clinical Practice, *Understanding and including all historical elements; current history, past history, family history, and social history when documenting a 99201, 99202, 99203, 99204, and 99205. The application of time as the prime element as per Medicode in coding examinations and re-examination with face to face, review of records and the time necessary to document in an electronic health record.* Certification in Primary Spine Care 15, Diplomate, Academy of Chiropractic Post-

Doctoral Division, Buffalo, NY, 2023, Pace, The Federation of Chiropractic Licensing Boards, Long Island, New York, 2023

Concussion & Traumatic Brain Injury, *Module 1: Traumatic Brain Injury and Concussion Overview: This section is an in-depth overview of traumatic brain. Also this covers protocols and the potential with traumatic brain injuries* Certification in Concussion Brain Injury, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Concussion & Traumatic Brain Injury, *Head Trauma and Traumatic Brain Injury Part 1: Module 2 This section discusses gross traumatic brain injuries from trauma and significant bleeding with both epidural and subdural hematomas> There are numerous case studies reviewed inclusive of neurosurgical intervention and post surgical outcomes* Certification in Concussion Brain Injury, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Concussion & Traumatic Brain Injury, *Head Trauma and Traumatic Brain Injury Part2:Module 3: This section continues with multiple case studies of gross gross traumatic brain injuries from trauma requiring neurosurgical intervention and also discusses recovery sequela based on the significance of brain trauma. This module also concludes with concussion protocols in traumatic brain injury short of demonstrable bleeding on advanced imaging.* Certification in Concussion Brain Injury, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Concussion & Traumatic Brain Injury, *Concussion And Electroencephalogram Testing: Module 4: This section covers concussion etiology and cognitive sequela where gross bleeding had not been identified on advanced imaging. It discussed the significance of electroencephalogram testin 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.* Certification in Concussion Brain Injury, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Spinal Disc and Ligaments; Neurology and Pathology, *Module #1: Neurology and Tissue Damage,Connective tissue morphology, embryology and wound repair as sequalae to trauma. Full componentsof strin-sprain models and permanancy implications with wound repair and osseous aberration with aberrant structural integrity* Certification in Spinal Disc and Ligaments; Neurology and Pathology, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Spinal Disc and Ligaments; Neurology and Pathology, *Module #2: Neurology of Ligament Pathology-Spinal Biomechanics and Disc Pathology, Discmpathology as a sequella to trauma; herniation, extrusion, protrusion and how the spinal unit as one system creates homeostasis to balance the pathology.* Certification in Spinal Disc and Ligaments; Neurology and Pathology, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Spinal Disc and Ligaments; Neurology and Pathology, *Module # 3; Neurological Innervation, The peripheral and central innervation of 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* Certification in Spinal Disc and Ligaments; Neurology and Pathology, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Accident Reconstruction, *Module 1: 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.* Certification in Accident Reconstruction, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Accident Reconstruction, *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.* Certification in Accident Reconstruction, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Accident Reconstruction, *Module: 3: 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.* Certification in Accident Reconstruction, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #1: Personal Injury 101; 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.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module: #2: Physical Examination & Documentation for the Trauma Patient, An extensive understanding of the injured with clinically coordinating the history, physical findings and when to integrate neurodiagnostics. An understanding of how to utilize emergency room records in creating an accurate diagnosis and the significance of "risk factors" in spinal injury.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #3: Crash Dynamics and its Relationship to Causality: 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 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.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #4: MRI, Bone Scan and X-Ray Protocols 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.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #4: 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.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #5: Neurodiagnosis Testing Protocols, Physiology and Indications for the Trauma Patient, Electromyography (EMG), Nerve Conduction Velocity (NCV), Somatosensory Evoked Potential (SEEP), Visual Evoked Potential (VEP), Brain Stem Auditory Evoked Potential (BAER) and Visual-Electronystagmosgraphy (V-ENG) interpretation, protocols and clinical indications for the trauma patient.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #6: Documentation And Reporting for the Trauma Victim, Understanding the necessity for accurate documentation and diagnosis utilizing the ICD-10 and the CPT to accurately describe the injury through diagnosis. Understanding and utilizing state regulations and reimbursement issues pertaining to healthcare.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Personal Injury Bootcamp, *Module #7: Strategic Plan; 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 kinesio-pathology, myopathology, neuropathology and pathophysiology in both a functional and structural paradigm.* Certification in Personal Injury Bootcamp, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Stroke Anatomy & Evaluation, *Module #1: Stroke Anatomy and Physiology: Brain Vascular Anatomy, The anatomy and physiology of the brain and how blood perfusion effects brain function. A detailed analysis of the blood supply to the brain and the physiology of ischemia.* Certification in Stroke Anatomy & Evaluation, Cleveland University, Academy of Chiropractic, Long Island, n, 2021

