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SELECTED OCCUPATIONAL HISTORY

Owner, Elite Chiropractic & Sport, Columbia, MD, 2010 - Present

Chiropractor, Omega Rehab & Sport, Thousand Oaks, CA, 2008 - 2010

Chiropractor, Sport and Spine Rehab, Fort Washington, MD, 2007 - 2007

EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of Maryland, License # 03553, 2008-2017

Doctor of Chiropractic, Licensed in the State of Maryland, License # 03553, -

Doctorate of Chiropractic, Southern California University of Health Sciences, Whittier, California, 2007

Internship, Cal St., Northridge, California, 2006 - 2007

National Board of Chiropractic Examiners, Part I, 2007

National Board of Chiropractic Examiners, Part II, 2007

National Board of Chiropractic Examiners, Part III, 2007

National Board of Chiropractic Examiners, Part IV, 2007

National Board of Chiropractic Examiners, Physiotherapy, 2007

Masters of Science in Molecular Pharmacology and Toxicology, University of Southern California, Los Angeles, California, 2004

Bachelor of Science in Neurobiology and Physiology, University of Maryland, College Park, Maryland, 2000

SELECTED POST-GRADUATE EDUCATION, CERTIFICATIONS AND DIPLOMATES

Documentation and Coding, *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, and a 99212-99213-99214-99215.* Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City , Long Island, NY, 2021

Demonstrative 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.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2021

MRI Spine Interpretation, , *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.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2021

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 requiring interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2021

2022 Trends in Spinal Healthcare, *Analyzing evidenced-based spinal healthcare trends in both utilization and necessity and understanding the marketplace. The use of evidenced-based demonstrative documentation in reporting treatment pathways in triaging spinal pathobiomechanics.* Academy of Chiropractic Post-Doctoral Division, Cleveland University- Kansas City, Long Island, NY, 2021

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 vertebrate, 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 the clinical findings* Academy of Chiropractic Post-Doctoral Division, Cleveland University- Kansas City, Long Island, NY, 2021

Chiropractic vs. Physical Therapy vs. Medical Case Management and Outcomes, *Analysing 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.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, NY, 2021

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.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, NY, 2021

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. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, NY, 2021

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 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. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, NY, 2021

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 the etiology. There will be an extensive question and answer session following the instructional presentation. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, NY, 2021

ART Upper Extremity Online Recertification, This online seminar when over treatment algorithms to addressing and fixing an injury fast. The course also worked on palpation skills to identify stubborn pain areas. Columbia, MD, 2020

Documentation, MRI Necessity and Trends in Spinal Treatment Protocols, Correlating history and a thorough clinical evaluation in determining the necessity for x-ray and MRI evaluations in the trauma and non-trauma patient. Considering whole spine patho-biomechanics in formulating treatment plans and long-term supportive care. Documentation requirements in transitioning from telemedicine to in-office care. Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing boards, Cleveland University Kansas City, Long Island, NY, 2020

Diagnosing and Case Management, The requirements for diagnosing based upon in an initial evaluation and management encounter ranging from a 99202 – 99205 that includes comorbidities, non-musculoskeletal, and sequellae to injury

diagnosis. Academy of Chiropractic Post-Doctoral Division, Cleveland University
Kansas City, Long Island, New York, 2020

Diagnosing and Case Management, *The requirements for diagnosing imaging inclusive of static x-rays, biomechanical x-rays, and MRI. Documenting the clinical findings of disc bulge, herniation, protrusion, extrusion, and fragmentation. Coding, diagnosing, and documenting individual treatment encounters in the clinical setting*. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

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*. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

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*. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

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*. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

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 requiring interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

Trends in Spinal Healthcare, *Analyzing spinal healthcare trends in both utilization and necessity and understanding the marketplace and how a level of clinical excellence is reflected in a doctors' documentation and credentials. Treatment pathways in triaging spinal pathobiomechanics.* Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, New York, 2020

MRI Spine Interpretation, *An evidence-based understanding of time-related etiology of disc pathology considering the American Society of Neuroradiology's designation of protrusion, extrusion, and sequestration of spinal discs, Considering the signal intensity of discs in age-dating pathology and acquisition protocols for advanced spinal imaging.* Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, New York, 2020

Spinal Biomechanics; A Literature Perspective, *An evidenced-based model for spinal biomechanical engineering and pathobiomechanics considering the pathophysiological limits in translations, angular deviation, and rotational planes. Utilizing the Cartesian system in plotting vertebral points to demonstratively conclude an accurate diagnosis, prognosis and biomechanical treatment plan with the consideration of long-term care in the non-specific mechanical spine pain patient when necessary.* Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, New York, 2020

