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EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of New York, License # X005311, 1988-Present

Doctor of Chiropractic, Licensed in the State of New Jersey, License # 38MC00343900, 1987-Present

Doctorate of Chiropractic, New York Chiropractic College, Old Brookville, New York, 1987

Internship, Levittown Clinic, Levittown, New York, 1987 - 1985

Internship, Levittown Clinic, Levittown, New York, 1987 - 1985

National Board of Chiropractic Examiners, Part I,

National Board of Chiropractic Examiners, Part I,

Bachelor of Arts in Economics, Rutgers University, New Brunswick, New Jersey, 1982

Doctorate of Chiropractic in New York Chiropractic College, Old Brookville, New York, 1987

SELECTED POST-GRADUATE EDUCATION

Chiropractic Management of Anterior Sacral Contusion, *Overview and discussion of contusion of the anterior sacral ala in a elite college cross-country runner*. Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Post-Surgical Cervical Facet Syndrome, *A case of persistent and worsening neck and left shoulder pain post-*

surgical fusion was presented. Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Lumbar Disc Herniation, *Case review of traumatically induced 10mm L5-S1 intervertebral disc extrusion was presented.* Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Lumbar Arachnoiditis, *Outline of the causes of arachnoiditis in the human spine was presented.* Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Persistent Spine Pain, Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Spinal Biomechanical Engineering and Sagittal Balance of the Spine, *The discussion of spinal care in terms of engineering principles was presented. Biomechanical parameters such as pelvic incidence, sacral slope, pelvic tilt, and sagittal balance were outlined and presented.* Certification in 1 Chiropractic CE Hour & 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, University at Buffalo Jacobs School of Medicine and Biomechanical Sciences, William J. Owens Jr., DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Schwannoma, *The discussion of a case pertaining to traumatically induced pathology to the spine of a 59 year-old female. Outline of pathology reflexes and detailed physical examination best practices.* Certification in 1 Chiropractic CE Hour & 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, University at Buffalo Jacobs School of Medicine and Biomechanical Sciences, William J. Owens Jr., DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

National Spine Management East Conference, Certification in 18 Chiropractic Continuing Education Hours, Diplomate, National Spine Management Group, University at Buffalo Jacobs School of Medicine and Biomechanical Sciences, William J. Owens Jr., DC, DAAMLPC, CPC, Ft. Lauderdale, FL, 2022

Understanding Surgical Approaches and Techniques, *Review of Lumbar Interbody Fusion (LIF) as an established treatment for a range of spinal*

disorders. Mechanical techniques, implant processes and minimally invasive surgery were discussed. Certification in 1 Chiropractic CE hour + 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York Buffalo, William J. Owens Jr., DC, DAAMLPC, CPC, Somerset, NJ, 2022

Chiropractic Spine Management and Pain Categorization , *Review of published categorization of pain generation including nociceptive, neuropathic and nociplastic sources. The importance of quantitative testing, clinical examination and clinical correlation was presented and related to the academic approach to the categorization of pain.* Certification in 1 Chiropractic CE hour + 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York Buffalo, William J. Owens Jr., DC, DAAMLPC, CPC, Somerset, NJ, 2022

Chiropractic Management of a L5-S1 Lumbar Disc Extrusion, *Review of objective muscle weakness as the primary indication for surgical interventions in patients with intervertebral disc herniations and extrusions. Clinical correlation and coordination of care was detailed including timing of advanced imaging order and surgical referrals.* Certification in 1 Chiropractic CE Hour and 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York at Buffalo Jacobs School of Medicine, William J Owens Jr., DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

National Spine Management East Conference, *Discussed and detailed medical and interprofessional communication, case management workflows related to the management of acute and chronic spine pain, and compliant healthcare documentation and communication in spine management. Also reviewed and discussed histology and physical tolerance of spinal ligaments, and an updated scientifically validated grading system for the identification of degenerative versus acute ligament laxity. Detailed presentations on accident reconstruction and export reporting, as well as of updated peer-reviewed medically indexed research supporting chiropractic management of spine pain.* Certification in 18 Chiropractic Continuing Education Hours, Diplomate, National Spine Management Group, Cleveland University Kansas City, College of Chiropractic, William J Owens Jr., DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Spinal Biomechanical Engineering and Sagittal Balance of the Spine, *Discussion of spine care in terms of engineering principles. Outlined biomechanical parameters such as pelvic incidence, sacral slope, pelvic tilt, sagittal balance, and spinal curvature and load distribution. Comparative anatomy between primates and humans, as well as humans of different ages, and spinal rehabilitation principles were discussed.* Certification in 1 Chiropractic CE Hour and 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York at Buffalo Jacobs School of Medicine, William J Owens Jr., DC, DAAMLPC, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Schwannoma, *Discussion and outline of pathological reflexes and detailed physical examination best practices. Relevant cervical and lumbar spinal anatomy in the sagittal, axial, and coronal planes was detailed on MRI and CT studies. Interprofessional*

communication with the spine surgeon was presented and review of surgical intervention including anterior cervical discectomy and fusion (ACDF) procedure to the patient's cervical spine. Certification in 1 Chiropractic CE Hour and 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York at Buffalo Jacobs School of Medicine, William J Owens Jr., DC, DAAML, CPC, Somerset, New Jersey, 2022