Stroke Anatomy & Evaluation, *Module #2: 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 precursor to stroke and associated paradoxical emboli and thrombotic etiologies. Historical and co-morbidities that have etiology in stroke inclusive of diabetes, coagulopathy,*

*acquired and hereditary deficiencies.* Certification in Stroke Anatomy & Evaluation, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Stroke Anatomy & Evaluation, *Module #3: 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 setting. Detailing the complications of stroke and future care in the chiropractic, primary care or manual clinical setting.* Certification in Stroke Anatomy & Evaluation, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Stroke Anatomy & Evaluation, *Module #4: Clinical Evaluation and Protocols for the 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.* Certification in Stroke Anatomy & Evaluation, Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV) Diagnosis & Interpretation, *Electrodiagnostics: Anatomy and Physiology of Electrodiagnostics: An in depth review of basic neuro-anatomy and physiology dermatomes and myotomes and both upper and lower extremities and 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.* Certification in Electrodiagnostics (EMG/NCV), Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV) Diagnosis & Interpretation, *Nerve Conduction Velocity (NCV) Part1: 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.* Certification in Electrodiagnostics (EMG/NCV), Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV) Diagnosis & Interpretation, *Nerve Conduction Velocity (MCV) Part 2: Compound motor action potentials (CMAO) 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.* Certification in Electrodiagnostics (EMG/NCV), Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV) Diagnosis & Interpretation, *Module #5; Overview of EMG and NCV Procedures, Results, Diagnosis 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.* Certification in Electrodiagnostics (EMG/NCV), Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV) Diagnosis & Interpretation, *Module # 4: Needle EMG Studies: The EMG process, inclusive of how the test is performed and the steps required in planning and electromyopathic study. This covers the spontaneous activity of a 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 ruling out of false positive and false negative results.* Certification in Electrodiagnostics (EMG/NCV), Cleveland University, Academy of Chiropractic, Long Island, New York, 2021

Primary Spine Care 9, *Chiropractic as the first option for Spine, A literature-Based Standard, Utilizing clinical findings in conjunction with advanced imaging and electrodiagnostic findings in managing collaborative relationships with medical specialists. Applying a literature standard to care to ensure conservative care as the first option.* Cleveland University-Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2020

Primary Spine Care 9, *Chiropractic as the First Option for Spine, A literature-Based Standard, Managing spinal related cases based upon MRI findings of herniations, bulges, protrusion, extrusion (comminuted and fragmented) utilizing this-sliced acquisition protocols. When to consider ordering T1, T2, Short Tau Inversion Radiant, proton density and Dixon sequencing for spinal related pathology.* Cleveland University-Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2020

Primary Spine Care 9, *Chiropractic as the First Option for Spine, A Literature-Based Standard, Creating literature-based documentation inclusive of history and a clinical examination that encompasses causality, diagnosis, prognosis and treatment plans. Ensuring the whole person impairment ratings are consistent with contemporary literature.* Cleveland University-Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2020

Spinal Biomechanical Engineering, *Cartesian Coordinate System, The Cartesian Coordinate System from the 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.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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., New York, New York, 2020

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.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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.NY, 2019, New York, New York, 2020

Spinal Biomechanical Engineering, *Lumbar Pathobiomechanics, Spinal biomechanical engineering of the lumbar spine. This includes the normal and pathological movement of both 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.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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.NY, 2019, New York, New York, 2020