Case Management of Mechanical Spine Pathology, *Clinical Grand Rounds of herniated, protruded, extruded, sequestered, and bulging discs. Differentially diagnosing vascular vs. mechanical spinal lesions and the necessity for urgent vascular, neurological intervention, Collaborating in a team environment utilizing a neuroradiologist, electrophysiologist, and neurosurgeon with the chiropractor as the*

primary spine care provider. academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, New York, 2020

Chiropractic-Legal Ethics, *The academic and court standards for documenting an Evaluation and Management encounter with the utilization of accurate CPT Coding. Accurately documenting your credentials based upon earned credentials.* Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2020

Chiropractic-Legal Ethics, *The clinical standard for ordering diagnostic tests as indicated. This includes advanced testing as MRI, CAT Scans and electrodiagnostics as electromyogram, nerve conduction studies, vestibulo-electronystagmography and somatosensory evoked potentials. The failure to order indicated testing and how it creates a public health risk and will negatively reflect on your license and reputation.* Cleveland University - Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2020

Chiropractic-Legal Ethics, *Documenting and communicating your credentials in a manner consistent with licensure boards and the courts. Communicating sub-specialties as awarded through formal academic accomplishments and utilizing that level of education to better understand and explain pathology.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

Chiropractic-Legal Ethics, , *Understanding ethical relationships about anti-kickback laws, fee-splitting and appropriate hiring practices in the clinical arena. How to use your initial patient documentation to conclude a case and ensure you are within the ethical boundaries.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, Long Island, New York, 2020

Neuroinflammation Clinical Strategies and Treatment Applications, *The Neuroinflammation course discusses the immune system of the brain and different variables that can induce neurological inflammation. These include traumatic brain injury, diet, metabolic disease, Lyme disease, viral infections, and environmental*

triggers. National University of Health Sciences and the International Association of Functional Neurology and Rehabilitation, Fulton, Maryland, 2019

Active Release Technique Online Recertification, *This course produces the full structural movement required to effectively resolve issues with muscle or tissues. It also develops an effective treatment plan for patients incorporating Active Release Techniques.* Certification in Full Body ART, Diplomate, Bross, Fulton, MD, 2019

Medical-Legal Ethical Relationships, Documentation and Legal Testimony, *Report writing for legal cases, the 4 corners of a narrative and documenting damages with understanding defense medical documentation and consistent reporting of bodily injuries.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Legal Testimony, Part 2, *Understanding report writing and the types of medical reports required for court inclusive of diagnosis, prognosis and treatment plans with requirements of reporting causality and permanency.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Direct Testimony, *Organizing your documentation and understanding all collaborative documentation and how it fits into your diagnosis, prognosis and treatment plan, Understanding the nuances of the functional losses of your patients related to their bodily injuries.* , Academy of Chiropractic, Post-Doctoral Division. Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Direct Testimony Part 2, *Utilizing demonstrative documentation in direct examination and communicating the results of your care concurrently with the written documentation and reporting an accurate diagnosis for all images.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Direct Testimony Part 3, *The evaluation, interpretation and reporting of collaborative medical specialists results and concluding an accurate diagnosis inclusive of all findings and reviewing all images to ensure an accurate diagnosis.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Direct Testimony Part 4, *Determining and documenting disabilities and impairments inclusive of loss of enjoyment of life and duties under duress and the evaluation and validation of pain and suffering.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Documentation and Cross Examination Testimony, *Reporting your documentation factually and staying within the 4 corners of your medical report and scope of practice inclusive of understanding how your credentials allow you to report your documentation.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, A Documentation Relationship Between the Doctor and Lawyer, *The level of organization required in a medical-legal case that accurately reflects the bodily injuries of your patients and the time constraints in rendering an accurate report.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Report Writing and Preparing for a Legal Case, *Reviewing the facts of the case inclusive of your documentation, the defense medical examiner, medical specialists and the attorney to ensure accurate and consistent reporting.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Medical-Legal Ethical Relationships, Report Writing and Preparing for a Legal Case, *Creating demonstrative evidence, visuals of your patient's bodily injuries inclusive of x-rays, MRI's, CAT Scans and electrodiagnostic findings, the spinal*

biomechanics of herniated disc with ipsilateral findings and contralateral symptomatology. Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2019