Diagnosis and Management of Persistent Spine Pain, Overview and discussion of spinal anatomy including intervertebral discs, ligaments, spinal nerves, spinal cord, and facet capsule. Emphasis was placed on differential diagnosis, physical examination and clinical correlation of injury mechanism and patient complaint. Interprofessional communication in documentation and referral for interventional pain management consulting was presented with emphasis on facet or medial branch block injections. Certification in 1 Chiropractic CE Hour and 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, PACE, State University of New York at Buffalo Jacobs School of Medicine, William J Owens Jr., DC, DAAML, CPC, Somerset, New Jersey, 2022

Trial Testimony and the Spine Management Patient, Discussion and presentation of the trial process and requirements of both the treating physician and expert physician. Emphasis was placed on detailed preparation of case flow, objective demonstrable findings and thorough evaluation and narrative reporting processes to prepare for court room questioning. Certification in 1 Chiropractic CE Hour & 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, LLC, PACE, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAML, CPC, Somerset, New Jersey, 2022

Intervertebral Disc Nomenclature and Morphology, Discussion of intravertebral disc morphology and correlation between morphological and ideological findings was presented and reviewed. Detailed review of spondylosis deformans, intravertebral osteochondrosis, intravertebral disc herniation and bulge was outlined. Emphasis on the delineation between clinical findings and findings on advanced imaging, changes in disc morphology due to ligament injury, and correlation of the herniation verses disc bulge. Certification in 1 Chiropractic CE Hour & 1.0 AMA PRA Category 1 Credit, Diplomate, National Spine Management Group, LLC, PACE, State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, William J. Owens Jr DC, DAAML, CPC, Somerset, New Jersey, 2022

Spine Management Clinical Workflows, In depth review and discussion of the Doctor of Chiropractic as a Spine Management Physician with specific focus on the diagnosis and management of the spine pain of mechanical origin. Details were outlined in relation to triage of anatomical causes of spine pain such as fracture, tumor infection. National Spine Management Group, Buffalo, NY, 2021

Pain Management and the Chiropractic Adjustment, Current peer reviewed indexed research demonstrating the chiropractic adjustment's effect on the central nervous system and pain threshold was outlined and reviewed. Anatomical review and contemporary supportive research were

discussed. Details of central nervous system response to the chiropractic adjustment was reviewed and demonstrated. National Spine Management Group, Buffalo, New York, 2021

Corrective Spinal Care and Chiropractic Case Management, Current Peer reviewed indexed research demonstrating the chiropractic adjustment's effect on the biomechanical structure of the human spine during the corrective/rehabilitative phase of care. Basic outline of biomechanical parameters in symptomatic and asymptomatic patients was reviewed with particular focus on pathobiomechanics in chiropractic practice. National Spine Management Group, Buffalo, NY, 2021

Health Maintenance Care and Chiropractic Case Management, Current peer reviewed indexed research demonstrating the chiropractic adjustment's effect on the maintenance of the human spine. Details of indexed research reviewing Chiropractic's role the reduction of narcotic utilization and decreased absenteeism from work due to disability. Communicating Health Maintenance Care to the medical profession and the public was emphasized. National Spine Management Group, Buffalo, NY, 2021

Evidence Based Clinical Reporting, Overview of current CPT and ICD-10 coding guidelines pertaining to the evaluation and management of spine pain patients was presented. Timed codes, relevant diagnosis related to injured tissue was presented. Review of the difference between daily progress notes and Evaluation and Management (E/M) reporting was provided. National Spine Management Group, Buffalo, NY, 2021

Cervical Spine Clinical Workflows, Detailed review of workflows of a thorough patient history and identification of clinical red flags related to relative and absolute contraindications to chiropractic care was presented. Outline of neurological examination including pathological reflexes present during spinal cord compression, cervical stenosis and cervical myelomalacia was discussed. Normal vs abnormal measurement of range of motion objectifying spinal dysfunction was presented. Specific orthopedic testing related to specific muscle, nerve or intervertebral disc injury was discussed. Review of interprofessional triage and imaging decision tree was outlined with specific focus on the pain management physician and spinal surgeon. National Spine Management Group, Buffalo, NY, 2021

Lumbar Spine Clinical Workflows, Detailed review of workflows of a thorough patient history and identification of clinical red flags related to relative and absolute contraindications to chiropractic care was presented. Outline of neurological examination including pathological reflexes present during cervical and lumbar stenosis was discussed. Normal vs abnormal measurement of range of motion objectifying spinal dysfunction was presented. Specific orthopedic testing related to muscle, nerve or intervertebral disc injury was discussed. Review of interprofessional triage and imaging decision tree was outlined with specific focus on the pain management physician and spinal surgeon. National Spine Management Group, Buffalo, NY, 2021

Interprofessional Clinical Documentation for the Primary Care Physician, *Contemporary techniques to best communicate chiropractic care to the Primary Care Physician was discussed and presented. Analysis of the depth and scope of communication was emphasized with direct focus on the proper documentation management system including demographic sheet, imaging reports, most recent evaluation and management reports. Discussion of appropriate timing for phone consultation was presented.* National Spine Management Group, Buffalo, NY, 2021

Clinical Documentation for the Spine Surgeon, *Contemporary techniques to best communicate chiropractic care to the spine surgeon was discussed and presented. Analysis of the depth and scope of communication was emphasized with direct focus on the proper documentation management system including demographic sheet, imaging reports, most recent evaluation and management reports. Discussion of appropriate timing for phone consultation was presented.* National Spine Management Group, Buffalo, NY, 2021

Clinical Documentation for the Pain Management Physician, *Contemporary techniques to best communicate chiropractic care to the pain management physician was discussed and presented. Analysis of the depth and scope of communication was emphasized with direct focus on the proper documentation management system including demographic sheet, imaging reports, most recent evaluation and management reports. Discussion of appropriate timing for phone consultation was presented.* National Spine Management Group, Buffalo, NY, 2021