Spinal Biomechanical Engineering, *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 with case studies to understand the clinical application.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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.NY, 2019, New York, New York, 2020

Spinal Biomechanical Engineering, *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.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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.NY, 2019, New York, New York, 2020

Spinal Biomechanical Engineering, *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 (AMOS) in both angular and translational movement. Ligament instability/failure/pathology are identified all using numerical values and models. Review of case studies to analyze pathobiomechanics using a computerized numerical algorithm.* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, 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.NY, 2019, New York, New York, 2020

Spinal Biomechanical Engineering, *Spinal Biomechanical Engineering: Lumbar Digital Analysis, Digitizing and analyzing the lumbar spine images to diagnose pathobiomechanics. This includes anterior and posterior vertebral body elements in rotational analysis with neural, 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/number algorithm along with corrective guidelines.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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., New York, New York, 2020

Spinal Biomechanical Engineering, *Spinal Biomechanical Engineering: Full Spine Digital Analysis:Digitizing and analyzing the full spine images to diagnose pathobiomechanics as sequella to trauma in relation to ligamentous failure and disc and vertebral pathology as sequella. 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.* Certification in Spinal Biomechanical Engineering, Cleveland University-Kansas City, 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., New York, New York, 2020

Primary Spine Care 7, *Spinal Biomechanical Pathology & Collaborative* Certification in Primary Spine care 7, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Buffalo, New York, 2019

MRI History and Physics, *MRI History and Physics, Magnetic fields, T1 and T2 relaxation, nuclear spins, phase encoding, spin echo, T1 and T2 contrast, magnetic properties of metals and the historical perspective of the creation of the NMR anr MRI.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

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 examination to create an accurate diagnosis in MRI.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences.NY, 2019, Buffalo, New York, 2019

MRI Disc Pathology and Spinal Stenosis, *MRI interpretation of bulged, herniated, protruded, extruded, sequestered and fragmented disc pathologies in ethiology and neurological sequelae in relationship to the spinal cord and spinal nerve roots.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint

providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences.NY, 2019, Buffalo, New York, 2019

MRI Spinal Pathology, *MRI interpretation of bone, intradural, extradural, cord and neural sleeve lesions. Tuberculosis, drop lesions, metastasis, ependtmona, schawanoma and numerous other spinal related tumors and lesions.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

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.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

MRI Clinical Application, *The clinical application of the results of space occupying lesions. Disc and tumor pathologies and the clinical indications of manual and adjustive therapies in the patient with spinal nerve root and spinal cord insult as sequelae.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

MRI Disc Overview & Imaging Protocols, *MRI Protocols Clinical Necessity, MRI slices, views, T1, T2, STIR axial, stacking, FFE,FSE amd sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both truama and non-trauma sequellae, including buldge,herniation,protrusion, extrusion and sequestration.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences.NY, 2019, Buffalo, New York, 2019

MRI Inperpretation of Lumbar Buldges/Degenerative Disc Disease, *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-protrusion, cantlevered vertebra, Schmorl's nodes and herniations. Central canal and cauda equina compromise interpretation with management.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences.NY, 2019, Buffalo, New York, 2019

MRI Interpretation of Lumbar Herniated Discs, *MRI Interpretation of Lumbar Herniations, MRI Sslices, views, T1, T2, STIR axial, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbities and complications of stenosis, pseudo-protrusion, cantlevered vertebra, SCHmorl's nodes and herniations. Morphology of lumbar disc pathologies of central and lateral herniations, protrusion, extrusions, sequestration, focal and broad based herniations are defined and illustrated.* Certification in MRI Certification,

Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

MRI Interpretation of Cervical Bulges/Degenerative Disc Disease, *MRI Interpretation of Cervical Bulges/Degenerative Disc Disease, 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-protrusion, cantilevered vertebra, Schmorl's nodes and herniations. Spinal cord and canal compromise interpretation with management.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