Forensic Documentation-Report Writing, *Report writing in a medical-legal case inclusive of causality, bodily injury, persistent functional loss and restrictive sequela from trauma. Demonstratively documenting bodily injury utilizing models, graphs and patient image of x-ray and advanced imaging* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Demonstrative Documentation, *Demonstratively reporting spinal biomechanical failure and spinal compensation. How in a medical-legal environment to ethically report pre-existing injuries vs causally related current injuries and what is permissible in a legal proceeding.* . Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Direct Opinions, *Causality, bodily injury and persistent functional losses documented and reported in a medical-legal environment as your direct opinion. Avoiding hearsay issues to ensure ethical relationships.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Initial, Final and Collaborative Reporting, *Preparing demonstrative documentation in a medical-legal case ensuring that you are familiar with all other treating doctor's reports. Correlating your initial and evaluation and management (E&M) report and your follow-up E&M reports with the narrative upon maximum medical improvement documenting continuum of care.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Qualifications and Preparation of Documentation, *Forensic Documentation- Qualifications and Preparation of Documentation, How to prepare your documentation for courtroom testimony and ensuring your qualifications are documented properly on an admissible, professional curriculum vitae. How to include*

indexed peer-reviewed literature in medical-legal documentation Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Patient History and Credentials , *Preparing patient history in a medical-legal case based upon your initial intake forms and understanding the work, social, academic, household and social activities of your patient. Understanding and explaining your doctoral and post-doctoral credentials in the courtroom.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Chiropractic Care and Injured Anatomy, *Preparing demonstrative documentation in a medical-legal case to report the bodily injuries of your patients , inclusive of loss of function and permanent tissue pathology.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Temporary vs. Permanent Issues, *Preparing documentation in a medical-legal case ensuring that you can communicate permanent vs. temporary functional losses and permanent vs. temporary tissue pathology. How to maintain and explain ethical relationships in medical-legal cases* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Bodily Injury, *How to report bodily injury and functional losses as supported by your credentials in a medical-legal case. Clinically correlating causality and permanent tissue pathology as sequela to trauma* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Record Review and Documentation Reporting, *How to report records of collaborative treating doctors and communicating your scope of practice in the management of your case. How to ethically report your role as a doctor*

in medical-legal cases Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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 complain, 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.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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.* Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Anatomy and Physiology of Electrodiagnostics: An in-depth review of basic neuro-anatomy 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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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 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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019*

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. Cleveland University, Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019*

Computerized Mensuration of Spinal Biomechanical Pathology, *Understanding the algorithmic interpretation of spinal biomechanical pathology in a 3-D model and creating treatment plans, impairment ratings and teaching models based upon the vertebral motor unit angles. Determining sagittal and axial alignments in creating a normative baseline for treatment goals and outcomes. Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2019*

Neurosurgical-Chiropractic Collaboration on Spinal Pathology, *Utilizing x-ray, MRI and other modalities of advanced imaging in conjunction with spinal biomechanical failure and clinical evaluation to collaboratively create treatment protocols for patients in both the operative and non-operative cases. Determining the boundaries of scope of care for both the chiropractor and neurosurgeon based upon a definitive diagnosis of the mechanical vs. an anatomical lesion.* Cleveland University - Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2019

Documentation and Ethics in Medical-Legal Relationships, *reating ethical relationships based upon accurate documentation reflective of the casually related condition of the injured. Ensuring accepted credentials of the doctor based upon Voir Dire standards reflected in an admissible curriculum vitae. How to present demonstrative documentation in the courts reflective of the patient's pathology.* Cleveland University - Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2019

Coding, Documentation and Compliant Coding, *Ensuring the correct codes are utilized in an evaluation and management encounter. The correct elements are utilized to support the level of E&M coded along with a self-audit program to ensure ethical billing occurs. Guidelines for history of present illness, primary complaint, review of systems, family, social and past histories are discussed and how to document the same.* Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2019

Hospital Based Spine Care Qualified, *Credentialed in hospital protocols, emergency room protocols, acute and chronic patient triage inclusive of MRI spine interpretation, spinal biomechanical engineering, head trauma, concussion, mild traumatic and traumatic brain injuries.* Co-credentialed through the ACCME (Accreditation Council for Continuing Medical Education), Cleveland University – Kansas City and the Academy of Chiropractic, Long Island, NY, 2019

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.* Texas Chiropractic College,

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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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 sequelae, including bulge, herniation, protrusion, extrusion and sequestration. Texas Chiropractic College, 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, 2018