Clinical Documentation for Attorney, *Contemporary techniques to best communicate chiropractic care and permanent injury to the personal injury attorney was discussed and presented. Analysis of the depth and scope of communication was emphasized with direct focus on the proper documentation management system including diagnosis, response to treatment, causality and persistent functional loss was outlined. Discussion of appropriate timing for phone consultation was presented.* National Spine Management Group, Buffalo, NY, 2021

Spinal Biomechanical Engineering, *Detailed presentation of the progression of laboratory-based biomechanics into the clinical realm was outlined. Evidence based review of Pelvic Incidence and other sagittal balance parameters was presented. Regional sagittal balance and communication with the spine surgeon in the spine management practice was reviewed. Specific discussions were related to spinal sagittal balance and the non-surgical spine pain patient and correlated to the Corrective Care Phase of Chiropractic Care. Outline of the future of full spine biomechanical modeling was presented in relation to symptomatic and asymptomatic patients.* National Spine Management Group, Buffalo, NY, 2021

Objectifying the Spinal Biomechanical Spine Lesion, *Review of ligament laxity and alternation of motion segment integrity was presented with specific correlation to the AMA Guides to the Evaluation of Permanent Impairment 5th and 6th Edition. Correlation to bodily injury, causality and persistent functional losses in the personal injury patient and communication with the attorney was outlined. Attention was paid to the differences between vertebral body translation and angular motion deficits between adjacent motor units was presented. Specific details on measurement tools and analysis of the injured cervical and lumbar spines were discussed.* National Spine Management Group, Buffalo, NY, 2021

Cervical Spinal Alignment and Knee Replacement Revision Rates, *Review of the most common cervical spinal sagittal alignment parameters and their relationship to interprofessional communication was presented.* Certification in 1 Chiropractic CE Hour, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Spine Management Conference, *In depth review and discussion of the Doctor of Chiropractic as a Spine Management Physician with specific focus on the diagnosis and management of spine pain of mechanical origin.* Certification in 12 Chiropractic continuing education hours, Diplomate, William J Owens Jr. DC. DAAMLPC, CPC, Cleveland University, Kansas City, National Spine Management Group, LLC, Somerset, New Jersey, 2021

Spine Management Conference, *Discussion of the Spine Management Physician concept utilizing supportive evidence was presented.* Certification in 12 Chiropractic continuing education hours, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Clinical Grand Rounds - Chiropractic Management of Lumbar Facet Syndrome, *Discussion of the clinical presentation of lumbar facet syndrome with specific attention paid to the pathogenesis and differential diagnosis of lumbar disc herniation, disc bulge and radiculopathy. Review of patient history, mechanism of injury, physical examination including neurological and orthopedic evaluation as well as criteria for ordering and reading advanced imaging such as MRI and CT were presented. Discussion involving ligamentous structures such as interspinous ligament, supraspinous ligament and facet capsules was presented. Plain film static and dynamic radiographic studies were reviewed as well as specific sclerotogenous referrals patterns of facet mediated pain. Patient centered; consensus driven clinical diagnosis medial branch blocks and pain management referral was emphasized.* State University of New York at Buffalo Jacobs of Medicine and Biomedical Sciences, National Spine Management Group, LLC, New York, 2021

Chiropractic Diagnosis and Management of Cervical Myelopathy, *Review of all relevant spinal anatomy in the cervical and lumbar spine including vertebral bodies, central canal, neuroforamen, ligamentum flavum, anterior and posterior longitudinal ligaments, facet capsule, interspinous ligament, supraspinous ligament and spinal cord anatomy.* Certification in 1 Chiropractic CE Hour, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Chiropractic Diagnosis and Management of Cervical Ligament Laxity, *Detailed outline of injury thresholds of the anterior longitudinal, posterior longitudinal and ligamentum flavum was presented.* Certification in 1 Chiropractic CE Hour, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Chiropractic Diagnosis and Management of Lumbar Ligament Laxity, *Derailed outline of injury thresholds of the anterior longitudinal, posterior longitudinal and ligamentum flavum was presented in the lumbar spine*. Certification in 1 Chiropractic CE Hour, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Chiropractic Diagnosis and Management of the Pre-Surgical Patient, *Outline and analysis of spinal biomechanical parameters in a whole spine model of care*. Certification in 1 Chiropractic CE Hour, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Chiropractic Diagnosis and Management of the Post-Surgical Patient, *Outline and discussion of Whiplash as a mechanism of injury with particular focus on damage to underlying tissue structures*. Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

Chiropractic Diagnosis and Management of Whiplash, *Outline and analysis of spinal biomechanical parameter in a whole spine model of care in the post-surgical analysis of the spine pain patient*. Certification in 1 Chiropractic CE Hour & 1 Credit, Diplomate, National Spine Management Group, LLC, Cleveland University, Kansas City, William J. Owens Jr DC, DAAMLPC, CPC, Somerset, New Jersey, 2021

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*. Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 2020

Chiropractic as the First Option for Spine, A Literature-Based Standard, , *Managing spinal related cases based upon MRI findings of herniations, bulges, protrusion, extrusions (comminuted and fragmented) utilizing thin-sliced acquisition protocols. When to consider ordering T1, T2, Short Tau Inversion Radiant, proton density and Dixon sequencing for spinal related pathology* Academy of Chiropractic Post-Doctoral Division, 2020

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*. Academy of Chiropractic Post-Doctoral Division, 2020