MRI Interpretation of Cervical Herniated discs, *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 vertebra, Schmorl's node and herniations, morphology of lumbar disc pathologies of dorsal and lateral herniations, protrusion, extrusions, sequestration, focal and broad based herniations are defined and illustrated.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

Virtual Grand Rounds, *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 spondylolesthesis, spinal canal stenosis, Modic type 3 changes, central herniations, extrusion, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective.* Certification in MRI Certification, Texas Chiropractic College, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

Spinal Trauma Pathology-Diagnostic dilemmas and connective tissue Morphology, *Spinal Trauma Pathology, Triage and Connective Tissue Injuries and Would Repair, Traiging the injured and differentially diagnosing both the primary and secondary complaints. Connective tissue would repair morphology focusing on the aberrant tissue replacement and permanency prognosis potential.* Certification in Spinal Trauma Pathology, 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., Buffalo, New York, 2019

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.* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

Spinal Trauma Pathology-Spinal Biomechanics, Central Nervous System and Spinal Disc Nomenclature, *The application of Spinal Biomechanical Engineering models in trauma and the negative sequella it has on the central nervous system inclusive of the lateral horn, periaqueductal grey matter, thalamus and cortices involvement* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

Spinal Trauma Pathology-Biomechanics of Traumatic Disc Bulge and Age Dating Herniated Disc Pathology., *The biomechanics of traumatic disc bulges as sequella from trauma and the comorbidity of ligamentous pathology. Age-dating spinal disc pathology in accordance with Wolff's law.* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

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 in the triage and prognosis of the injured.* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

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* Certification in Spinal Trauma Pathology, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

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.* Certification in Impairment Rating, Cleveland University-Kansas City, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences., Buffalo, New York, 2019

Current Literature Standards of MRI Spine Interpretation: Primary Spine Care 5, *MRI Spine Interpretation of the spine. How to triage a trauma and non-trauma with advanced imaging and document the necessity. We will also cover the basics of MRI Spine Interpretation inclusive of all types of herniations, bulges.* Certification in Current Literature of MRI Spine Interpretation: Primary Spine Care 5, Academy of Chiropractic Post-Doctoral Division, Cleveland University, Kansas City, Long Island, New York, 2018

Evidenced Base Care in a collaborative Setting, Primary Spine Care 5, *A literature based model for collaborating with hospitals, medical primary care providers and specialists. Reviewing the documentation*

*requirements to communicate the diagnosis, prognosis and treatment plans with medical entities and having the evidence as a basis for those recommendations.* Certification in Evidence Based Care in a Collaborative Setting, Primary Spine Care 5, Academy of Chiropractic Post-Doctoral Division, Cleveland University, Kansas City, Long Island, New York, 2018

Spine Brain Connection in Pain Pathways; Primary Spine Care 5, *MRI spine The spine-brain connection in managing chronic pain patients. Understanding how chronic pain negatively effects brain morphology and potential pathology as sequella. The role of chiropractic in preventing the loss of gray matter and the most recent evidence as outlined in indexed peer reviewed literature over the past 10 years verifying chiropractic's role.* Certification in Primary Spine Care 5, Academy of Chiropractic Post-Doctoral Division, Cleveland University, Kansas City, Long Island, New York, 2018

Bio-Neuro-Mechanical Mechanism of the Chiropractic Spinal Adjustment; Primary Spine Care 5, *The biological, neurological and mechanical mechanisms and pathways from the thrust to the dorsal horn and brain connection and how the brain processes the chiropractic adjustment based upon the literature. Car paths of chiropractic and physical therapy from an outcome basis.* Certification in Primary Spine Care 5, Academy of Chiropractic Post-Doctoral Division, Cleveland University, Kansas City, Long Island, New York, 2018

Incorporating Mechanical Diagnosis in Spine Care, *What Every Spine Clinician Should Know Mechanical Diagnosing Spinal Conditions* Certification in Mechanical Diagnosis Spine Care, North American Spine Society, Accreditation Council for Continuing Medical Education, Webinar, Webinar, 2018