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 vertebrate, Schmorl's nodes and herniations. Central canal and cauda equina compromise interpretation with management. Texas Chiropractic College, 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, 2018

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 vertebrate, 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. Texas Chiropractic College, 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, 2018

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 vertebrate, Schmorl's nodes and herniations. Spinal cord and canal compromise interpretation with management.* Texas Chiropractic College, 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, 2018

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 vertebrate, 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.* Texas Chiropractic College, 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, 2018

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, extrusions, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective.* Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

Mild Traumatic Brain Injury/Traumatic Brain Injury/Concussion, Differentially diagnosing mild traumatic brain injury vs. traumatic brain injury and the clinical and imaging protocols required to conclude an accurate diagnosis for head trauma. Texas Chiropractic College, 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, 2018

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 in the 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. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

Othropedic Testing: Clinical Grand Rounds, *Integration of 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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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 with associated paradoxical emboli and thrombotic etiologies. Historical and co-morbidities that have etiology in stroke inclusive of diabetes, coagulopathy, acquired and hereditary deficiencies. Texas Chiropractic College, 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, 2018

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 the chiropractic, primary care or manual medicine clinical setting. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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*. Texas Chiropractic College, 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, 2018

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 gray matter, thalamus and cortices involvement*. Texas Chiropractic College, 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, 2018

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*. Texas Chiropractic College, 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, 2018

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*. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

Spinal Biomechanical Engineering: Cartesian 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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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 algorithm in analyzing a spine. Texas Chiropractic College, 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, 2018

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 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. Texas Chiropractic College, 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, 2018

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. Texas Chiropractic College, 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, 2018

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.* Texas Chiropractic College, 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, 2018

Active Release Technique's Lower Extremity 2, *The ART® Lower Extremity 2 Course consists of 57 protocols including peripheral nerve entrapments. Learn to palpate and treat issues between different structures.* New York Chiropractic College, New York Chiropractic College, Iselin, NJ, 2018

Trauma Qualified, Cleveland University Kansas City, Chiropractic Health Sciences, Academy of Chiropractic, Post-Doctoral Division, 2018

Primary Spine Care 3: Connective Tissue Spinal Disc Permanent Pathology, *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.* Texas Chiropractic College, Long Island, New York, 2017

Primary Spine Care 3: Connective Tissue Pathology and Research, *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.* Texas Chiropractic College, Long Island, New York, 2017

Primary Spine Care 3: Bio-Neuro-Mechanical Lesions and Spine Care , *Mechanoreceptor, proprioceptor, nociceptor innervation and control of the spinal system with central nervous system action and interaction. The integration of the pain processing network and the HPA Axis (hypothalamus, adrenal and pituitary) with the chiropractic spinal adjustment.* Texas Chiropractic College, Long Island, New York, 2017

Primary Spine Care 3: Ethics, Documentation and Research, Primary Spine Care, *Maintaining 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 the presence or absence of pathology.* Texas Chiropractic College, Long Island, New York, 2017

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.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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*. Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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*. Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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*. Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

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*. Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 2016

Active Release Technique Nerve Entrapment, *This is an entirely new system that actually moves the nerve through the tissues proximally and distally to the maximum extent possible by moving every joint and body part that the nerve crosses*. New York Chiropractic College, Levittown, New York, 2016

Primary Spine Care 2: Spinal Trauma Pathology, *Morphology of healthy and traumatized connective tissue and the permanency implication of adhesions, spinal*

disc morphology in the healthy and pathological patient as sequella to trauma in relationship to bulges, herniations, protrusions, extrusions and sequestrations. Aberrant spinal biomechanics and negative sequella to trauma. Texas Chiropractic College, Academy of Chiropractic, Setauket , New York, 2016

Primary Spine Care 2: Utilizing Research in Trauma, *The ability of your electronic health records to convey tissue pathology while documenting case studies, field experiments, randomized trials and systematic literature reviews, Introducing evidence based macros in documentation to support the literature and necessity of care.* Texas Chiropractic College, Academy of Chiropractic, Setauket , New York, 2016

Primary Spine Care 2: Chiropractic Evidence, *Analyzing segmental pathology, adjusting vs. mobilization with cervicogenic headaches, Opioid alternatives and case management of mechanical spine pain based upon outcome studies.* Texas Chiropractic College, Academy of Chiropractic, Setauket , New York, 2016