Chiropractic as the First Option for Spine, A Literature-Based Standard, *Spinal biomechanical engineering models related to pathobiomechanics and literature-based standards in creating an accurate diagnosis, prognosis, and treatment plan. Determining impairment ratings based upon*

alteration of motion segment integrity utilizing motion-imaging, and creating demonstrable evidence for continued treatment plans. Academy of Chiropractic Post-Doctoral Division, 2020

Neurology of Spinal Biomechanics, Understanding the normal of spinal biomechanics and the neurotransmitters required for homeostasis. The interconnected role of Pacinian Corpuscles, Ruffini Corpuscles, Golgi Organ Receptors, Nociceptors, Proprioceptors and Mechancoreceptors in maintaining sagittal and axial alignment in the presence of mechanical pathology. Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 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, Ohio, 2020

Using Documentation and Ethical Relationships, Pathways to improve coordination of care, 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, Ohio, 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, Ohio, 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, Ohio, 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, Kansas City, Kansas, 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, Kansas City, Kansas, 2020

Spinal Biomechanicals: 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, Kansas City, Kansas, 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, Kansas City, Kansas, 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, Kansas City, Kansas, 2020

Trends in Spinal Treatment, Migration of spinal care for mechanical spine issues from hospitals and medical specialists to trauma qualified chiropractors based upon published outcomes. Utilizing imaging studies in spinal biomechanics, pain models and clinical outcomes to determine a conclusive diagnosis, prognosis and treatment plan for triaging in a collaborative environment. Academy of Chiropractic Post-Doctoral Division, 2019

MRI Age-Dating of Herniated Discs, The literature, academic and clinical standards to age-date herniated discs. The clinical correlation the pain patters with advanced imaging finings of bone edema, spurs based upon the Piezoelectric effect fo remodeling, high signal on T2 weighted images, Vacuum Discs and disc heights in determining the time frames of the etiology of the spinal disc pathology. Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 2019

Creating Ethical Collaborative and Medical-Legal Relationships, Understanding the timely triage necessities based upon clinical and imaging outcomes and the documentation required for collaborative physicians to continue care. Ensuring that the documentation is complete, reflective of services rendered and clear for third party consideration in an admissible format to considered in a medical-legal environment Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 2019

Central Innervation of Spinal Biomechanical Engineering, *Understanding the lateral and ventral horn's innovations of Pacinian Corpuscles, Ruffini Corpuscles, Golgi Organ Receptors, Nociceptors, Proprioceptors and Mechanoceptors and the pathways through the spinal thalamic tracts through the periaqueductal region, the Thalamus into the Occipital, pre-frontal, sensory and motor cortexes and the efferently back through the Thalamus to disparate regions in creating spinal homeostasis, Pacinian Corpuscles, Ruffini Corpuscles, Golgi Organ Receptors, Nociceptors, Proprioceptors and Mechanoceptors*, Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 2019

Identifying Spinal Pathology of MRI, *Utilizing T1, T2, STIR and Gradient studies in determining myelomalacia, intra and extra-dural tumors and systemic disease patterns affecting the spinal cord. When to use contrast post-operatively in identifying discal structures vs. adhesions on postoperative advanced imaging. MRI Interpretation of herniated, circumferential bulges, focal bulges, protruded, extruded, comminuted, sequestered and fragmented discs. When to consider a neurosurgical consultation based upon the correlation of imaging and clinical findings.* Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, 2019

Documentation in Medical Collaborative Cases, *Concluding an E&M report in cases involving medical primary care providers of medical specialists that have complicated case histories, significant risk factors, and inconclusive findings.* Chiropractic and Health Sciences, Long Island, New York, 2019

MRI Spine Interpretation and Protocols, *Contemporary acquisition protocols including slice thicknesses and sequences inclusive of the ordering process. Interpretation of axial, sagittal and coronal views in T1, T2 and stir views inclusive of the disc, spinal cord, extra-dural and intra-dural pathology.* Chiropractic and Health Sciences, Long Island, NY, 2019

Ethics and Medical Collaboration, *Having referral relationships with emergency rooms, neurosurgeons, orthopedic surgeons, pain management specialists, neurologists, neuroradiologist and medical primary care providers based upon clinical dilemmas that processed after a thorough history, examination and imaging if clinically indicated to conclude diagnostic dilemmas. Utilizing evidence-based protocols and acquisition of images and treatment pathways, collaborating with medical specialists and primaries to conclude and accurate treatment plan.* Chiropractic and Health Sciences, Long Island, NY, 2019

Documentation in a Medical – Legal and Insurances, *Constructing and concluding an E&M (99202-99205) report that accurately reflects the history, clinical findings and management of trauma cases that concurrently meets the needs of both the carriers in the courts and ethical relationship that concurrently matches the standards of both contemporary academia requirements and a contemporary literature-based standard.* Chiropractic and Health Sciences, Long Island, NY, 2019

Documentation in a Medical – Legal and Insurances, *Constructing and concluding an E&M (99202-99205) report that accurately reflects the history, clinical findings and management of trauma cases that concurrently meets the needs of both the carriers in the courts and ethical relationship that concurrently matches the standards of both contemporary academia requirements and a contemporary literature-based standard.* Chiropractic and Health Sciences, Long Island, NY, 2019

Module 2 - Stroke Anatomy and Physiology Part 2, *Chiropractors 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 comorbidities that have etiology instroke inclusive of diabetes, coagulopathy, acquired and hereditary deficiencies, PACE Recognized by The Federation of Chiropractic Licensing Boards Certification in Module 2 - Stroke Anatomy and Physiology Part 2, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018*