MRI of the Spine, *Essentials for the Spine Specialist* Certification in MRI of the Spine, North American Spine Society, Accreditation Council for Continuing Medical Education, Long Island, New York, 2018

Nutrition Considerations For Spine Disorders Webinar, *Proper nutrition to maintain a healthy Spine* North American Spine Society, Accreditation Council for Continuing Medical Education, Online-Webinar, MA Massachusetts, 2018

Documenting Trauma and Non-Trauma Cases & Triaging Disc Pathology, *Triage, care and collaboration for herniated, bulged, protruded, extruded and fragmented spinal discs. Compliant documentation of evaluation and management of new and established patients inclusive of chief complaint, history of present illness, review of systems, past-family-social histories with case management protocols and the required elements. Clinically coordinating treatment with subjective complaints, clinical findings and diagnosis for each encounter.* Cleveland University-Kansas City Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2018

Connective Tissue Spinal Disc Permanent Pathology, Primary Spine Care, , *Herniated, bulged, protruded and extruded discs, etiology and morphology. Age-dating disc pathology inclusive of Modic changes, piezoelectric effect, Wolff's Law and radicular clinical presentation.* Certification in Neurology of Chiropractic Care and

Ligament Pathology from Trauma, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, New York, 2017

Connective Tissue Pathology and Research, Primary Spine Care., *Utilization in spinal models considering the opioid abuse and various spinal models in contemporary health care. Care paths for mechanical spine pain and the evidence for conservative chiropractic care.* Certification in Connective Tissue Pathology and Research, Primary Spine Care, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, New York, 2017

Bio-Neuro-Mechanical Lesions and Spine Care, Primary Spine Care., *Mechanoreceptor, proprioceptor, nociceptor innervation and control of spinal system and central nervous system action and interaction. The integration of the pain processing net work and the HPA Axis (hypothalamus, adrenal and pituitary) with the chiropractic adjustment.* Certification in Bio-Neuro- Mechanical Lesions and Spine Care, Primary Spine Care, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, New York, 2017

Ethics, Documentation and Research, Primary Spine Care, *Mechanoreceptor ethical interprofessional relationships based upon an evidenced based practice inclusive of triage, diagnostics and reporting. Creating thorough documentation that reflects your complete findings encompassing descriptive ICD-10 codes and concludes* Certification in Ethics, Documentation and Research, Primary Spine Care, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, New York, 2017

Trauma Based Diagnostics, *The utilization and integration of advanced diagnostic modalities of MRI. bone scan, EMG-NCV, CAT scan, and x-ray digitizing in the diagnosing the trauma-based patient. Clinically coordinating the trauma history, the patient's symptomatology and clinical examination findings with advanced diagnostic modality findings and co-managing the trauma case with medical specialists.* Academy of Chiropractic Post-Doctoral Division, Pace Program of the Federation of Chiropractic Licensing Boards, Long Island, New York, 2015

IME & Peer Review Documentation and Rebuttals, *Medical-legal documentation requirements and the utilization evidenced based findings in rebutting third party reporting when clinically indicated. The utilization of state regulations and legislation to ensure compliance in third party reporting reporting. Management of all diagnostic testing and treatment protocols inclusive of functional losses in documentation.* Academy of Chiropractic Post-Doctoral Division, PACE Program of the Federation of Chiropractic Licensing Boards, Long Island, New York, 2015

Compliance, *Establishing proper office compliance with Federal and State regulations.* T.O.P Education Seminars, Affordable Care Act Compliance Program Mandate, Medicare and Medicaid., Westford, Massachusetts, 2015

Primary Spine Care, *Neurophysiological central and peripheral nervous systems mechanisms of pain with intergrated higher cortical functions of the thalamus, cingulate, amygdala. pre-frontal, motor and sensory*

*cortexes. Trauma and chronic pain care efecting mechanoreceptors, nociceptors and proprioceptors through adjustive therapy based upon evidenced based care and current literature verification. Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Federation of Chiropractic Licensing Boards, New York State Department of Education Board for Chiropractic, Islandia, New York, Long Island, New York, 2015*