Primary Spine Care 2: Chiropractic Spinal Adjustment Central Nervous System Processing, *Literature reviews of mechanoreceptor, proprioceptor and nociceptor stimulation of later horn gray matter with periaqueductal stimulation affecting the thalamus and cortical regions with efferent distribution in disparate regions of the body in both pain and systemic stimulation.* Texas Chiropractic College, Academy of Chiropractic, Setauket , New York, 2016

Musculoskeletal Diagnostic Ultrasound Imaging of Lower Extremities with Dry Needling, *In this course we learned sonographic anatomy of the hip, knee, foot, and ankle. We learned to identify and interpret normal sono-anatomy, we practiced sono-palpation, sonographic imaging, acquisition techniques and interpretation.* University of Western States, Rockville, Maryland, 2015

Musculoskeletal Diagnostic Ultrasound Imaging of Upper Extremities with Dry Needling, *In this course we learned sonographic anatomy of the shoulder, elbow and hand. We learned to identify and interpret normal sono-anatomy, sono-palpation,*

sonographic imaging acquisition techniques and interpretation. University of Western States, Rockville, Maryland, 2015

Active Release Technique Upper Extremity, ART is a patented, state of the art soft tissue system/movement based massage technique that treats problems with muscles, tendons, ligaments, fascia and nerves. Headaches, back pain, carpal tunnel syndrome, shin splints, shoulder pain, sciatica, plantar fasciitis, knee problems, and tennis elbow are just a few of the many conditions that can be resolved quickly and permanently with ART. New York Chiropractic College, Levittown, New York, 2015

Mastering the Thyroid, This 3-day course, developed by Dr. Datis Kharrazian and presented by Dr. Thomas Culleton, is designed to help clinicians master the concepts of thyroid physiology, assessment, and clinical applications. This course will redefine the standard for addressing thyroid health. University of Bridgeport, Fort Lauderdale, FL, 2014

Dry Needling, Dry needling utilizes sterile, thin monofilament needles, and relief is often rapid with a reduction in pain and improved function. Myofascial trigger point dry needling (MFTrPDN) is a treatment to restore proper function to abnormally behaving muscles. University of Western States, Portland, Oregon, 2013

Active Release Technique Recertification, ART is a patented, state of the art soft tissue system/movement based massage technique that treats problems with muscles, tendons, ligaments, fascia and nerves. Headaches, back pain, carpal tunnel syndrome, shin splints, shoulder pain, sciatica, plantar fasciitis, knee problems, and tennis elbow are just a few of the many conditions that can be resolved quickly and permanently with ART. New York Chiropractic College, Levittown, New York, 2013

Mastering Functional Blood Chemistry, This information-packed course provides detailed explanations of metabolic pathways and biomarkers in a structure relevant to the actual flow of a clinical practice. Numerous case evaluations, diagrams, and flow charts have been created to help attendees understand how to master functional blood chemistry. University of Bridgeport, Valley Forge, PA, 2013

Expert Witness & Documentation Qualified – Cleveland University, Kansas City, 2019, 2013

Evaluation & Management Qualified – Cleveland University, Kansas City, 2019, 2013

48 Hour Nutrition Certificate Program, *Learn advanced protocols for specific condition management and health enhancement.* Northwestern Health Sciences University, Dallas, TX, 2012

THE SPINE, CONCUSSION, AND TEAM PHYSICIAN CONCEPTS, *This course teaches concepts related to spine injuries in sports, concussions, and working in a team environment. Learn to identify signs and symptoms related to concussions.* Certification in Certified Chiropractic Sports Practitioner, Southern California U. of Health Sciences, Southern California U. of Health Sciences, Los Angeles, CA, 2012

CHIROPRACTIC MANAGEMENT OF THE EXTREMITIES, *This course goes over protocols for diagnosing and treating upper and lower extremity injuries, both on the field and off.* Certification in Certified Chiropractic Sports Practitioner, Southern California U. of Health Sciences, Southern California U. of Health Sciences, Los Angeles, CA, 2012

EMERGENCY PROCEDURES, *This course teaches doctors how to manage emergency situations with on the field trauma, including learning how to stabilize spine trauma.* Certification in Certified Chiropractic Sports Practitioner, Southern California U. of Health Sciences, Southern California U. of Health Sciences, Los Angeles, CA, 2012

CORRELATIVE CASE STUDIES IN SPORTS CHIROPRACTIC, *This course brings everything together in regards to sports related injuries, treatment, triage, and evaluation.* Certification in Certified Chiropractic Sports Practitioner, Southern