Module 3 Stroke Principles of Treatment an Overview for the Primary Care Provider, *Chiropractors 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.* Certification in Module 3 Stroke Principles of Treatment an Overview for the Primary Care Provider, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 4 - Clinical Evaluation & Protocols for Identifying Stroke Risks, *Chiropractors 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* Certification in Module 4 - Clinical Evaluation & Protocols for Identifying Stroke Risks, Chiropractors Clinical Evaluation and Protocols, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 1 The basics of Orthopedic Testing, *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* Certification in The Basics of Orthopedic Testing, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 2: Cervical Spine Orthopedic Testing, *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 Certification in Orthopedic Testing: Principles, Clinical Application and Triage, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 3: Cervical Spine Part 2, *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* Certification in Module 3: Cervical Spine Part 2, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 4: Lumbar Spine, *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* Certification in Module 4: Lumbar Spine, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Module 5: Clinical Grand Rounds, *Orthopedic Testing: Clinical Grand Rounds, how to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process. How to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process.* Certification in Module 5: Clinical Grand Rounds, Diplomate, Texas Chiropractic College, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

Curriculum Vitae Entry, *Evidenced Based 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 Interprofessional Hospital Based Spine Care, Diplomate, Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Boards, Cleveland University- Kansas City, College of Chiropractic, Long Island NY 2018 , 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, Cleveland University- Kansas City, College of Chiropractic, online, online, 2018

MRI Protocols Clinical Necessity, *MRI slices, views, T1T2 Stir Axial stacking FFE FSE and sagittal images* Certification in MRI Protocols, Diplomate, PACE, 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, PACE Program of the Fed of Chiro Licens Board, online, online, 2018

MRI Interpretation of Lumbar Degeneration/bulges MRI slices, *MRI slices views, T1 T2 STIR axial stacking FFE VSE and sagittal images in the interpretation of lumbar degeneration. With the comorbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, ,Schmorl's nodes and herniations* Certification in MRI Interpretation of Lumbar Degeneration budges, Diplomate, PACE, 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, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, online, online, 2018

MRI Interpretation of Lumbar Herniations, MRI slices, views T1 T2 STIR axial stacking, *Central canal and cuada equina compromise interpretation with management. MRI Interpretation of Lumbar Herniations* Certification in MRI Interpretation of Lumbar Herniations, MRI slices, Diplomate, PACE, Texas Chiropractic College, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, online, online, 2018

MRI Interpretation of Cervical Degeneration/Bulges MRI slices, *MRI slices views T1 T2 STIR axial stacking FFE FSE and sagittal images in the interpretation of cervical degeneration* Certification in MRI Interpretation of Cervical Degeneration/Bulges, Diplomate, PACE, Texas Chiropractic College, Texas Chiropractic College, online, online, 2018

MRI Interpretation of Cervical Herniations, *MRI slices, views T1 T2 STIR Axial, FFE FSES and sagitgtal images in the interpretation of lumber herniations* Certification in MRI Interpretation Cervical Herniations, Diplomate, PACE, Texas Chiropractic College, PACE Program of the Fed of Chiro Licens Board, online, online, 2018

MRI Interpretatio of Degenerative Spine and Disc Disease with Overlapping Traumatic Insult to Both Spine and Disc., *MRI slices views TG1 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.* Certification in MRI Interpretation of Degenerative Spine and Disc Disease with Overlapping Traumatic Insult to Both Spine and Disc, Diplomate, PACE, ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY 2017, PACE Program of the Fed of Chiro Licens Board, online, online, 2018

Documenting Trauma and Non-Trauma Cases and Triaging Disc Pathology, *Documenting Trauma and Non-Trauma Cases and Triaging Disc*

Pathology. Certification in The utilization of spinal MRI in concluding and accurate diagnosis, prognosis and treatment, Diplomate, PACE , Academy of Chiropractic, Academy of Chiropractic, online, online, 2018

Spinal Bio-Engineering, A course describing the structural and functional organization of the spinal-pelvic system. Fundamental and advanced concepts on spinal biomechanics are introduced by presenting a coherent spinal model describing normal segmental coupling, regional adaptation and global compensation. The clinical model is a structural and mechanical engineering approach based on x-ray physics, mathematics and statistical analysis. The normal movements of gait are integrated in this total biomechanical approach to explain spine distortion, predictable functional scoliosis and lumbar disc failure. Case studies are demonstrated to radiographic analyses and physical findings to determine clinical solutions and soft tissue rehabilitation Certification in radiographic analyses and physical findings to determine clinical solutions and soft tissue rehabilitation, Diplomate, PACE , PACE Recognized by The Federation of Chiropractic Licensing Boards,, Academy of Chiropractic, Weldon Springs, Missouri, 2018

Documenting Trauma and Non Trauma cases, 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. PACE Approved for the Federation of Chiropractic Licensing Boards, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018 Certification in Trauma, Diplomate, a, 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, Texas Chiropractic College, o, NJ, 2018