*Primary Spine Care with Interdisciplinary Collaborative Care,, Triage of patients based upon MRI findings of disc herniation, disc bulge, protrusion, extrusion or sequestrations and spinal cord or nerve root negative sequella, clinical findings of neuro-compressive pathologies and neurodiagnostic findings of EMG-NCV, SSEP, VEP, BAER, VEP and V-ENG findings, Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Federation of Chiropractic Licensing Boards, New York State Department of Education Board for Chiropractic,, Islandia, New York, Long Island, New York, 2015*

*Breaking the ICD-10 Code and Record Keeping, The process for transitioning from the ICD-9 codes to the ICD-10 codes for all those that are required under the Health Insurance Portability Act (HIPAA). T.O.P Education Seminars, Westford, Massachusetts, 2014*

*Coding and Documentation 204, Documentation issues involving Colossus value drivers. Croft guidelines for the treatment of cervical acceleration deceleration injuries, Defining Colossus prognoses, Defining the 5 grades of injury severity of Croft Guidelines. Defining critical points of documentation of personal injury cases and concepts that personal injury attorneys look for in documentation and differences between subjective and objective testimony. University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2013*

*Coding and Documentation 203, Documentation of mechanisms of injury and the key components of impairment evaluations. The differences between impairment and disability. The components of an impairment evaluation and justification of treatments. University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2013*

*Coding and Documentation 202, Documentation of mechanisms of injury and key components of impairment evaluations. Justification of treatments and outcome assessments. University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2013*

*Coding and Documentation 201, Standards of documentation, problem-oriented medical record and P.A.R.T. standards of Insurance reporting, concept of outcome assessments in clinical practice, methods of improving medical necessity. University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2013*

*Documentation 150, Importance of basic record keeping requirements. The importance and benefits of thorough chart documentation from the standpoint of the patient, the clinician, the profession and third party payors. Distinguishing between maintenance and supportive care. Appropriate application of the chiropractic spinal manipulation codes (CMT). University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2011*

Forensic Diplomate 101, *The differences between the deposition and trial The fundamentals and subtleties of the discovery of evidence. Distinguishing between discovery and impeachment. The steps involved in a deposition and trial. Critical issues encountered in the deposition process.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2011

Documentation 153, *Documenting Bodily/Personal Injury Cases, Medical documentation record-keeping for proper patient care and adherence to insurance value based parameters. Skills necessary to incorporate an outcomes-based, evidence-influenced approach to patient-centered health.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2011

Evidence Based Outcomes 201, *Outcomes assessment in chiropractic practice. Guidelines and recommendations for use of outcomes measures in daily practice. Clinician driven outcome measures and the strength of evidence supporting them along with their clinical significance and utilization.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2011

Impairment 102, *AMA Guides, 5th Edition, one of the criteria used by formally trained forensic examiners. Certain practices that lead forensic examiners to question the credibility of reports or "IME providers." Certain practices that lead impairment rating reviewers/auditors to question the credibility of reports or raters. Skill sets necessary when formulating an impairment rating based on evidence-based literature. Science and AMA Guides 5th edition criteria. Action steps for minimizing risks when submitting an impairment rating report.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2011

Neurology 101-102, *The neurological aspects of manipulation and the neurological effects of manipulation. The basics of cellular physiology as it relates to manipulation. Mechanoreceptors and their fibers.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2010

Neurological Examination 104, *The reflex systems. An appropriate examination of the reflexes, including deep tendon, superficial, visceral and pathological reflexes. The anatomy associated with reflexes. Properly grade and record reflexes. Interpret the results of reflexes.* un, Bridgeport, Connecticut, 2010

Neurological Examination 106, *Clinical Assessment of Pain and Function, The psychophysiological profile of pain patients. Treatment of pain.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2010

Independent Medical Examination 101, *Proper review of patients' history and documentation. with key components focused on complaints and outcome assessments with treatment protocols.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2010

Rehabilitation 104-105, *trengh training and proprioception including definition, measurement, and clinical rehabilitation. The strength training principles. Illustrate components of a training session. Summarizing*