California U. of Health Sciences, Southern California U. of Health Sciences, Los Angeles, CA, 2012

Graston Technique, Graston Technique®, a unique instrument-assisted soft tissue modality, enables clinicians to effectively and efficiently address soft tissue lesions and fascial restrictions resulting in improved patient outcomes. GT helps increase or maintain range of motion. New York Chiropractic College, Levittown, New York, 2008

For Your Patients Who Play Golf, This course teaches doctors and therapists how to evaluate golf injuries, design routines to stretch during their round, as well as how to treat specific golf-related issues. Western States, Los Angeles, CA, 2007

Applied Nutrition Chiropractic Seminar, This course teaching students to evaluate nutritional deficiencies, as well as using muscle testing to treat them. Southern California U. of Health Sciences, Los Angeles, CA, 2007

Top 10 Prescription Drugs and Their Natural Alternatives, This course goes over the top 10 prescriptions written, and specific targeted supplements that have the same benefits, without the side effects. Southern California U. of Health Sciences, Los Angeles, CA, 2007

Current Issues on Women's Health, This course discusses the top health issues facing women today. Southern California U. of Health Sciences, Los Angeles, CA, 2007

Beyond Metabolic Syndrome Seminar, Metabolic Syndrome is one of the most common things doctors see in their office. This course teaches how to evaluate for this, as well as natural treatment strategies to help patients heal themselves. University of Bridgeport, Los Angeles, CA, 2007

Top 20 Nutritional Strategies Every Health Care Provider Needs to Know, This course goes over the top 20 most common issues functional medicine doctors face in their

office and the natural strategies to help them heal. Western States, Los Angeles, CA, 2007

SCHOLARLY PRESENTATIONS

Bross, J., Sevanian, A., Hsai, J. (2004, June). *Flow Regulation of LDL oxidation* Powerpoint presented at the Seminar, Toronto, Ontario, Canada.

Bross, J., Sevanian, A., Hsai, J. (2004, May). *Estrogen reverses flow induced LDL oxidation via Nox4* Powerpoint presented at the Seminar, San Francisco, CA.

Bross, J., Sevanian, A., Hsai, J. (2004, May). *OxPAPC induces NADPH oxidase subunit, Nos4: Implication for NADPH autofluorescence and MMP* Powerpoint presented at the Seminar, San Francisco, CA.

Bross, J., Hsai, J., Hwang, J. (2004, January). *Flow regulation of AKT phosphorylation* Poster presented at the Seminar, Washington, DC, Washington, DC.

Bross, J., Sevanian, A., Hsai, J. (2004, January). *Estradiol reverses oscillatory flow-induced LDL oxidation* Powerpoint presented at the Seminar, Santa Barbara, CA.

Bross, J., Sevanian, A., Hsai, J. (2004, March). *Flow regulation of LDL and akt phosphorylation* Powerpoint presented at the Seminar, Santa Barbara, CA.

Bross, J., Hwang, J., Hsai, J. (2003, November). *Pulsatile flow regulates NADPH oxidase subunits: Gp91phos and its homolog, Nox4: Implication for superoxide production* Poster presented at the Seminar, Orlando, FL.

SELECTED TEACHING/INSTRUCTING/LECTURING/CONSULTING

Instructor, 3 Hour Dry Needling Recertification, Maryland Board of Chiropractic, Columbia, MD, 2020- Present

Teaching Assistant, Pharmacokinetics, University of Southern California, Los Angeles, CA, 2002- 2004

SELECTED PUBLICATIONS

Bross, J., Demaio, L., Ing, M. (2004). OxPapc Activation of NADPH Subunit Nox4. *Atherosclerosis, Thrombosis, and Vascular Biology*,

Bross, J., Hsiai, J., Sevanian, A. (2004). Estrogen Inhibition of Oscillatory Shear Stress Oxidation of Low Density Lipoprotein. *Journal of Biological Chemistry*,

Bross, J., Hwang, J., Hsiai, J. (2004). Shear Stress Activation of Nox4: Pulsatile versus Oscillatory Flow. *Circulation*,

Bross, J., Thorndike, E., Schindler, C. (2002). Gender Differences in the Behavioral Effects of Methamphetamine. *Journal of Pharmacological Experimental Therapeutics*,

SELECTED MEMBERSHIPS

Columbia Association , Medical Advisory Board, 2017 - Present

Academy of Chiropractic, 2016 - Present

SELECTED HONORS AND AWARDS

Young Investigator Award, University of Southern California, 2002