Connective Tissue Pathology, Spinal Biomechanics as Sequella to Trauma, MRI Spine Interpretation, Ordering Protocols & Triaging the Injure, The latest research on the 6 ways to age-date disc herniations and bulges from trauma inclusive of disc pathology nomenclature. MRI ordering protocols, inclusive of Dixon format and fat-suppressed images. The neurology and pathology of connective tissue and the sequella of trauma at the biomechanical level leading to bio-neuro-mechanical failure. Contemporary "evidenced-based building blocks" for triaging and in a collaborative environment. Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Spinal Biomechanical Engineering Digitizing, A literature-based study of normal vs. abnormal motor until function. Determining ligamentous laxity, alteration of motion segment integrity and pathological stress units and whole person impairments based upon the literature and academic standards Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Science of the Chiropractic Spinal Adjustment and Vertebral Subluxation, *The literature-based definitions of both the mechanisms the chiropractic adjustment and how it affects the central nervous system in pain pathways and systemic issues that is the arbiter for normal vs. abnormal function. The "physiological mechanisms" of how the chiropractic spinal adjustment affects the peripheral and central nervous systems. Subluxation degeneration/Wolff's Law will be detailed from a literature perspective combined with the mechanism of subluxation (bio-neuro-mechanical lesion). A literature perspective why "long-term" chiropractic care is clinically indicated as usual and customary to effectuate demonstrable biomechanical changes in the spine. An evidenced-based perspective of why physical therapy is a poor choice for spine as a 1st referral option for any provider inclusive of the literature.* Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Documentation, Collaboration, and Primary Spine Care, , *An academic basis for documentation that is usual and customary across professions in collaborative care. Maintaining ethical medical-legal relationships based upon Voir Dire and Duabert standards with ensuring a "4-corners" inclusive report. Ensuring Primary Care Status based upon an academic standards* Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Primary care Symposium 3, *Primary Spine Care Symposium 3 - Interprofessional Spine Care, Clinical analysis of anatomic versus biomechanical spine pain and clinical triage protocols. Relating current research trends in the Whole Spine Model of patient including normal versus abnormal sagittal curvature of the adolescent and adult spine pelvic incidence as a parameter for sagittal balance in the human spine and current methods of assessment. Patient centered approach to Evidenced Based Spine care with a focus on diagnosis, prognosis and triage of the spine pain patient,* Texas Chiropractic College Post-Doctoral Division, Academy of Chiropractic Post-doctoral Division, Melville, NY 2017 Certification in Evidenced based spine care., Diplomate, Academy of Chiropractic Post Doctor Division, Texas Chiropractic College, Texas Chiropractic College Post Doctoral Division, Melville, NY, 2017

Primary Care Symposium 3, Epidemiology of Spine Pain, *Epidemiology of Spine Pain, Review of the current Centers for Disease Control (CDC) data on the frequency of musculoskeletal pain in the United States population with emphasis on pain of spinal origin. CDC guidelines on opioi medication were discussed and correlated to persistent pain syndromes. Research was reviewed showing the importance of managing the spine pain patient properly from the entry point of care with a concentration on maintenance of spinal biomechanics,* Texas Chiropractic College Post-Doctoral Division, Academy of Chiropractic Post-Doctoral Division, Melville, NY 2017 Certification in Epidemiology of Spine Care, Diplomate, Academy of Chiropractic Post Doctor Division, Texas Chiropractic College, Texas Chiropractic College Post Doctoral Division, Melville, NY, 2017

Primary Spine Care Symposium 3 - Connective Tissue and Spinal Disc Pathology, *Primary Spine Care Sumposium 3 - Connective Tissue and Spinal Disc Pathology, The morphology of pathology of connective tissue, inclusive of spinal disc disorders and prognosticating wound repair with permanency implications. Disc bulge, herniation, protrusion and extrusion classifications based upon contemporary literature and how to age-date disc pathology,* Texas Chiropractic College Post-Doctoral Division, Academy of chiropractic Post-Doctoral Division, Melville, NY 2017 Certification in

Primary Spine Care Symposium 3 Connective Tissue and Spinal Disc Pathology, Diplomate, Academy of Chiropractic Post Doctor Division, Texas Chiropractic College, Texas Chiropractic College Post Doctoral Division, Melville, NY, 2017

Primary Spine Care Symposium 3 - Physiology and Anatomy of Spinal Manual Adjusting, *Primary Spine Care Symposium 3, Physiology and Anatomy of Spinal Manual Adjusting, Understanding the role of mechanoreceptors, proprioceptors and nociceptors with facets, ligaments, tendons and muscles in aberrant spinal biomechanics, MRI and imaging studies of decompressing via a chiropractic spinal adjustment of the bio-neuro-mechanical lesion and its effects of the central nervous system both reflexively and supratentorially*, Texas Chiropractic College Post-Doctoral Division, Academy of Chiropractic Post-Doctoral Division, Melville, NY Certification in Primary Spine Care Symposium 3, Physiology and Anatomy of Spinal Manual Adjusting, Diplomate, Academy of Chiropractic Post Doctor Division, Texas Chiropractic College, Texas Chiropractic College Post Doctoral Division, Melville, NY, 2017

Primary Spine Care Symposium 3 - Medical - Legal Documentation, *The contemporary documentation required in a medical-legal environment that is evidenced based and meets the standards of the courts and academia. utilizing the scientific data to support a diagnosis, prognosis and treatment plan while meeting the admissibility standards based upon a professional's credentials*. Texas Chiropractic College Post-Doctoral Division, Academy of Chiropractic Post-Doctoral Division, Melville, NY 2017 Certification in Primary Spine Care Symposium 3 - Medical-Legal Documentation, Diplomate, Academy of Chiropractic Post Doctor Division, Texas Chiropractic College, Texas Chiropractic College Post Doctoral Division, Melville, NY, 2017

Coordinating Orthopedic and Chiropractic Spine Care, *This course is a literature based clinical case oriented presentations to teach Chiropractors how, when and why to refer to pain management doctors and spinal surgeons*. Certification in Coordinating Orthopedic and Chiropractic spine care, Diplomate, The Advanced Spine Center, The Advanced Spine Center, The Advanced Spine Center, Basking Ridge, New Jersey, 2017