*rehabilitation recommendations for proprioceptive deficits.* University of Bridgeport Chiropractic College, Bridgeport, c, 2010

Orthopedic MR Review,, *MRI review of brachial plexus, pectoral tears and shoulder labral tears. Cervical and thoracic spine MRI reviews. Imaging review of knee ligament and tendon pathology. Hand and wrist ligament and tendon pathology.* University of Massachusetts Medical School and Shields Health Care Group, Wellesley, Massachusetts, 2010

MRI, *Basic principles of MRI imaging as it relates to the lumbar spine. Normal anatomy of the lumbar spine on MRI images. Gross pathology associated with the most common MRI presentations associated with general chiropractic practice. The necessity of MRI imaging for lumbar pathology.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2009

Spinal Decompression, *Define spinal decompression therapy, demonstrate decompression table structure and use, describe the relevant anatomy of the lumbar spine, critically examine published reports of clinical outcomes of decompression therapy, present and discuss clinical outcomes of decompression therapy, determine spinal decompression table treatment protocols.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2009

Acupuncture, History and Philosophy of Acupuncture, *Differentiating Yin/Yang and the Five Elements/Phases. The most significant events in acupuncture history from the early 20th century to the present time. Acupuncture theory (Yin/Yang, Qi and Five Elements). Differentiate Yin/Zang organs and Yang/Fu organs.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2009

Stroke and Manipulation, *Stroke and spinal manipulation: anatomy, epidemiology, pathogenesis of dissections and triggers, neurological syndromes, clinical management.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2006

Nutrition, *Antioxidants, vitamin E, silymarin, magnesium and whole grains. Nutritional treatment for cardiovascular disease. Nutritional treatment for hypertension, peripheral vascular disease and other cardiovascular conditions* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2005

Spinal Pain Syndromes, *Diagnosis, documentation and treatment of spinal pain conditions. Types of pain syndromes and their causes, with specific treatment protocols.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2004

Sports Medicine, *Golf, an overview of injury assessment and rehab, balance, and coordination. Muscles used in the swing, chiropractic's influence, practical swing suggestions, and physical conditioning. Fundamentals of the swing and ball flight, golf injuries, injury prevention, shoulder muscles used in the swing.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2003

Lower Back Pain, *Origins and how different spine conditions could affect chiropractic treatment. Pediatric and adult anterior knee pain. What is MRI? Indications and contraindications for use. Cases that require contrast and the contraindications for an MRI.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2003

Orthopedics, *Orthopedic considerations of knee and cervical spine. The effects of knee proprioception after ACL reconstruction. Effects of manual therapy in whiplash. The orientation of the cervical facet joints. Aspects of the lateral collateral ligament of the knee.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2002

Orthopedics, *Cervical spine biomechanics and whiplash, muscle adaptation to stretching, manipulation and EMG. Normal cervical biomechanics and application to examination. Some effects of manipulation on EMG/ROM.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2002

Physical Therapy, *Physical therapy applications. Screening procedures and treatment for the temporomandibular joint. The relationship between the evaluation and treatment of whiplash.* University of Bridgeport Chiropractic College, Bridgeport, Connecticut, 2002

Certification in Impairment Rating, Logan Chiropractic College, Boston, Massachusetts, 1998

Certification as a Chiropractic Insurance Consultant, New York Chiropractic College, 1998

Certification in Peer Review, New York Chiropractic College, 1997

Certification in Independent Medical Examinations, New York Chiropractic College, 1997

Fellow, International Academy of Clinical Acupuncture, Cleveland Chiropractic College, 1981

## **SELECTED ADVANCED EDUCATION**

Fellow, The International Academy Of Clinical Acupuncture., 1981.

Trauma Qualified, Trauma Qualified – Cleveland University, Kansas City, College of Chiropractic., 2024.

## **SELECTED HONORS AND AWARDS**

Trauma Qualified, Cleveland University, Kansas City, College of Chiropractic, 2024

FELLOW (FIACA), The International Academy Of Clinical Acupuncture, 1981