Stroke-Module 1, *Chiropractors 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*. PACE Recognized by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buff ACCME Joint providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY 2017 , 2017

Core Strengthening, *The format of this course is a live seminar with hands on skills for 4 hours. It taught the muscle groups which incorporate the "core" and exercises used to strengthen these muscle groups. Hands on demonstration and rationale for using the various exercises with*

indications and contraindications for different patients were clearly explained. Certification in Core Strengthening, Diplomate, The Institute for Continuing Education, The Institute for Continuing Education, The Institute for Continuing Education, Fairfield NJ, NEW JERSEY, 2016

Primary Spine Care – Central Nervous System Processing of Pain and Physiology, *Central neural pathways of pain and higher cortical responses to pain and the effect of high amplitude-low velocity forces on mechanoreceptors and proprioceptors. The effects of neuropeptides on the hypothalamus, pituitary and adrenal axis when treating patients.* Certification in Primary Spine Care – Central Nervous System Processing of Pain and Physiology, Diplomate, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Melville , NYC, 2016

Primary Spine Care – MRI, Bone Edema and Degeneration, *The effects of trauma on spinal vertebral segments and the short and long term sequella to morphology. Identifying and diagnosing bone edema, spurring, types of degeneration in assessing biomechanical stability in conjunction with Modic and Pfeiffer changes* Certification in Primary Spine Care – MRI, Bone Edema and Degeneration, Diplomate, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Board, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Board, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Board, Melville , NY, 2016

Primary Spine Care – Hospital and Emergency Room Care, *Identifying spinal lesions inclusive of cord and root lesion through examination and advanced imaging in creating an accurate diagnosis, prognosis and treatment plan to effectively triage in collaboration and coordination with medical specialists and emergency department physicians. Differentially diagnosing and triaging disc degenerative bulges, traumatic disc bulges, protrusion herniations, extrusion herniations and fragmented herniations along with managing traumatically induced pain as sequella to degenerative disc trauma,* Certification in Primary Spine Care – Hospital and Emergency Room Care, Diplomate, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Texas Chiropractic College, Academy of Chiropractic, Academy of Chiropractic, Recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Melville , NY, 2016

KT1 Fundamental Concepts, Screening/Muscle Test, & Muscle Applications, *The format of this course was a live seminar. It taught fundamental concepts of the Kinesio Taping Method and the unique properties and use of Kinesio® Tex Tape. Kinesio Taping® Method designed for muscle testing created for the enhancement of your KT skills and muscle applications for both the upper and lower body. Kinesio Taping Method to relax*

overuse syndromes, stimulate weak muscles, and decrease pain and swelling. Certification in Kinesio Taping , Diplomate, Kinesio Association , Kinesio Association , Kinesio Association , Fairfield , New Jersey , 2015

KT2 Advanced Concepts & Corrective Technique, *The format of this course was a live seminar. What was taught six Corrective Techniques (Mechanical, Functional, Space, Fascia, Ligament/Tendon, and Lymphatic) applying these techniques to a variety of upper and lower body conditions. KT Method to orthopedic & neurological conditions. Correctly describe the fundamental concepts of Kinesio Taping Method. Accurately describe the unique qualities of Kinesio Tex Tape. Apply the Kinesio Taping Method correctly to relax and stimulate muscles. Correctly apply Kinesio Taping techniques for treatment of select clinical conditions using the concepts and principals of the Kinesio Taping Method* Certification in Kinesio Taping , Diplomate, Kinesio Association , Kinesio Association , Kinesio Association , Fairfield , New Jersey , 2015

Primary Spine Care, *Neurophysiological central and peripheral nervous systems mechanisms of pain with integrated higher cortical functions of the thalamus, cingulate, amygdala, pre-frontal, motor and sensory cortexes. Trauma and chronic pain care effecting mechanoreceptors, nociceptors and proprioceptors through adjustive therapy based upon evidenced based care and current literature verification.* Certification in Primary Spine Care, Diplomate, New York State Department of Education Board for Chiropractic, Texas Chiropractic College, Federation of Chiropractic Licensing Boards, Islandia , 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.* Certification in Federation of Chiropractic Licensing Boards, Diplomate, New York State Department of Education Board for Chiropractic, Texas Chiropractic College, Federation of Chiropractic Licensing Boards, Islandia , New York , 2015

MRI Spine Interpretation, *The format of this course was a live seminar. It taught the fundamentals in reading and interpreting spinal MRI exams including bulging vs herniation of disc pathologies. This course also reviewed the sequencing necessary to maximize visualization of spinal pathology.* Certification in Certificate of Completion , Academy of Chiropractic, East Setauket, New York, 20132013

Biomechanical Spinal Engineering, *The format of this course was a live seminar. It taught the basics of evaluating the mechanics of normal and abnormal spinal function.* Certification in Certificate of Completion, Academy of Chiropractic, East Setauket, New York, 2013

MRI Spine Interpretation, *The format of this course was a live seminar. It taught the fundamentals in reading and interpreting spinal MRI exams including bulging vs herniation of disc pathologies. This course also reviewed the sequencing necessary to maximize visualization of spinal*

pathology. Certification in Certificate of Completion, Academy of Chiropractic, East Setauket, New York, 2012

Trekking the Hormone Jungle, The format of this course was a live seminar. It reviewed and taught the biochemistry of the endocrine system as it relates to the degenerative processes in the body. The course also instructed the doctors on nutritional protocols to aid and reverse the degenerative process. Certification in Certificate of Completion, University of Bridgeport, Bridgeport , Connecticut, 2012

Active Release Technique-Spine, The format of this course was a live seminar with hands on instruction. The origins and insertions of the muscles of the spine were reviewed and the doctors were taught and tested on the evaluation and treatment protocols for soft tissue injuries of the spinal and core muscles. Certification in Certified ART Provider, Active Release Technique, Colorado Springs, Colorado, 2007

Active Release Tenchnique-Upper Extremity, The format of this course was a live seminar with hands on instruction. The origins and insertions of the muscles of the upper extremity were reviewed and the doctors were taught and tested on the evaluation and treatment protocols for soft tissue injuries of the upper extremity. Certification in Certified ART Provider, Active Release Technique, Colorado Springs, Colorado, 2006

Applied Kinesiology in Clinical Practice, The format of this course is a live seminar with hands on instruction. Muscle anatomy and function were taught in relation to mechanics of the spine and extremities. Certification in Certified AK Provider, NYCC, Seneca Falls, New York, 2000

Chiropractic Rehabilitation , The format of this 100 hour course was taught in live seminars monthly over a ten month time period. The doctors were taught the protocols and rationale for active rehabilitation as it relates to chiropractic and the spine. Certification in Chiropractic Rehabilitation Certification, Canadian Chiropractic College, Toronto, Canada, 1998

MRI History and Physics, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Spinal Anatomy and Protocols, 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. [Insert the state licensure body sent to you],ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine

and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Disc Pathology and Spinal Stenosis, 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. [Insert the state licensure body sent to you], Board for Chiropractic, ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Spinal Pathology, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Methodology of Analysis, 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. New York Chiropractic Council, [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Clinical Application, 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. [Insert the state licensure body sent to you], Board for Chiropractic, ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Disc Overview & Imaging Protocols, MRI Protocols Clinical Necessity, MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequellae, including bulge, herniation, protrusion, extrusion and sequestration.[Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification

in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI Interpretation of Lumbar Bulges/Degenerative Disc Disease , 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI Interpretation of Lumbar Herniated Discs, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI Interpretation of Cervical Bulges/Degenerative Disc Disease, MRI Interpretation of Cervical 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. Spinal cord and canal compromise interpretation with management. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New Jersey, 2013

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 comorbidities 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and

Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

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, extrusions, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI History and Physics, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Spinal Anatomy and Protocols, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Disc Pathology and Spinal Stenosis, 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. [Insert the state licensure body sent to you], Board for Chiropractic, ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Spinal Pathology, 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. [Insert the state licensure body sent to you],

ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Methodology of Analysis, 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. New York Chiropractic Council, [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Clinical Application, 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. [Insert the state licensure body sent to you], Board for Chiropractic, ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences and Academy of Chiropractic Post Doctoral Division, Buffalo, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Buffalo, New York, 2013

MRI Disc Overview & Imaging Protocols, MRI Protocols Clinical Necessity, MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequellae, including bulge, herniation, protrusion, extrusion and sequestration. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI Interpretation of Lumbar Bulges/Degenerative Disc Disease, 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013

MRI Interpretation of Lumbar Herniated Discs, *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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013*

MRI Interpretation of Cervical Bulges/Degenerative Disc Disease , *MRI Interpretation of Cervical 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. Spinal cord and canal compromise interpretation with management. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013*

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 comorbidities 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. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013*

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, extrusions, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective. [Insert the state licensure body sent to you], ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013*

Personal Injury 101 Triaging and reporting while maintaining ethical medical-legal relationships, *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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013*

Physical Examination & Documentation for the Trauma Patient, *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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013*

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 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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013*

MRI, Bone Scan and X-Ray Protocols, Physiology and Indications for the Trauma Patient, *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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, ACCME Joint Sponsorship with the State University of New York at Buffalo, Long Island, New York, 2013*

Neurodiagnostics Testing: EMG/NCV, VEP, BAER, V-ENG and SSEP, Clinical Indications and Interpretation, *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-Electronystagmosgraphy (V-ENG) interpretation, protocols and clinical indications for the trauma patient. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013*

Documentation and Working within Your State Laws to Ensure Compliant Paperwork and Reimbursement, *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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

Head Trauma, Brain Injury and Concussion, Head Trauma, Brain Injury and Concussion, Brain and head physiology, brain mapping and pathology as a sequella to trauma. Traumatic brain injury, mild traumatic brain injury, axonal shearing, diffuse axonal injury and concussion are detailed in etiology and clinically. Clinical presentation, advanced diagnostic imaging and electrodiagnostics are detailed in analysis to create a differential diagnosis. Balance disorders that often occur as a result of trauma are also explored from clinical presentation to advanced imaging and differential diagnosis. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2013 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New Jersey, 2013

Terms, Concepts & Definitions, 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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

Causality, Bodily Injury, Crumple Zones, Force & Critical Documentation, 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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

Skid Marks, Time, Distance, Velocity & Speed Formulas, 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. [Insert the state licensure body sent to you], Academy of

Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

Research, Causality & Bodily Injury, 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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

Impairment Rating Spine and Nervous System, Impairment Rating Certification, 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. [Insert the state licensure body sent to you], Academy of Chiropractic Post Doctoral Division, Long Island, NY, 2012 Certification in Academy of Chiropractic Post Doctoral Division, Long Island, New York, 2013

SELECTED MEMBERSHIPS

Academy of Chiropractic, Member, 2013 - Present

American Chiropractic Association, professional member, 1987 - Present

Association of NJ Chiropractors, professional member, 1987 - Present